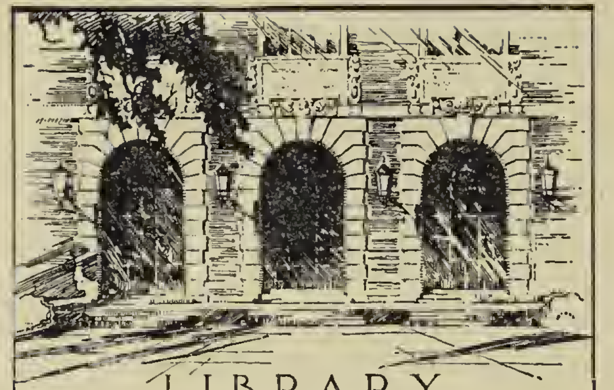

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OF THE
American Medical Association

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Original Articles

PRINCIPLES UNDERLYING THE OPERATIVE TREATMENT OF STRABISMUS *

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It seems profitable to discuss here chiefly principles that are but partly recognized, forgotten or ignored, rather than those regarding which there is full recognition and agreement. We never forget that the normal contraction of a muscle brings its origin and insertion closer together. But it often seems to be forgotten that such normal contraction does not arise in the muscle itself, but is absolutely dependent on the nerve impulses coming to the muscle from the motor centers. Functionally the muscle has no existence apart from the nerve supply. Even its anatomic integrity depends on receiving the proper nerve impulses. If these are cut off permanently the muscle atrophies completely. If they are seriously interfered with degenerative changes set in. If they are diminished the muscle shrinks; if they are increased it hypertrophies. No operative readjustment of the ocular muscles can be permanent that is opposed by these nerve impulses; none can be completely successful that is not supplemented by them.

Our so-called "muscle operations," done on tendons of insertion, are attempts to modify the final mechanical results of nerve impulses. The position of an eye at any instant, or its habitual position, depends on nerve impulses. Only when we can not alter such impulses are we justified in attempting to change their mechanical effects by operation. The size, strength and habitual contraction of the different ocular muscles depend as much on the nerve impulses going to them, and as little on congenital peculiarities of the muscles themselves, as do the size, strength and habitual contraction of the muscles that give the soldier his erect carriage or the musician his perfect technic.

Normal binocular vision, as developed in man, rests on highly complex, exact reflex movements. The normal binocular movements are continuously guided by the sense of diplopia and the desire to avoid it. Between the seeing of the two eyes and the movements of the two eyes there is the most minute and comprehensive co-ordination, and the reflex to diplopia, the "fusion sense," dominates every normal ocular movement.

Strabismus is a fault of binocular movement. Somewhere in the co-ordinating mechanism, or the structure it controls, there is a break, a defect. The mechanism of co-ordination is still functionally active, although in some respects crippled and imperfect. The investigation of the particular kind of fault in the co-ordinating mechanism must, in each individual case of squint, precede the selection or planning of any rational operation for its correction.

TWO CLASSES OF OPERATIVE CASES

The peculiarities of each particular case must be considered, but, in a general way, all cases may be placed in two groups: (A) Those in which the co-ordinated movements of the two eyes are to be guided by the visual impressions made on both, cases capable of true binocular vision, more or less completely developed; (B) cases in which the binocular movements must be guided by the visual impressions of one eye, the eye which "fixes." In the former class the problem is much more complex, the operation is to be an adjuvant, carefully planned to give assistance to the development of and utilization of nerve impulses. In the latter class the nerve impulses have been developed, and, in a sense, fixed, and the operation merely adapts the parts to secure from these impulses the best mechanical results.

In the past, operative success has been most frequently achieved in this latter class, because the nerve impulses to be dealt with, those of fixation with a single eye, were best understood. Normal binocular fixation is still an obscure subject, and of imperfect and abnormal types of binocular vision, such as exist in many cases of squint, we know very little. The nerve impulses connected with such anomalous use of the eyes are pretty certain to overcome and nullify attempts at operative correction, planned without attention to their influence. When, however, we come to understand better the abnormal, but definite and sometimes very persistent co-ordinations that exist between the perceptions and the movements of the two eyes in established strabismus, operative measures more in harmony with the real need of the case may yield good results. In Class A operation can disturb the existing co-ordination, giving opportunity for a new one to be formed under more favorable conditions, as with correcting lenses. With this in view it may well be repeated; its aim should be, not so much exact adjustment, as to establish mechanical relations that nerve impulses will tend to carry forward to complete the cure. In Class B the object of operation is rather the direct, accurate mechanical adjustment of parts, making due allowance for the temporary effects of operation, the modifications produced by cicatrization, and the degenerative and regenerative changes that occur in the muscles.

ASSOCIATED ACTIONS OF OCULAR MUSCLES

Of the infinite number of movements of which each eye is capable, not more than six at most can be brought about by the contraction of single muscles, and only two of these, convergence and divergence in the horizontal plane, are movements frequently performed. Convergence above or below the horizontal plane, like elevation or depression with the eyes directed forward, require the cooperation of two or more muscles.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

While, theoretically, a few movements might be made by single muscles, it is not certain or probable that even these motions are thus produced. For the sake of smoothness, exactness and certainty of movement it is likely that changes of innervation occur in two or more muscles for every movement made. Conversely, each muscle takes part in the execution of many different movements, and even of movements in quite different or opposite directions. To operate on a certain muscle, to increase or diminish its effect on a single movement or group of movements, without any consideration of the effects that will be produced on other movements, is to invite disaster, or to trust to nature for a general readjustment, of muscular actions which the surgeon has never even thought of.

The direction in which the cornea is turned by contraction of a certain extraocular muscle depends on the relation of its point of insertion to the center of rotation of the eyeball. As the eye moves this direction changes, and a corresponding change occurs in the influence of the particular muscle. For instance, the superior rectus, inserted above the cornea and acting on a line passing to the nasal side of the center of rotation, when the eye is in the primary position, tends to turn the cornea upward and inward. When, however, the cornea is turned outward, so that the vertical axis lies in the same vertical plane as the line in which the superior rectus acts, this muscle turns the eye directly upward. If the eye is directed still further toward the temple, so that the line on which the superior rectus acts passes to the temporal side of the center of rotation, this same muscle tends to turn the eye up and out.

Only when the eye is in a certain position can the superior rectus act simply as an elevator. The more the eye turns inward from this position the more it becomes an adductor of the eyeball. The more it turns outward from the same position the more it becomes an abductor. The same is true of the inferior rectus, which in one position may act simply as a depressor, but in all others acts also as an adductor or abductor.

In the adduction of the eye the internal rectus takes part in all positions of the eyeball. It may be called the primary adductor. In most positions it is assisted by the superior and the inferior recti, which may be called secondary adductors. The power of the primary adductor progressively diminishes as the eye turns in and the muscle shortens. The adductive effect of the secondary adductors progressively increases as the eye turns in; that is, the power of these muscles thus becomes more and more devoted to turning the eye in.[1]

In abduction the external rectus always takes part. It is the primary abductor. The obliques assist it, but least when the eye is turned in most strongly, so that the visual axis is nearly parallel to the plane of action of the superior and inferior obliques. As the eye turns outward the obliques become more and more effective as secondary abductors, until in extreme divergence they become the more important factor in abduction.

The superior rectus may be called the primary elevator. Such it is when the eye is turned outward, the inferior oblique acting rather to produce torsion. But when the cornea is turned toward the nose the inferior oblique becomes the elevator and the superior rectus has more influence in producing torsion. If, however, the eye is turned strongly up the internus and externus come to the assistance of the primary elevator and help to turn the cornea up. Their insertions being brought above the center of rotation, they become secondary elevators.

Similarly, the inferior rectus may be called the primary depressor of the eye, its tendency being always to turn the eye down, though least effective in this way when the eye is turned strongly in, and the inferior rectus tends to produce torsion, while the superior oblique becomes a more efficient depressor. But when the eye turns down, so that the insertions of the internus and externus are below the center of rotation, these muscles become secondary depressors. The importance of their function as secondary depressors increases as the eye is turned down.

The obliques may be called the primary muscles of torsion. When the visual axis is turned to the temporal side, and level, so that it makes equal angles with the directions of the four recti muscles, torsion is entirely effected by the obliques. But in other positions the recti muscles take part in torsion; the vertical recti, as the eye turns in from this position; the lateral recti, to a less extent, as the eye is turned up or down.

SECONDARY ROTATORS IN STRABISMUS

In all cases in the execution of a particular movement the further that movement is carried the greater the share that the secondary rotators take in producing it. In strabismus the position of the deviating eye has departed from the normal. The relative importance of the primary and secondary rotators in determining its position correspondingly varies from the normal. The higher the degree of squint the greater this departure, and the greater the share of the secondary muscles in producing and maintaining the deformity.

Consider the bearing of this on particular operations. In a case of high convergent strabismus the eye is held in its abnormal position by the excessive contraction of a whole group of muscles, the internal, superior and inferior recti. Tenotomy of the internal muscle alone is but a partial tenotomy, as regards the muscles concerned. The indication is clear for extending the tenotomy to the superior and inferior tendons, and on them graduating it to the needs of the case. Without such extension tenotomy is absolutely ineffective in high convergent squint.

A superiority of advancement lies in the fact that it changes the position of the eyeball, and so lessens the power of the secondary rotators, whose influence is so large a factor in the maintenance of the squint, and renders more efficient the action of the secondary rotators that oppose the deviation. For example, in convergent strabismus advancement of the internus, actually turning the eye out, diminishes the power of the superior and inferior recti to turn it in, and increases the efficiency of the superior and inferior obliques in turning it out.

There is another difference between the actions of primary and secondary rotators, of great importance with reference to strabismus operations. The primary rotators tend to equilibrium with the eyeball in a median position. The secondary rotators tend indefinitely to increase the deviation. Thus, in convergent strabismus, the greater the squint the less the influence of the internus, and the greater the influence of the externus, tending to turn the eye to a normal position. But the greater the squint the greater the influence of the secondary adductors in perpetuating it and increasing it, while the influence of the obliques as secondary abductors is correspondingly lessened. Tenotomy, confined to the primary adductor, the internus, lessens the relative power of that muscle, leaves convergence more a function of the secondary adductors, and, therefore, more likely to be extreme. Or, if excessive convergence is overcome, it leaves the eye with a weakened primary adductor to oppose the abductors, and, therefore, especially liable to turn out.

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[1] Trans. Section on Ophthalmology, A. M. A., 1906, p. 237.

The primary rotators have a peculiar importance in opposing extreme movements in the opposite direction. The secondary muscles have very little value in this direction. Crippling of the primary rotators leaves the eye in a condition of unstable equilibrium, more liable to deviate under slight influences. Nor is this crippling confined to the muscle operated on. Tenotomy of the internus is followed by retraction of that muscle, but it is also followed by retraction of the externus. It is the retraction of the externus and consequent turning of the cornea outward that produces the desired correction of the convergence, for which the tenotomy of the internus is done. This shortening of the externus diminishes somewhat its power of rotating the eyeball outward. Hence, by the one operation of tenotomy done on the internus, both internus and externus have their power lessened, and the rotation of the eyeball is left more under the control of the secondary adductors, the superior and the inferior recti, and the secondary abductors, the superior and inferior obliques. The eyeball is left in the condition of unstable equilibrium, where the mutually opposing forces that tend to bring it toward a central position are weakened, and those which tend to carry it away from this position and hold it away from the central position are left relatively stronger.

LATERAL DISPLACEMENT OF TENDONS

Another principle that must come to be more generally recognized in the operative treatment of strabismus is that the effect of a muscle on the eyeball can be altered by displacing its insertion laterally. I have previously pointed out that the recti muscles, all having practically the same origin at the apex of the orbit, come to exert different influences on the eyeball through the different positions of their insertions.[2]

If it were possible to shift the insertion of one rectus to the site of the insertion of one of the others its function would be correspondingly altered. Thus, if we could attach the superior rectus to the eyeball at the nasal side, where the internus is inserted, it would have very much the effect on the ocular movements normally produced by the internus. Such complete shifting of insertion is, of course, impossible, and any shifting brings a bending of the muscle that tends rather to produce torsion. But it is practicable to shift the tendons laterally so as to cause an important change in the effects produced by the muscles acting through them.

One method of producing lateral displacement is by the extended tenotomy, which I described in 1905. This method was probably practiced and its good effects reported, without much theorizing on the subject, by some of the earlier operators for squint. Another method of securing lateral displacement I described as practiced on the superior rectus for paralysis of the superior oblique.[3]

A third method was brought to the attention of the last Heidelberg Ophthalmological Congress by Hummelsheim. He experimented first on the ape. He removed as much as possible of its internal rectus to destroy the function of that muscle. He then split the tendon of the inferior and superior recti, and transplanted the nasal half of each tendon to where the internus had been inserted. The animal was still able to execute movements of convergence and lateral movements toward the side of the excised muscle. Hummelsheim then performed a similar operation on a case of congenital abducens paralysis, in which the eye was unable to turn beyond the median line. He split the tendons of the superior and inferior recti and transplanted the temporal portions to the point of insertion of the externus. The result, reported five weeks after the operation, was an ability to abduct this eye thirty degrees beyond the median line.

At the French Ophthalmological Congress, in 1907, Dransart presented a case of injury to the superior oblique, in which by grafting its tendon on the upper part of the external rectus he obtained a good result. As to the best method of securing lateral displacement, to enable one muscle to take up the function of another, considerable experience will be required to decide. The point here emphasized is the importance of this principle in the operative treatment of strabismus and the need for its more general recognition.

The question of re-education of nerve centers, so that they can execute desired movements with unaccustomed means, is a large one. Only experience can settle the limits of possible achievement in this direction. But we know that after Motais' operation the patient can learn to close the eyes firmly, without the lifting of the upper lid, that at first occurs from contraction of the superior rectus, and tendon transplantations in other parts of the body seem to show that the possibilities of alteration in the function of muscles are quite extensive. But in the case of the superior and inferior recti we have muscles that normally aid in convergence, and probably to a slight extent in divergence, when convergence and divergence are extreme. There is every reason to expect that they can largely take up these functions in cases of disability of the lateral muscle.

EQUILIBRIUM OF LIMITED MOVEMENT

When extreme and permanent strabismus is brought about by complete loss of power in a certain group of muscles, leaving their physiologic opponents in unresisted control of the position of the eyeball, it should be possible to greatly lessen deformity, either by destroying the influence of the dominant muscles or, better, by neutralizing it through transference. Strabismus of this kind most commonly follows oculo-motor paralysis, because such paralysis acts on a whole group of muscles. Paralysis of the sixth nerve leaves the obliques still able to oppose convergence. Paralysis of the fourth nerve leaves the inferior rectus and the superior rectus and the externus to take up the different functions of the superior oblique. But oculo-motor paralysis destroys all the adductors, and leaves, unopposed, the externus and the superior oblique to turn the eye away from its normal region of fixation.

Some very good results from the operative crippling of unopposed muscles have been reported, notably by Prince.[4] But I would suggest that it may be possible to so operate on the superior oblique as to make it something of a substitute for the internal rectus by a readjustment through which most of the belly of this muscle is attached to the tendon of insertion of the internus. Such an operation I have done on the cadaver. Vertical deviation can be prevented by fibrous attachments, and by adding any necessary readjustment of the external rectus it may be possible to bring about equilibrium and limited movement near the center of the field of fixation.

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[2] Trans. Section on Ophthalmology, A. M. A., 1905, p. 73.

[3] Ophthal. Rev., March, 1903.

[4] THE JOURNAL A. M. A., Oct. 13, 1888, also Am. Jour. Ophthalmol., September, 1902.

In cases of this kind we may be confronted with the difficulties connected with binocular vision. Where binocular vision is absent readjustment for cosmetic effect may not be very difficult. But with the liability to annoyance from binocular diplopia the difficulties of the case are enormously increased. Even here, however, re-education, with aid by blurring of the sight with lenses, may render relief possible.

SUMMARY

Let us bring together the principles underlying the operative treatment of strabismus that have been here discussed and those that have more commonly received discussion. The ocular movements are executed and controlled by nerve impulses, originated and guided by visual impressions. When these nerve impulses are faulty and can not otherwise be sufficiently modified to produce normal movements, readjustment by operative treatment may be resorted to. This readjustment may be accomplished: (1) By giving greater effect to certain impulses, advancing the insertion of a muscle; (2) by diminishing the effect of certain impulses through tenotomy, setting back the insertion of a muscle; (3) by transferring the impulses so that they will produce results different from those to which they were originally directed, lateral displacement of insertions; (4) by combining two or all of these changes.

Tenotomy allows retraction of the tenotomized muscle and also retraction of its opponent which is no longer resisted. The increase of power secured by muscular advancement may be temporary or illusory. Only modified nerve impulses are required to increase or diminish the power of any muscle. All muscle operations, temporarily suspending function, are followed by degenerative changes in the muscle substance.

Operation on a muscle should be undertaken only after careful consideration of all the movements in which it takes part, either as a primary or secondary rotator of the eyeball. The more important object in the treatment of strabismus is to bring about a muscular equilibrium. Static equilibrium so that muscular rest will leave the two eyes fixing the same point in a central position, and dynamic equilibrium, balanced movements, easy binocular fixation of greatest usefulness around this central point. A less important object is to secure movements, from this central point, of greatest range and with the least expenditure of effort. Where these objects are not attainable by increasing the power of a certain muscle or muscles they are to be sought by diminishing the power of opposing muscles or by transference of muscular power from one movement to another.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville, Tenn.: The law governing the ocular muscles is this:

The ocular muscles must so relate the two eyes that the two visual axes and the two horizontal retinal meridians shall always lie in the plane of the primary isogonal circle, and that the two visual axes shall intersect at some point on this circle, in the interest of both binocular single vision and correct orientation. There are just two classes of esotropia (internal strabismus), the curable, including all patients who have ever had binocular single vision, and to whom binocular single vision may be restored, and the incurable, including the many patients who have never had binocular single vision and can never be made to see singly with the two eyes. In the curable patients the crossing has occurred one or more years after birth and the crossed eye becomes amblyopic. Such patients may be cured spontaneously (though rarely) or by art, in the sense that the muscles become obedient to the law of binocular rest and motion. Later by training, the amblyopia may disappear. Operations should always be performed on sinning muscles only. There are two causes of curable esotropia, the one principal (true esophoria, without which there can be no turning in of the eye) and the other accessory (hyperopia), which because of the intimate relationship between the centers of accommodation and convergence, creates a pseudo-esophoria which, added to the true esophoria, increases the work of the externi and the basal centers controlling them, in their effort to prevent crossing. No patient should be operated on without a clear understanding on the part of the operator as to whether the esotropia is simple or complicated. If the condition is simple esotropia, the sinning muscles are the lateral recti, and only those muscles should be subjected to operations. These operations should be done with the view of giving equal tonicity to the four recti, and in the more aggravated cases all four should be operated on. In a case of hyperesotropia, the four lateral recti should be operated on; their tension should be altered but their planes of rotation should not be changed. In the most complicated esotropia—cyclo-hyperesotropia—not only must the tonicity of the muscles be altered but the plane of rotation of one muscle or, maybe, two or three, must be changed.

Whether, in these cases, the esotropia be slight or severe or medium, there is no indication for operating on the superior and inferior recti, as advocated by Dr. Jackson in his paper. Muscles whose tonicity keeps the visual axes in the plane of the primary isogonal circle should not have their tonicity interfered with by any kind of operation; and if their tonicity is not altered it necessarily follows that their planes of action can not be changed. These operations may be safe in Dr. Jackson's hands, but why adopt them when esotropia can be treated on sounder principles? General adoption of this operation, even in the more severe cases, would be attended by frequent disaster. I am sorry that my good friend advocates the punishment of muscles that have not disobeyed the law governing them, which is: The superior and inferior recti must keep the visual axes in the plane of the primary isogonal circle regardless of the point of view.

Dr. A. L. Derdiger, Chicago: I find that sometimes patients present themselves for refractive troubles, headaches or some nervous symptoms. We make an examination both for muscular insufficiency and refractive error and find as much as 3, 4, 5 degrees hyperphoria and 6 to 12 degrees esophoria or exophoria. If we are in a hurry to suggest operation in these cases without going thoroughly into the refractive error we are very liable to fall down. In the last two years I take patients that come in for headache and nervous symptoms, go over the refraction carefully a half a dozen times, and have the patient wear full correction in every instance in which there is hyperopia and astigmatism. If the patient is neurasthenic, I regulate the diet and advise as much out-door exercise as possible. The muscular trouble often disappears after proper correction of the error of refraction and careful regulation of the diet and exercise. I had a patient, a man, aged 39, cross-eyed in both eyes since childhood (convergent squint); right eye turned in more than left eye; vision in right eye, 5/200; vision in left eye, 20/60. Advancement operation was performed on the muscles of the right eye and the opposing muscles were tenotomized. The wounds healed kindly, both eyes being refracted two weeks after the operation with the following results: O. D. V. = 20/200 with + 6.00 V. = 20/60; O. S. = 20/40 with + 4.00 V. = 20/20. Full correction was prescribed to be worn constantly. The eyes being perfectly straight, the patient can see distant objects and read fine print distinctly. The patient has been under observation for one and a half years and the eyes remain straight, vision being 10 per cent. better than at first. Another case was that of a girl aged 2½ years: V. = 5/200; internal squint in both eyes, very high degree. Atropin was used for two weeks and the following correction gave perfect results: Right eye, + 4.50 V. = 20/20; left eye, + 7.50 V. = 20/20. Both eyes being perfectly straight with glasses on, I ordered full correction to be worn constantly. This case has been under observation for nearly two years and the eyes are straight with the glasses; they converge slightly without the glasses on.

Dr. Edward Jackson, Denver: John Fiske, in his "Myths and Myth-Makers," has written beautifully about the tendency of primitive peoples to find a spirit or indwelling force in all sorts of annoying things. When a man has been killed by a knife, in certain savage tribes, the tribesmen hold an inquest and sentence that knife. Now I think we have something of a survival of that in such phraseology as "innocent, or sinning muscle." Ideas which do not depend on any logical reasoning but are largely a suggestion of the phraseology we use are the chief obstacle to a clear general understanding of this matter of ocular movements and their correction.

TINCTURE OF STROPHANTHUS AND STROPHANTHIN *

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The pharmacology of strophanthus indicates that it has certain advantages over digitalis, and careful clinical observation has sustained the view of pharmacologists that it has a distinct field of usefulness. It is a fact, however, that the average practitioner either refuses to employ strophanthus at all, or, after a brief trial, dismisses it and returns to digitalis.

We believe that the reasons for this state of affairs can be explained satisfactorily, and that the chief causes militating against the proper use of strophanthus can be removed.

One of the principal causes of the disrepute into which strophanthus fell was the utter unreliability of the tincture because of extreme variability in the strength of the seed, according to the testimony of several German investigators. It has been shown[1] that the tincture of strophanthus made by the large manufacturing houses of the United States is surprisingly uniform in potency—much more nearly uniform than is the tincture of digitalis—but American physicians are so impressed with the weight of German opinion that it is difficult to eradicate a false impression of this nature, and particularly since our friends in Germany are still reiterating the statement that tincture of strophanthus is extraordinarily variable and unreliable, though the standardized tincture is now sold there. Inasmuch as this supposed variability does not exist here, we may dismiss that phase of the difficulty.

Another serious disadvantage common to strophanthus and digitalis has been the want of a pure soluble active principle suitable for hypodermic use. This want, at least to the extent of the pure and active principle, has been supplied in the crystallized strophanthin of Thoms.

In this connection it may be said that there is the utmost confusion in the minds of many physicians concerning the different strophanthins, and this is not surprising when even the National Standard Dispensatory gives Thoms' formula under the official strophanthin, quoting Thoms as authority. It is probable that the crystallized strophanthin is the only absolutely pure strophanthin obtainable in commerce, but the American house of the manufacturers was unable to supply this direct, but had to import it to our order. They were unable to tell us, before writing to Germany, whether the strophanthin ordinarily supplied is made by the process of Thoms. Though the official strophanthin is not an absolutely pure product, we wish to state distinctly that we do not pretend to say that it may not answer every purpose for which the crystallized strophanthin is used.

A third, and perhaps the most serious, cause of the disfavor into which strophanthus has fallen is the utter confusion concerning the dose. This naturally follows the conflicting statements regarding the toxicity of the different preparations, since the dose is sharply limited by the toxicity.

Potent remedies are almost universally recommended in minimum doses, and in strophanthin we have at once an exceedingly toxic or a comparatively mild remedy dependent on the mode of administration. Less than a milligram of crystallized strophanthin injected into a vein or subcutaneously may give rise to serious symptoms, while 150 milligrams have been given to a man by the mouth in the course of two days.

Table 1 illustrates the confusion existing regarding dosage. The figures in italics are quoted from the several authorities, the others are equivalents calculated from our comparisons of toxicity; while these equivalents are not exact, we have every reason to believe that the limits of error are very narrow. In general, 200 parts of tincture equal in toxicity one part of crystallized strophanthin, or about two parts of Merck's or Boehringer's.

Table 2 affords a comparison of the toxicity according to different investigators, and it will serve to explain the confusion regarding dosage. Digitoxin has been introduced into the table merely for the sake of comparison. It will be observed that ouabain and crystallized strophanthin, which are identical, have been found by several observers to possess the same ratio of toxicity when compared with other substances.

None of the authorities quoted has compared the toxicity of the official and the crystallized strophanthins with digitoxin on the same animal by the same mode of administration. Gley[2] found crystallized strophanthin, or ouabain (which is identical with the crystallized strophanthin) to be twice as toxic as the common strophanthin (and this agrees very well with our own results on mammals and those of Faust[3]), and eighty times as toxic as digitoxin, as determined by Koppe.

We found the toxicity of crystallized strophanthin for the guinea-pig to be about three times as great as that of digitoxin as determined by Reed and Vanderkleed.[4] Fraenkel[5] found digitoxin to be more than twice as toxic as crystallized strophanthin for the cat by sub-

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[*] Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] The Journal A. M. A., 1907, xlviii, 1177.

[2] Compt. rend. Acad. sc., Paris, cvii, 348.

[3] Arch. Exper. Path. and Pharmacol., xlviii, 272.

[4] Am. Jour. Pharm., lxxx, 110.

[5] Arch. Exper. Path. and Pharmacol., li, 84.

cutaneous injection. We are compelled to reject Fraenkel's results altogether. In addition to an apparent typographical error in his article which has misled others, his conclusions do not bear scrutiny, for a careful examination of his protocols shows that the doses he used were not those stated in the conclusions. Attention is called to the fact because Fraenkel's work has been widely accepted.

Schulz[6] gives the same toxic dose for the dog and rabbit and finds no essential difference in the toxicity of crystallized and amorphous strophanthins. Both these statements are wholly at variance with the results of our numerous experiments and those just quoted.

Hochheim[7] finds, as the result of a few experiments on the rabbit, that crystallized strophanthin is "enormously toxic by vein." We have been unable to kill a rabbit with a dose nearly so small as that which he found fatal, while the dose by the stomach which we found effective is much smaller than that given by him, and whereas he found the crystallized strophanthin about 200 times as toxic by subcutaneous injection as by stomach we were able to obtain a ratio for the rabbit not very much greater than that for the cat and dog under certain conditions, and only about one-eighth as great as that of Hochheim. In no case did we observe as great a degree of tolerance for strophanthin by the mouth in the rabbit as that found by Maurel[8] and Hochheim.

TABLE 1.—THERAPEUTIC DOSES ADVISED BY DIFFERENT AUTHORITIES EXPRESSED IN MILLIGRAMS IN ITALICS, WITH THE CALCULATED EQUIVALENTS IN ROMAN TYPE

Authority.	Crystallized Strophanthus.	U. S. P. Strophanthus.	Tincture.
U. S. P.	0.15	*0.3*	30
U. S. P.	2.5	5.0	*500*
National Standard Dispensary.	0.1-0.15	*0.2-0.3*	20-30
National Standard Dispensary.	1.5-5.0	3.0-10.0	*300-1000*
Mercks' Index[9]	*5x6* daily	10x6 daily	1000x6 daily
Mercks' Index.	0.1-0.5	*0.2-1.0*	20-100
Mercks' Index.	1.5-5.0	3.0-10.0	*300-1000*
Schedel[12]	*5.0-10.0x3* daily	10.0-20.0x3 daily	1000-2000x3 daily
Hochheim.	*5.0x6* daily	10.0x6 daily	1000x6 daily
Kobert[13].	*"preceding too high"*		
Fraenkel[14] (vein).	0.38-0.5	*0.75-1.0*	(unsuited)
Focke[15]	1.5x2 2.1x1 daily	3.0x2 4.2x1 daily	*300x2** *420x1* daily
Bellevue Hospital	3.0-5x6	6.0-10.0x6	*600-1000x6*

12. Ber. d. deutsch. pharm. Gesellsch., xiv, 120.
13. Lehrbuch der Intox., ii, 1215.
14. Arch. Exper. Path. and Pharmacol., lvii, 79.
15. Therap. d. Gegenw., 1906, viii, 348.

* Focke used 5 drops twice, or 7 drops once, a day.

Ratio of toxicity of the smallest single dose advised by mouth (0.2 mg. of the official) to the highest dose given in a day (75 mgs. of the crystallized) = 1 to 750.

We shall see that the tables of toxicity for strophanthin by the mouth are of but little importance unless we know the conditions under which the poison is given.

TABLE 2.—FATAL DOSES IN MGS. PER KG.

	Cryst. Stand.	U. S. P. Stand.	Digitoxin.	Ratios.
Rabbit, st. (M'l.)	....	40.0	....	......
Rabbit, st. (H'm.)	18.0-30.0	....	....	......
Rabbit, s.c. (S'z.)	0.1-0.2	(0.1-0.2)	....	1 :1 :—
Rabbit, s.c. (H'm.)	0.176	....	....	......
Rabbit, s.c. (M'l.)	....	0.4	....	......
Rabbit, v. (M'l.)	....	0.3	....	......
Rabbit, v. (H'm.)	0.128	....	....	......
Dog, st. (S'z.)	2.0	(2.0)	....	1 :1 :—
Dog, s.c. (S'z.)	0.1-0.2	(0.1-0.2)	....	1 :1 :—
Cat, s.c. (F'l)	0.2 (ther.)	....	0.08	1 :— :3
G. P., s.c. (R. & V.)	....	....	1.0	......
—Mgs. to produce systolic standstill in frog.—				
Gley	0.013	0.025	....	2 :1 :—
Fraenkel	....	0.05	0.18	— :4 :1

Faust: Ouabain twice as toxic as glaber-strophanthin.

Haynes: Tincture strophanthus 40 times as toxic as tincture digitalis.

Haynes'[9] conclusions are wholly erroneous so far as the administration of strophanthus by the mouth is concerned. He used massive doses on the cat by the stomach. Rapid absorption occurred, with destruction of only a comparatively small amount, leading to incorrect conclusions.

This want of agreement in the toxicity of strophanthin for different animals would be of much less importance were it not for the fact that these different observers have based the therapeutic dose for man on these results without regard for the conditions which modify their results.

In attempting to find a rational basis for the dosage of different preparations of strophanthus we first determined the toxicity of the tincture, and of the official and the crystallized strophanthins, for different animals by different modes of administration, for, as previously stated, the therapeutic dose must be limited by the toxicity of a given preparation by a given method of administration.

A summary of the results of a large number of experiments is given in Table 3. The most striking fact which this table suggests is the extraordinary discrepancy between the dose of the official strophanthin, on the one hand, and of the tincture and the crystallized strophanthin on the other, if we accept toxicity as a guide to the dose. Thus while the doses of strophanthin and of the tincture given by the U. S. P. indicate that official strophanthin is 1,600 times as active as the tincture, we find that it is only about 100 times as active when given under similar conditions.

TABLE 3.—FATAL DOSES IN MGS. PER KG. (H. & B.)

Animal.	Cryst. Stroph.	U. S. P. Stroph.	Tincture.
Cat, m't'h.	1.0-2.0	4.0-6.0	65-1000
Dog, m't'h.	1.5	4.0-5.0	?-500-1000
Rab., m't'h.	10.0	25.0	......
Cat subcut.	0.15	0.35	40
Dog, subcut.	0.15	0.35	40
Rab., subcut.	0.35	0.8	125
Guinea-pig, subcut.	0.3	....	...
Cat, vein.	0.1	0.25	35
Dog vein	0.125	0.27	36

TINCTURE TO DOG

Tongue, 200; emesis.
Rectum, 200; def'n.
Large intestine, 30; none in 1-½ hrs.
Jejunum, 446; toxic in 55 minutes.
Ileum,-500; died in 1 hr.
Duodenum, 600; none in 1-½ hrs.
Duodenum, 1,000; died in 38 minutes.
Duodenum, 600; died in 45 minutes.
Rectum, cryst. stroph., 1 mg. per kg.; none.

The crystallized strophanthin is advised in doses from five to fifteen times as large as those of the official strophanthin, but the table seems to indicate that the amount of the official product to be given by the mouth should be twice that of the crystallized, or from ten to thirty or even fifty times that commonly advised. We can not state with sufficient emphasis that we are not prepared to advise that the dose be increased to that extent in the

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6. Viertljschr. f. gerichtl. Med., xxi, 293.
7. Centralbl. f. inn. Med., xxvii, 65.
8. Soc. de biol., 1901 p. 837.
9. Bio-chem. Jour., 1906, i, 62.

present state of our want of knowledge, but we do say that the evidence shows the need of careful clinical investigation of the question.

The ratio of toxicity is fairly well maintained for the two strophanthins for different animals with different modes of administration, but it is possible that the very soluble amorphous strophanthin may, under certain conditions, show a different rate of absorption from the human alimentary canal from that shown by the lower animals and may, therefore, show an extraordinary toxicity for man when given by the mouth.

When large doses of tincture of strophanthus, or the crystallized strophanthin, are given to man by the mouth, nausea, vomiting and even bloody diarrhea ensue. This prevents the further absorption of the poison and explains why death practically never results from very large doses of these substances when they have been given in this way.

The experience of Fraenkel[10] and others indicates that the dose of the official strophanthin by vein is about one milligram. This is given at once and is not repeated within twenty-four hours. Table 3 indicates that about 0.4 mg. of crystallized strophanthin is equivalent to 1 mg. of the official drug by the vein.

Hochheim,[7] in Unverricht's clinic, advised 5 mgs. of the crystallized strophanthin as the dose by the mouth, or 30 mgs. in this way as the maximum daily dose. Kobert thinks this dose is too high, basing his opinion on his own experiments on animals. The toxic equivalent of this dose seems to show that the single adult dose of the official strophanthin by the mouth should be about 10 mgs. and the full daily dose 50 or 60 mgs., but should this amount be absorbed quickly it would surely prove fatal. As previously stated, 150 mgs. of the crystallized drug, the equivalent of more than 300 mgs. of the official drug, have been given (by Hochheim) to a patient by the mouth in the course of two days; it caused vomiting and bloody diarrhea.

The amounts given in Table 3 are suggested as the basis of a rational clinical observation and not with any idea that it is the last word on the subject of dosage.

We believe that the strophanthins of Merck and of Boehringer & Sons and probably those of other makers are fairly uniform, but they are not absolutely pure crystalline bodies, and we are unable to vouch for them. Several samples of Merck's and Boehringer's strophanthin purchased at intervals of a year or more were examined and no difference in activity could be observed. So long as the crude drug can not be identified with certainty and is said to be the subject of gross adulteration, while the different strophanthins differ markedly in toxicity (or, what amounts to the same thing, in purity), it would seem that prudence demands that the manufacturers should standardize the non-crystalline strophanthins by a given method of standardization. For this purpose we would recommend that the amount required to kill a kg. of healthy normal cat within an hour, when a 1/10,000 solution in normal saline is injected at once into the femoral vein, should be taken as the unit and called one cat unit. This amount corresponds very nearly to 0.1 mg. of the crystallized drug.

The crystallized strophanthin obtained by the process of Thoms from *Strophanthus gratus* has a definite melting point and well defined solubilities. It is said to be soluble in 30 parts of absolute alcohol and in 100 parts of water. The following observation, which was not investigated farther, is of interest in view of the fact that an alcoholic stock solution might be ordered. One part of crystallized strophanthin dropped into alcohol formed a pasty mass which dissolved only after warming, and on standing a few days it crystallized out on the sides of the bottle. The solution made of the powdered drug was permanent. The crystals shaken with so-called absolute alcohol (about 99 per cent.) for several days did not dissolve in the proportion of 1 to 100.

It would not be profitable to discuss all of our experiments in detail, but certain significant results will be considered. The cat and dog show a nearly identical degree of susceptibility, the latter being a trifle more resistant. Both of these animals vomit with such uniformity so soon as a toxic dose of strophanthin enters the circulation that it is difficult to fix the fatal dose by the mouth with any degree of precision.

In order to obviate this difficulty the effort was made to depress the vomiting center by a small dose of the tincture which was followed by a larger amount. This was wholly unsuccessful, as the animals promptly vomited as soon as a toxic dose had passed into the circulation. Morphin was then employed to depress the vomiting center of another dog, and the dose of strophanthus which would produce only vomiting under normal conditions then promptly caused death. The importance of this in therapeutics under certain conditions is obvious. In this way it was found that the single fatal dose of the tincture for the dog by mouth is about 600 to 1,000 mgs. per kg., when the tincture is well diluted with water.

A form of dilution favorable for quick absorption was then tried; the concentrated tincture or alcoholic solution of strophanthin was washed down in a little alcohol, and in this way we were able to kill or severely poison several animals with doses but little above those required by subcutaneous injection and very much less than those usually required to cause death after oral administration.

Sixty-six milligrams of the tincture per kg. proved fatal to Cat M when given in this way. A proportionate amount may be taken in the course of a day by a man in the usual way and give rise to no symptoms whatever. The cat used in this experiment was somewhat emaciated and the result was not considered wholly satisfactory on that account, but prompt emesis followed this dose given in the same way to Cats 3 and 4, and emesis occurred repeatedly in Cat 4. This shows that the amount absorbed was not very far from the fatal dose and might well have proved fatal had emesis not followed. Furthermore, it may be stated in support of the result with Cat M that a sick rabbit was repeatedly injected with large doses of strophanthus and only succumbed to a dose which would prove fatal to a normal rabbit.

Experiment 1.—March 24, 1908: Cat M., male, weight 1.1 kg., has been the subject of a number of experiments and is very much emaciated. Had been used for strophanthus one week previously. 3:15 p. m.: 0.066 c.c. tincture strophanthus per kg., diluted with a little alcohol, washed down with 1 c.c. alcohol, 5:45 p. m.: Cat lies down, but is able to get about.

March 25: Cat found dead.

The rabbit is somewhat more tolerant than the cat or dog when the drug is injected subcutaneously, and very much more so when it is given by the mouth. The white rat is extraordinarily tolerant whether the poison be given by the mouth or subcutaneously; thus the equivalent of 70 mgs. per kg. of crystallized strophanthin was injected subcutaneously in one case without producing any perceptible effect, while another white rat weighing only 156 gms. ate 100 mgs. with his food without ill effects.

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[10] Arch. Exper. Path. and Pharmacol., lvii, p. 79.

Disintoxication appears to be more rapid in the case of the rodents than with the cat and dog, for the rat was seen to return to the poisoned food after brief periods of depression, and the rabbits ate with avidity in a few hours after a nearly fatal dose by subcutaneous injection, while the effects of large doses were observable for several days in the cat and dog.

The difference in toxicity seen after slow and rapid absorption seemed to support the explanation of von den Velden[11] that the lesser toxicity of the digitalis bodies by the mouth is due to a slower absorption. That this does not suffice to explain the differences seen with strophanthin is shown by the results of experiments 2, 3, 4 and 5. In experiments 2 and 3 a very dilute solution of the crystallized strophanthin (1:250,000) was slowly injected into the femoral vein; although free diuresis resulted from the injection of such a large amount of normal saline, the fatal dose of strophanthin was but little more than that which the animal survived for more than two hours in experiment 4, in which the solution, 1:10,000, was injected at once into the vein, and the single dose given in experiment 2 was the same as that which proved fatal with slow injection in experiment 4, but this is explained in part by the excess of fat.

If by "slower absorption" von den Velden would have us understand the failure to absorb the greater portion of a dose during its passage of the entire small intestine, then his explanation must be accepted as probably correct. This is failure to absorb, rather slow absorption, in the usual acceptation of the expression.

Experiment 2.—April 18, 1908: Dog 4, male mongrel, weight 14.85 kg., excessively fat.

10 a. m.: 0.01 gm. morphin sulphate per kg. subcutaneously.

10:15 a. m.: Light ether anesthesia. Cannula into femoral vein.

10:18 a. m.: Ether withdrawn.

10:42 a. m. to 12:05 p. m.: 1/800 mg. per kg. per minute of crystallized strophanthin in normal saline (1:250,000) injected into vein.

12:05 p. m.: Injection stopped, and dog died in about fifteen minutes.

Total dose: 1.58 mg. or 0.105 mg. per kg.

Total normal saline: 400 c.c. or 27 c.c. per kg.

Experiment 3.—April 18, 1908: Dog 5, male, good condition, weight 7.4 kg.

2:05 p. m.: 0.01 gm. morphin per kg.

2:15: Ether, light anesthesia. Cannula into femoral vein.

2:30 to 5:13 p. m.: Injection as in Experiment 2 till death of animal.

Total dose: 1.3 mg. or 0.175 mg. per kg. crystallized strophanthin.

Total normal saline: 325 c.c. or 44 c.c. per kg.

Time of injection: 2 hours 43 minutes.

Experiment 4.—April 20, 1908: Dog 6, fox terrier, fine condition, weight 8.5 kg.

1:10 p. m.: 0.01 morphin sulphate per kg. subcutaneously. Ether as in Experiment 2. Cannula into femoral vein.

1:38 p. m.: 0.1 mg. crystallized strophanthin per kg. into vein.

3:48 p. m.: 0.025 mg. per kg. as before.

4:01 p. m.: Animal died.

Total dose: 0.125 mg. per kg. in 10.000 parts normal saline.

Experiment 5.—April 24, 1908: Dog 8, female, mongrel, weight 7.65 kg.

11:25 a. m.: 0.01 gm. morphin sulphate subcutaneously. Ether for light anesthesia. Cannula into femoral vein.

12:07 to 12:42 p. m.: 100 c.c. (1:100,000) strophanthin (1 mg.).

12:57 to 1:07: 10 c.c. (1:100,000) strophanthin (1/10 mg.).

1:22 to 1:29 p. m.: 10 c.c. (1:100,000 strophanthin, (1/10 mg.).

1:44 to 1:49 p. m.: 5 c.c. (1:100,000) strophanthin (1/20 mg.).

2:14 to 3:10 p. m.: 58 c.c. (1:100,000) strophanthin (58/100 mg.).

3:14 to 3:25 p. m.: 18 c.c. (1:100,000) strophanthin (18/100 mg.).

4 to 4:49 p. m.: 45 c.c. (1:100,000) strophanthin (45/100 mg.).

4:49 p. m.: Dog died.

Total duration of injection: 4 hours 42 minutes.

Total dose: 246 c.c., 2.46 mg. strophanthin.

Dose per kg.: + 2.46 — 7.65 = 0.322 mg.

This method always gives results somewhat too high, and if 20 per cent. of the lethal dose is destroyed in the time of the experiment it gives 0.27 mg. per kg. This is almost the exact fatal dose by vein when given at once.

This is also shown in the case of the official strophanthin. In experiment 5 a dog received 0.322 mg. of official strophanthin by the vein in the course of nearly five hours. Since the animal organism is capable of destroying almost the full lethal dose in twenty-four hours, we should expect the effective dose in this case to be at least 20 per cent. higher than when the injection is made at once. This would indicate that 0.27 mg. is the fatal dose of strophanthin by the vein for the dog. This is almost precisely the effective dose when given at once by the vein.

Curarin and antiarin are said to be destroyed in the liver, and this source of destruction of strophanthin. of course, presented itself to our minds. That the liver does not destroy strophanthin in amounts sufficient to account for the lessened toxicity by the mouth is shown by comparing the results of experiments 3 and 6. A dilute solution is just as toxic when injected slowly into the splenic vein as when it is injected into the femoral. In fact, the animal which received the injection into the splenic vein succumbed to a slightly smaller dose, but the difference lies wholly within the limits of ordinary variation.

Experiment 6.—Female fox terrier, quite fat, weight 10.35 kg.

10:25 a. m.: 0.01 gm. morphin sulphate per kg. subcutaneously.

10:45 a. m.: Light ether anesthesia. Cannulas into carotid artery and splenic vein.

11:34 a. m. to 1:54 p. m.: Injection as in Experiment 3 of crystallized strophanthin, 1 to 250,000 normal saline.

1:57 p. m.: Animal died.

Total dose: 1.52 mg. or 0.147 mg. per kg.

Time of injection: 2 hours 29 minutes.

Peptic and activated pancreatic digestants, as well as bile, were found to exert only an unimportant influence on the toxicity.

When a large dose of strophanthin was injected directly into the duodenum an amount equal to ten times the fatal dose by vein disappeared from the lumen of the small intestine in the course of an hour and a half without causing toxic symptoms in the dog, while the solution remaining unabsorbed in the small intestine retained its toxicity, as shown by injecting it into a cat subcutaneously. The cat promptly died with typical symptoms.

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[11] München. med. Wchnschr., liii, 2137.

From this it appears probable that strophanthin is destroyed in part in the intestinal canal when the drug is taken by the mouth, but that rapid absorption may take place is shown by the results of experiments already quoted, and by one in which a large amount was introduced directly into the duodenum and death with typical symptoms followed in thirty-eight minutes.

While one of us (R. A. H.) has concerned himself chiefly with the questions of dosage and the factors which modify this with different methods of administration, the other (H. C. B.) has made a number of clinical observations on patients in Bellevue Hospital. The results of these observations will be the subject of a subsequent communication, but the point to which we now wish to draw attention is the subcutaneous injection of strophanthin.

Dr. Bailey employed the official strophanthin, dissolved in sterile salt solution, in one case, but for the most part the crystallized strophanthin was used. This was dissolved in 4,000 parts of salt solution, which was then sterilized by boiling, and the appropriate dose—0.3 to 0.5 mg.—was put into sterile serum tubes and the latter sealed in the flame. This solution was injected deeply into the gluteal muscle once in twenty-four hours. It gave rise to a slight degree of pain lasting about an hour, which was never sufficient to prove a serious objection to its use in this way. No side actions, such as described by Fraenkel, were seen in any case. The action was more prompt than could be elicited by 1 c.c. of the tincture given by the mouth every four hours—6 c.c. in the twenty-four hours.

CONCLUSIONS

The dosage and the proper mode of exhibiting strophanthus and strophanthin require clinical investigation. The action of strophanthin may be elicited promptly in suitable cases by injecting it subcutaneously. Three-tenths to half a milligram of the crystallized strophanthin in sterile (boiled) salt solution, 1/4000, may be injected deeply into the gluteal muscle once in twenty-four hours without fear of abscess formation or other side actions.

The single adult dose of crystallized strophanthin by the mouth is about 5 mgs. or less, the daily dose 30 mgs. or less. The single adult dose of the official strophanthin by the mouth is probably about 10 mgs., and the daily adult dose by the mouth is probably about 60 mgs., but the latter dose should not be used until we have further clinical experience concerning the various factors governing its absorption.

The action of tincture of strophanthus by the mouth and the factors modifying its absorption require further clinical study. Uniformity of action can only be secured by uniform absorption, and this is influenced by the menstruum in which the drug is given and the condition of the alimentary canal at the time of administration.

It is quite possible that diet may influence the absorption of strophanthin in the human alimentary canal, so that man may at one time resemble the rodent and at another time the carnivorous animals (cat and dog) in susceptibility to strophanthin.

ABSTRACT OF DISCUSSION

Dr. Torald Sollmann, Cleveland, Ohio: This paper explains why strophanthus has not received the popularity to which one might suppose it entitled. I think that clinicians have been extraordinarily wise in not relying on a drug about which so little is really known. Yet strophanthus contains great capacities for good and it is to be hoped that investigations such as Dr. Hatcher's will be carried still further. These investigations tend to substitute definite for indefinite knowledge. The dose now varies anywhere from 1 to 1,000. I believe that if these investigations are continued, strophanthus will prove to be a very important drug.

Dr. C. W. Edmunds, Ann Arbor, Mich.: The report of the uniformity of strophanthus tinctures did not agree with the results I obtained last year. I found that strophanthus tinctures varied exactly the same amount that the tinctures of digitalis varied; that is, the fatal dose in one preparation was 0.0012 of a cubic centimeter, in another 0.0025, in another 0.005, in other words a ratio of 1 to 4. In regard to the difference in toxicity between tincture of digitalis and strophanthus, the results I obtained with tincture of strophanthus, taking the average of all the preparations studied, showed that strophanthus was about sixty-seven times as toxic as digitalis, which agreed fairly well with Haynes' results. He compared 2.5 per cent. tincture of the British Pharmacopeia with a 12.5 per cent. digitalis tincture. I forget his exact figures, but I think he found a ratio in toxicity of about 12 to 1, which, multiplied by 5 on account of the difference in strengths of the two tinctures, would make his figures agree pretty closely with mine.

Mr. M. I. Wilbert, Philadelphia: The figures mentioned by Dr. Edmunds a few moments ago are further emphasized by the suggestions of Dr. Hatcher on the variability of the sources of strophanthus. The drug strophanthus has been before the medical public for upward of forty years, and has received ample recognition in the voluminous literature that has been published since 1873, when Dr. Frazer read his first paper on this drug. It is evident that the majority of medical men do not feel safe in using strophanthus. This feeling of uncertainty, evidenced by the fluctuating use of strophanthus, is, no doubt, largely due to the irregularity in the source of the seed. The Pharmacopeia gives *Strophanthus kombé* as the only source of drug from which the official tincture of strophanthus can be made. As a matter of fact, *Strophanthus kombé* was, for a number of years, practically out of the market. The annual reports of European drug houses have repeatedly called attention to the fact that the supply of *Strophanthus kombé* was meager and that the available drug was frequently mixed with other, more or less inert, seeds. In a recent paper by Professor Gilg, read before the Pharmaceutical Society in Germany, he suggests that *Strophanthus hispidus* be made the official source. *Strophanthus hispidus* is cultivated in a number of places in South Africa, is readily controlled and always comes into the market of uniform quality. We have reason to believe that *Strophanthus gratus* is the source of crystalline strophanthin, which, as Dr. Hatcher has pointed out, is identical with ouabain, a glucosidal substance obtained from the wood of a species of Acocanthaceæ, and is at least twice as strong as the official strophanthin. Here is a possible complication that should be guarded against. I think it would be unfortunate indeed if *Strophanthus gratus* should be generally confounded with the official strophanthus. In addition to this complication with the seed we may also have the same complication in connection with the active principles. At the international conference held in Brussels in 1902 for the unification of the formulas for potent medicaments, the delegates present were so uncertain about the origin of strophanthus that the committee did not include the origin or the description of the seed in the final protocol, despite the fact that it did include the tincture. The proposed international tincture of strophanthus differs from the U. S. P. tincture in the strength of alcohol to be used in the percolation of the drug and that is another point which may be of importance. The international tincture is more readily made, the drug is more thoroughly exhausted, and the finished preparation stands up better and remains clearer longer than the corresponding U. S. P. preparation. The international menstruum represents 75 per cent. alcohol, while the menstruum directed in the United States Pharmacopeia represents about 65 per cent. of alcohol.

Dr. E. M. Houghton, Detroit: I am particularly glad to note that Dr. Hatcher's statements relative to the toxicity of strophanthus coincide almost exactly with those I made in a paper before this section ("The Pharmacologic Assay of the Heart Tonics," The Journal, Oct. 22, 1898), I think exactly ten years ago. I pointed out that the toxic dose of the strophanthins on the market varied from 1 to 90; in other words I found with different samples of strophanthin obtained in this country and Europe one strophanthin ninety times as strong as another. At the same time I called attention to the variability in the activity of tincture of strophanthus and preparations of digitalis, and proposed a method of determining the activity of the heart tonics and especially of the tincture of strophanthus. I used as a standard 0.00015 c.c. tincture of strophanthus per gram body weight of frog as the minimum fatal dose when injected into the abdominal lymph sac.

Since then it has been my privilege to examine or have examined hundreds of samples of tincture of strophanthus, and I have adhered to that standard. I have in course of preparation just now a paper on the heart tonics, in which I shall enter more fully into the question of standards for digitalis and strophanthus. I have found the tincture of strophanthus prepared according to the seventh revision of the U. S. P. approximately ten times as active as the corresponding fluidextract of digitalis. In other words, the standard I have adopted for 5 per cent. tincture of strophanthus, 0.00015 c.c. per gram body weight of frog, is exactly one-tenth that for fluidextract of digitalis (0.0015 c.c.), when similarly injected.

Examination of these figures shows that strophanthus is two hundred times as active as digitalis, in terms of crude drug. It seems to me from the very large number of samples examined of different preparations of these two drugs that the figures just cited as standards for their strength are reasonable as representing the activity of average samples of first-class drug.

Dr. Robert A. Hatcher, New York: The difference in toxicity of strophanthus and digitalis is largely based on the length of time required. It is well known that digitoxin reacts slowly. It will probably take two hundred times as much digitoxin as of strophanthin to kill in an hour, but if you take the minimum fatal dose, regardless of time, the difference is much less. Fraenkel found that the minimum fatal dose of digitoxin did not kill within eight days (cat). An enormous dose is required to kill within an hour, whereas ouabain is quickly fatal in minimum fatal doses. That is probably why Hedbom, experimenting on frogs, found ouabain eighty times as toxic as digitoxin. As to variability of the tincture, I do not deny that it may exist, but there is no excuse for any one's failure to obtain reliable preparations, and we can obtain reliable preparations of strophanthus without limiting ourselves to those of one manufacturer. I compared the tincture made by Burroughs, Wellcome & Co. with those of Parke, Davis & Co. and Squibb, and with those made from seed obtained from Gilpin, Langdon & Co. and one from a specimen of seed that had been in our laboratory for nearly twenty years, and all were found to be of practically the same strength. Samples were purchased of the east side drug stores in New York and the better class of stores were purposely avoided. There is no reason why the crystalline strophanthin should be confused with the official, but the difference in toxicity has not been sufficiently emphasized. Ouabain is the most toxic; strophanthin, which is methyl ouabain, is about one-half as toxic, and acocantherin, which is dimethyl ouabain, is about one-fourth as toxic; this is very suggestive as to the effect of methyl groups on the toxicity. There is absolutely no reason why crystalline strophanthin should not be prescribed. I believe that Dr. Edmunds must have used much larger doses of digitoxin than the minimum fatal. There is certainly no such difference in the toxicity of strophanthus and digitalis as suggested, for no one could use 3,000 (50 × 60) minims of tincture of digitalis daily without effect. Haynes states that strophanthus given by the mouth is fifty times as toxic as is digitalis, but that is absolutely untrue, at least under ordinary conditions.

DEPARTMENTS OF HYGIENE UNDER BOARDS OF EDUCATION *

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In the modern scientific business life the technical business expert has a permanent place. The erection of a city structure involves the cooperation of engineering and architectural experts as never before. Electric and mining work involves groups of experts, each connected with some special phase of the subject. School boards have had new problems thrust on them, and the employment of business agents and building experts has become indispensable. It is my belief that the group of problems centering about the health of school children demands technical treatment as highly specialized as that required for other departments. A few statements of fact will bring out the necessity of the measure here advocated.

On good eyesight depends to a large degree one's ability to conduct successfully the affairs of life. Notwithstanding the great damage or degeneration that the vision of American school children is constantly undergoing, there is hardly a school board in America that has in its employ a technical expert to decide on questions relating to eyesight. School-books are adopted, but no standards have been established based on adequate research as to the length of lines for the various ages, size of type, size and stroke of letter in connection with the lines, the width of the margins, the use of halftones as compared with outline drawings, the use of dead-finished as compared with coated paper, and similar questions. There are authorities on many of these matters, but we have no experts in the employ of departments of education who can speak authoritatively from the standpoint of special study made of these conditions as they exist in American schools.

This extraordinary condition with reference to the problem of vision does not stand alone. Through the school we have changed the life of the child from one of predominant activity to one predominantly sedentary in character. During five hours of the school day for ten months in the year children are obliged to be seated for the major portion of the time. So extensive a readjustment of the life habits of the young of a species has never before taken place. Its effects on digestion, circulation, nutrition and posture are as yet unknown. Yet there is not employed by any board of education in America one expert to make a special study of this group of problems centering about the changed conditions of life as they exist under the conduct of the modern school.

The returns from examinations made by competent physicians in all parts of America indicate that there are many children in all parts of America whose school progress is hindered and whose prospects in life are lessened by hypertrophied tonsils and adenoids; and yet up to the present time there is not employed by a department of education in America a technical expert to study the reasons for the occurrence of such growths, particularly as related to school life, or the means of prevention. The only thing that is being done is to attempt to operate on the tonsils and adenoids after they have grown.

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* A paper prepared for the Section on Hygiene and Sanitary Science of the American Medical Association, Chicago Session, 1908, but not read.

We know that growth is more fundamental than education; that when educational demands are too severe, growth is interfered with; yet there is not a school in America that systematically weighs and measures its children to ascertain whether or not they are growing normally, and then readjusts the school tasks to fit this fundamental physiologic condition.

We know that nervous diseases among children are increasing. We believe that these disorders are related to the increased tension on the children. Many believe that this is due in part to the tasks imposed by school life, and yet there is not a board of education in America that is employing an expert to ascertain the facts with reference to these problems.

The fatigue of overwork, the fatigue resulting from home study—these we all recognize to be serious clogs on development; and yet our courses of study all over America are constructed without the guidance of experts whose authority is based on investigation of these matters.

These are some of the facts which lead us to believe in the employment by departments of education of technical experts who shall work on these problems—experts who shall have power with reference to these matters, just as other experts in the employ of the departments of education have power with reference to their special lines. School buildings are not erected without the direction of expert architects. The recognition of the technical expert in medical lines is just as necessary as it is in architectural lines. It is not sufficient to secure the best available authority on these subjects. No oculist, no group of oculists at the present time possesses the information needed to answer the questions that arise in connection with the vision of school children under school conditions. It is a specialty within a specialty. We do not need authority; we need evidence. And then we need power within departments of education to see that the fundamental condition of successful human life, namely, health, is properly conserved. To this end there should be organized under every board of education a department of school hygiene having adequate financial support and administrative power.

It may be safely affirmed that until this is done, until the school itself attacks these problems with the implements of science, no contribution of permanent value to physical development will be made in the field of education. Obviously the detection of contagious disease in the schools, involving daily visits and the power of the law to act, belongs in the nature of the case to the board of health. Quite as obviously also the care of ventilation, recesses, lighting, seating, exercise, hours for home study, must rest with the board of education. In other words, where the object is the protection of the community the board of health is responsible, and where steps necessary to the proper education of the individual are concerned the board of education is responsible. If these propositions are true they leave but one division of the topic open to discussion, namely: who should conduct the examination of school children for defects likely to interfere with proper growth and education, such as adenoids, defective eyesight and hearing?

Whoever does this work, it is further obvious that such records must follow the child from grade to grade and also from school to school; that they must be considered by the grade teachers, and, most important of all, that each case must be consistently followed up, so that, as far as possible, such disabilities may be removed; that is, they are an important part of the school records and must be so made and organized as to be available to the school authorities. So the board of education must at least be one of the active parties in such medical examination.

1 Madison Ave.

THE CAUSES AND THE TREATMENT OF BACKACHE IN WOMEN

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Backaches in women are so common and so far-reaching in their effects that a thorough understanding of them is of the greatest importance to members of the medical profession, to say nothing of their patients. A much too large number of women are its victims. Much of the hysteria and neurasthenia from which they suffer appears to be caused by the nervous leak due to the constant backache, much in the same way that eyestrain gives rise to headaches and other nervous disorders. Yet, if we turn to our text-books, we find practically nothing on the subject.

CAUSES

First, we must determine the cause of the backache. The causes of backache below the dorsal region are numerous, and it is essential for success in its treatment that its origin be accurately diagnosed. The causes are rheumatism, strains, neuralgia, sacroiliac disease, caries of spine, fracture of spine (especially of the coccyx), hemorrhoids or other rectal disease, pendulous abdomen, disease of any of the internal pelvic organs and cellulitis of the uterosacral ligaments.[1]

It is especially with the last two that this paper has to deal.

As a matter of fact the question commonly arising is whether the cause of the backache is pelvic disease, or if it is a strain or rheumatism. The backache of rheumatism and strains are usually seated in the lumbar muscles; and in the former, the pain often radiates down the sciatic nerve. In rheumatism and strain the backache is increased by bending forward so as to put the lumbar muscles on the stretch. This has no effect on the pelvic forms of backache.

Pelvic backache is of two kinds. In one there is pain and tenderness at the fourth and fifth lumbar vertebræ, where the spinal nerve center governing the internal pelvic organs is situated. This pain and tenderness may be due to any painful disease of the internal genitals, and is simply a protest on the part of the center against being constantly irritated. The treatment of this form, to be permanently efficacious, necessitates the cure of the underlying disease.

In the second variety there is a tender spot on either side of the second sacral vertebra, which, it is my contention, is due to cellulitis of the uterosacral ligaments. I shall state my grounds for this theory later.

There are two diseases that might be mistaken for the pelvic forms of backache if only the site of the pain were considered. One is incipient sacroiliac disease; this gives rise to pain and tenderness at the sacroiliac joint, but it is rarely bilateral, and concussion of the iliac bone gives rise to pain. The other is caries of the fourth or fifth lumbar vertebra. This, however, is accompanied by some spinal rigidity, and a jar, such as is caused by having the patient jump, greatly aggravates the pain.

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[1] Besides these conditions, Satterthwaite, of Boston, describes conditions of softening of the sacroiliac cartilages occurring at the menstrual period, analogous to that which occurs during pregnancy, also strains and subluxations of these joints.

Neuralgia is not so sharply localized, and gives rise to a more intense, usually intermittent pain, instead of a dull, constant ache. In rectal inflammations and fracture of the coccyx the pain is referred to the coccyx. In pendulous abdomen, often associated with general enteroptosis, there is a dull, constant dragging pain referred to the lumbar region; probably due to the traction of the mesentery on the spine. This variety is temporarily relieved by causing the patient to lie down, and permanently by wearing an abdominal supporter.

BACKACHE DUE TO CELLULITIS OF THE UTERO-SACRAL LIGAMENTS

The sole variety of backache that is found only in women is that due to cellulitis of the uterosacral ligaments; as that due to irritation of the spinal center is duplicated in the male in prostatic and other genito-urinary troubles.

Having eliminated the causes of backache common to either sex, we next, by vaginal examination, endeavor to determine which organ is at fault.

To determine which organs give rise to backache, I examined a number of women with this symptom. I find that pressure on an inflamed ovary gives rise to pain and a sickish feeling; the pain is not referred to the back. Pressure on the inflamed uterus likewise gives pain, but not in the back. Pressure over the inflamed uterosacral ligaments, however, gives rise to severe pain in the back at the outer sides of the second sacral vertebra. Pulling the uterus forward, thus putting the ligaments on the stretch, also gives rise to the pain. Now, the fact that the uterosacral ligaments are attached to the sides of the second sacral vertebra seems to make a complete and damaging case against these offenders.

The uterosacral ligaments have been described under several names, but the descriptions are usually inadequate. They have been known as the retractor muscles of the uterus; and, with their peritoneal covering, as the sacrouterine ligaments. They have been described as folds of peritoneum, and as muscles. Briefly, they consist of muscle tissue which is in direct continuity with that of the uterus, together with connective tissue, blood vessels and nerves. They arise from the posterior wall of the uterus at the level of the internal os, and diverge outward and backward on each side of the rectum and are inserted on the sides of the second sacral vertebra. They are partly covered with peritoneum which is in direct continuity with that covering the uterus, and which merges into the peritoneal coat of the upper part of the rectum, and is known as the uterorectal ligaments. These form the posterior and lateral borders of the cul-de-sac of Douglas.

These ligaments may be the seat of an acute or chronic inflammation. In acute cellulitis they are much thickened, because of the enlarged blood vessels, exuded serum, etc., as in all inflammatory conditions of cellular tissue. This may end in resolution, in suppuration, or may become chronic. The chronic variety is of two kinds. In the first the ligaments may be as thick as a finger on account of hyperplasia of the tissue elements. In the second the ligaments are barely thickened, but much shortened, drawing the uterus close to the sacrum.

Inflammation of the uterosacral ligaments is known as parametritis posterior, and as cellulitis of the uterosacral ligaments. For the four varieties I have described I will suggest the following names:

1. Acute cellulitis of the uterosacral ligaments.
2. Acute suppurative cellulitis.
3. Chronic hypertrophic cellulitis.
4. Chronic atrophic cellulitis.

As above described, these forms may run into one another, being but stages of the disease. Thus the chronic hypertrophic may by cicatricial contraction result in the atrophic.

The causes of the acute forms are pelvic infection of any kind. They are rarely independent diseases, but are associated with cellulitis of the broad ligaments, etc. I shall not describe this disease in detail, as it is well known.

The chronic forms may follow the acute, or may come on gradually from slight septic absorption from the uterus; for instance, from an old laceration, or erosion, or gonorrhea, or following childbirth. The uterosacral ligaments may also become inflamed as part of a pelvic peritonitis or extension of inflammation from a diseased ovary which is adherent to them. It is this chronic cellulitis of the uterosacral ligaments that gives rise to the interminable backaches which usually are so little benefited.

VARIETIES AND TREATMENT

The common treatment they receive in our large hospitals is a curetting for the endometritis which so often accompanies this condition, and the patient leaves little, if at all, benefited, so far as the backache is concerned.

The symptoms in an uncomplicated case are backache referred to the two spots described, which becomes worse on exertion, especially sweeping. There is a distressing sense of weakness. Sexual intercourse is often painful, on account of pressure on the inflamed ligaments, and so leads to incomplete intercourse, and frequently to repugnance to it, thus indirectly again becoming a factor in the neuroses of women.

The diagnosis by vaginal examination is easy if a few facts are borne in mind, viz.: The normal uterosacral ligaments are felt as thin bands at the sides of the cul-de-sac of Douglas and can be made much more prominent by pulling the cervical portion toward the pubic bone. Pressure on them is painless. Normally, the ligaments are so elastic that the uterus can be brought forward bimanually until arrested by the pubic bone. This again is painless.

In acute cellulitis a considerable exudate forms rapidly in one or, more frequently, both ligaments. The ligament feels hard and is very tender. Any attempt to move the uterus forward gives rise to acute pain, especially in the back. There is usually fever, varying in intensity with the virulence of the inflammation.

If the mass suppurates, the fever rises, and chills are apt to occur. The mass now feels more boggy, a soft spot being present with harder surroundings. Fluctuation is rare, being present only if the suppurating focus is very large, or when it is pointing in the vagina.

In hypertrophic cellulitis the ligaments feel thickened, sometimes to the size of a finger, and are inelastic. Pressure or traction on them gives rise to the characteristic backache.

In the atrophic variety the shortened ligaments, dragging on the uterus at the level of the internal os, bring this portion close to the sacrum and thus often produce an anteflexion. The shortened ligaments interfere with the mobility of the uterus in all directions, and attempts to move it give rise to backache.

The treatment of acute cellulitis is to put the patient to bed, apply an ice-bag to the lower abdomen and administer active saline cathartics. Locally, tampons dipped in 5 per cent. iodin-glycerin are useful, and hot vaginal douches may be given, although I think their usefulness has been overrated. Besides this, the cause if still present must be removed. If suppuration occurs, or before in a severe case, the mass should be incised by vagina and drained, care being taken not to enter the peritoneal cavity.

In mild cases of the chronic variety painting of the posterior vaginal fornix with tincture of iodin two to three times a week, also 5 per cent. ichthyol-glycerin tampons, or vaginal suppositories inserted at night are useful. If by this means we do not get sufficient absorption, pelvic massage may be added. This is applied in two ways: First, by stretching the ligaments gently by bimanual traction of the uterus toward the pubis, never using force enough to give much pain; and, second, by pressure against the ligament with the first and second finger of the left hand in the vagina; the right hand depressing the abdominal wall until the ligament can be pressed on from above. Small rotary movements with the right hand are now made for five to ten minutes. The object of this is to promote absorption, and to lengthen the ligaments. This method produces fairly good results, but rarely removes the backache completely; and must be persevered in for several months. Besides it is somewhat painful.

To overcome these objections it occurred to me that section of the uterosacral ligaments would be a rational treatment, and one fraught with little danger.

REPORT OF CASES

I report in detail two cases, one in which the operation was performed by vagina, and the second by laparotomy:

Case 1.—Last summer a young woman came to me from Boston, and, as hers was an extremely bad case, I used this method on her.

Patient.—Miss G. was 25 years old, anemic and somewhat slight, a semi-invalid on account of severe backache with neurasthenia. She could walk only from three to four blocks before becoming exhausted.

History.—The patient stated that her illness was of seven years' duration. No definite etiologic factors could be elicited. During this period she had had extreme backache and general weakness. She had been put to bed and treated for long periods by homeopathic, osteopathic, mental science and regular practitioners, but with only transitory amelioration of her symptoms.

Examination.—Vaginal examination revealed an anteflexion with some enlargement of the uterus. Ovaries and tubes were normal. The uterosacral ligaments were shortened, inelastic and about the thickness of a lead pencil. The ligaments were very tender to the touch and pressure on them gave rise to the characteristic backache each side of the second sacral vertebra.

Diagnosis.—The diagnosis was anteflexion, chronic metritis, and chronic uterosacral cellulitis in a transitional stage from the hypertrophic to the atrophic variety.

Operation.—I sent the patient to St. Mark's Hospital and had her prepared for operation. The uterus was dilated and curetted. A transverse section extending through the vaginal wall was then made in the posterior vaginal fornix, close to the uterus, about two inches in length. The cellular tissue was separated by the fingers and the cul-de-sac of Douglas opened. The ovaries were palpated and a few fine adhesions to the right one severed. Next, a Polk's handled needle was threaded with No. 3 catgut, and a ligature thrown around the right uterosacral ligament close to the uterus. A second ligature was inserted more posteriorly, and the ligament cut between with a pair of scissors. The same procedure was followed on the opposite side, and the vaginal incision sutured. The insertion of a perforated stem-pessary into the uterus completed the operation.

Postoperative History.—For three days after the operation there was considerable backache which afterward disappeared. Two weeks after the operation the patient left the hospital. I kept her under observation for two weeks more, during which time she took walks miles in length and avowed she had no pain whatever. I am informed by letter that the patient at this time continues to be free from backache, has gained in weight, and is strong and healthy.

Case 2.—*Patient.*—Mrs. W. had suffered for years with severe backaches of both varieties, headaches and dysmenorrhea often confining her to bed.

Operation.—I performed a laparotomy, enucleated about a half dozen fibroids from the uterus, removed the right ovary, which was cystic, severed the uterosacral ligaments and performed a ventral suspension.

Postoperative History.—Recovery was uneventful, and the patient's condition is now excellent.

ANSWER TO POSSIBLE OBJECTION

The objection to the operation might be made that the uterosacral ligaments are an important support of the uterus, and that severing them might lead to prolapse of that organ; but the peritoneum holds the divided ends of the ligament from dropping too far apart, and the gap must eventually be filled by a nerveless fibrous tissue. The final result will be the same as in the section of a tendon of the eye for strabismus, namely, the tendon becomes longer. Backaches in women are so common and distressing in result that it is the duty of the physician to do all in his power to relieve them. The operation which I shall call section of the uterosacral ligaments should be safe in skilled hands, and if on further trial it gives anything like the relief it did in the cases cited it should be used to combat pain and disease.

11 West Eighth Street.

TYPHOID AGGLUTININ REACTION IN A CASE OF EPIDEMIC CEREBROSPINAL MENINGITIS

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Laboratory workers who have dealt extensively with experiments in agglutination have felt doubt at times as to the reliability of a given reaction, away from the associated clinical findings. With the knowledge that the agglutination phenomenon is essentially a quantitative one, the question arises: Is the dilution of the serum too large for the feebly developed agglutinins; is it large enough to differentiate the specific agglutinins from the normal and from co-agglutinins or group agglutinins? This question of dilution becomes particularly important in cases of evident mixed infection.

While, with relatively high dilutions, the less strongly developed normal agglutinins and co-agglutinins are usually ruled out, there still remain a number of cases in which the results are decidedly at variance with the specific reaction with the ordinary laboratory technic, as is illustrated in the following case:

Patient.—Max M., laborer, aged 40, Hungarian, came to this country two years ago. He had had no illness of any kind during the last year.

Present Illness.—The patient had been working daily during that period. On April 10 or 11, 1908, he began to feel moderate general malaise. This malaise, however, did not keep him from going to work. On Thursday, April 16, he failed to report for breakfast. Attempts to arouse him were futile. He was removed from the boarding house to the Emergency Hospital. During the first twelve hours of his stay at the hospital he was semiconscious, and complained of excruciating headache. Delirium followed. The abdominal walls were rigid, especially on the right side. On Friday, April 17, the same symptoms with additional opisthotonus were present, and on Saturday the same symptoms with additional development of internal strabismus. The blood serum was now examined for typhoid agglutinins by Dr. George C. Ruhland, of the Milwaukee Health Department, with positive results, the details of which are described below. On Sunday, April 19, there was profound comatose delirium and development of râles of a moderately moist character on the right side and "moderate" albuminuria. Death ensued Monday morning, April 20. (We are indebted for this report to Dr. Alexander McKinley, of the Emergency Hospital.)

Necropsy.—April 20, 1908. (Irrelevant factors are omitted.) The body was still warm, with no development of rigor mortis. There was marked internal strabismus. The scleræ of both eyes showed a diffuse reddening and were studded with discrete petechiæ.

Cranial Viscera.—When the skull was opened the subdural space was seen to be tensely filled with fluid. Puncture of the taut dura caused a gush of a considerable quanity of slightly turbid, sanguinolent, cerebrospinal fluid. The entire convexity of the brain was covered with a more or less thick, fibrinopurulent material, of a greenish-yellow color. Its consistency was greater in the recesses than on the apices of the gyri. The volume of this exudate increased in direct proportion with the blood supply. It was, therefore, most copious at the base of the brain. There was intense congestion of the pia mater. The brain substance, proper, showed little involvement to the naked eye. The coverings of the spinal cord were in a similar condition, but to a slighter degree. Microscopic examination of the smears showed numerous Gram-negative, intracellular and extracellular diplococci, resembling, to a certain degree, the gonococcus. There were no cells, however, that contained more than two pairs of the micro-organisms, the Diplococcus intracellularis of meningitis. Careful scrutiny of the entrance points of the blood vessels into the cranial cavity did not reveal the avenue of infection.

Abdominal Viscera: The peritoneum was smooth and glistening; the omentum covered all of the small intestines. The peritoneal blood vessels were negative. The situs of the abdominal viscera was negative. The bladder was distended with urine and protruded 8 cm. above the symphysis pubis. The mesenteric lymph nodes were just perceptibly increased, in no way approximating the degree of enlargement found in typhoid or convalescence therefrom. The spleen measured 10 by 6.5 by 3 cm. It was negative. The liver was slightly increased in size. It cut smoothly and was of a brownish-purple color. The hepatic veins were patent and distended; there was venous congestion. Both kidneys showed normal dimensions and were otherwise negative.

Thoracic Viscera: Easily soluble, fibrous adhesions were found in the right pleural cavity, involving the upper and middle lobe of the lung. The lung itself, however, crepitated throughout and floated well above the surface of the water. The middle and lower lobes of the lung contained a smaller amount of air and showed numerous areas of peribronchial reddening and consolidation. The bronchi showed a deeply reddened and swollen mucosa, especially in their narrower ramifications. Similar conditions prevailed in the left lung. Microscopy of the lung tissue revealed a bronchopneumonia, due to aspiration of infected material, very probably during unconsciousness. The bacteriology shows a rather variegated flora of micro-organisms; no pneumococci of Fraenkel and no intracellular diplococci.

Agglutination Test.—In applying the agglutination test, a dilution of the serum of 1 to 100 was used, on a typhoid culture in bouillon not over twenty-four hours old. Positive agglutination was complete within twenty minutes. The culture was a transfer from a regular laboratory stock culture and by no means too attenuated, nor can any fault be ascribed to the physiologic salt solution used in making the dilutions.

We feel convinced of the reliableness of our results from the report made by Symmers and Wilson,* whose findings are identical in the history, postmortem appearances and the agglutination tests, except that in the case reported by them the Widal reaction was obtained in even a dilution of 1 to 200 within fifteen minutes.

We are aware, of course, of the fact that while agglutinins may be nearly, if not quite, specific in their action, a serum which produces agglutination may be far from being so; also, that such agglutinins may be produced by micro-organisms which we do not ordinarily regard as being related, as, for instance, certain varieties of proteus and staphylococcus, which, according to Stern, produce sera of marked agglutinating power for typhoid bacilli also.

While we are almost certain that the specific agglutinins of typhoid and for the *Diplococcus intracellularis* are quite distinct, and that higher dilutions of the serum of this patient would have ultimately agglutinated only with the meningococcus, yet the case appeared to us of sufficient interest for practical purposes to indicate the desirability of its publication here.

It might be added, in support of the diagnosis of the epidemic character of the case, that simultaneously with this one another inhabitant of the same boarding-house was taken with a disease presenting the same symptom-complex and died a day previous at the same hospital. The physician who performed the necropsy did not enter the cranium, and reported the case as ptomain poisoning.

1030 Grand Avenue.

TOXIC EFFECTS FROM BISMUTH SUBNITRATE

WITH REPORTS OF CASES TO DATE

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Toxic effects from the use of bismuth subnitrate in medicine and surgery are so rare that until recently physicians have regarded its administration as perfectly harmless. Schuler[1] and Bardeleben[2] have pronounced its action non-toxic. The latter treated 100 extensive burns by dusting them with bismuth subnitrate and observed no unpleasant symptoms therefrom. Professor Mühlig[3] administered 20 gm. daily for a prolonged period without producing any poisonous effect.

It was, therefore, not surprising that when radiographers began to use bismuth subnitrate for the purpose of obtaining radiographs of the stomach and intestines, they had no hesitancy in administering large doses, and boasted of the safety with which as much as 40 gm. in one dose could be administered.

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* Symmers, W. S., and Wilson, W. J.: Epidemic Cerebrospinal Meningitis with Typhoid Agglutinins in the Blood, Brit. Med. Jour., Sept. 21, 1907.

[1] Ztschr. f. Chir., 1885, cited from Novak.

[2] Deutsch. med. Wchnschr., 1892, No. 23, p. 544.

[3] München. med. Wchnschr., 1901, No. 15, p. 592.

Cases of poisoning resulting from the administration of bismuth subnitrate have been reported as early as 1793, but these were thought to be due to the impurities in the drug, such as arsenic. The first authentic report of bismuth poisoning was made by T. Kocher,[4] in 1882, who observed that the insoluble bismuth preparation, when applied to large wound surfaces, was capable of yielding so much bismuth absorption as to produce poisonous effects, characterized by acute stomatitis, black discoloration of the mucous membrane, usually beginning at the border of the teeth but later spreading over the whole mouth, followed by intestinal catarrh, pain and diarrhea, and in severe cases by desquamative nephritis.

Similar cases were reported by Professor Peterson.[5] Thereafter the literature remained silent on the subject until 1901, when Professor Mühlig reported two cases of severe burns in which pure bismuth subnitrate was applied, and severe symptoms of bismuth poisoning appeared two weeks after application. In both cases symptoms disappeared as soon as the wounds were curetted.

A similar case was reported by Dressman,[6] in which an extensive burn of the third degree was dressed with a bismuth salve and the characteristic symptoms appeared three weeks later. While the symptoms abated as soon as the applications were stopped, the blue marks around the teeth remained for six months.

Wordan, Sailor, Pancoast and Davis[7] reported two cases, in which 60 and 120 gm. respectively were administered each in one dose. Both cases developed the characteristic symptoms of bismuth poisoning and both recovered.

The first fatal case directly traceable to the administration of bismuth subnitrate for diagnostic purposes is reported by Bennecke and Hoffman:[8]

To a three weeks' old child (suffering from enteritis, weak and emaciated), a mixture of 3 gm. of bismuth subnitrate in 100 c.c. of buttermilk was administered by stomach, in order to diagnose a pyloric stenosis by Roentgenogram. Twelve hours later the child developed cyanosis, collapse, and died in three hours. Postmortem revealed bismuth in the bowel and small quantities in the liver and blood. Methemoglobinemia was present.

From the same clinic a similar case was reported by Boehme:[9]

Patient.—A child, one and a half years old, markedly rachitic, artificially fed and marasmic, received a few grams of bismuth subnitrate by stomach for radiographic purposes. The stomach was washed and no symptoms of poisoning appeared. Two days later a few grams of bismuth subnitrate were injected per rectum for same purpose, and again the bismuth was washed out. Three hours later the child was suddenly seized with pain, cried, became cyanotic, pale, skin cool, pulse small, and died in twenty to thirty minutes.

Autopsy.—Distinct methemoglobinemia; all the mucous membranes were brownish discolored; there was marked rachitis, dilatation of stomach, with stenosis of pylorus. The colon contained large quantities of black and white bismuth.

Professor Hefter suggested that death might have been caused by nitrite poisoning. The blood and pericardial fluids were tested, and in both nitrites were found. Bismuth could not be detected in the liver or blood. These chemical findings threw new light on both cases and prompted Dr. Boehme to determine the true cause of bismuth subnitrate poisoning. The results of his experiments were as follows:

Boehme proved by test-tube and animal experiments that the feces of children, when in contact with bismuth subnitrate, would liberate nitrites which would be quickly absorbed from the intestine and found in the urine. While methemoglobinemia was not caused by the absorption, it must be assumed that the absorption of larger quantities would produce methemoglobinemia. Experiments proved this to be a fact.

Collishon[10] reports two cases of accidental nitrite poisoning, in which the sodium nitrite instead of the sodium nitrate was given. The symptoms were cyanosis, extreme weakness, and a grayish-blue discoloration of the mucous membrane and the tongue. The symptoms were so severe as to produce collapse, but cleared up after the drug was discontinued.

Binz[11] injected small doses of sodium nitrite into dogs, causing their death in a few hours, with symptoms of gastroenteritis and methemoglobinemia.

Harnack[12] caused the death of a cat within five minutes after the administration of 5 gm. of sodium nitrite. Methemoglobinemia was present.

Routenberg[13] reported a case in which a methemoglobinemia with the usual symptoms of nitrite poisoning followed the rectal injection of 50 gm. of bismuth subnitrite in 400 c.c. of oil of sesame. While Routenberg ascribes the poisoning to the contamination of the oil, the analogy with other similar cases leads one to suspect that it was a case of nitrite poisoning.

A recent report of a fatal nitrite poisoning due to bismuth subnitrate is published by Novak and Gutig:[14]

Patient.—A man, 44 years of age, in July, 1908, received a rectal injection of four tablespoonfuls of bismuth subnitrate suspended in two liters of water, for the purpose of testing an intestinal obstruction.

Intoxication.—Soon after the *x*-ray examination the bowels were washed out, and while he showed no symptoms on retiring, early in the morning the nurse discovered a discoloration of the patient's skin. Gradually the patient became grayish-green, his mucous membranes cyanotic, his temperature 40, his pulse 96, his breathing stertorous. No response could be elicited. Venesection revealed blood to be of chocolate color, due to methemoglobinemia. The patient died eighteen hours after the rectal injection of bismuth subnitrate.

Spectroscopic Examination of Blood.—A few hours after death this showed that the blood again became normal, the brown color being changed to red, showing that methemoglobinemia had disappeared after death.

Experiments by Novak and Gutig prove that some animals, as, for instance, cats, are very susceptible to bismuth poisoning, while dogs and rabbits tolerate large doses.

It has been proved that nitrites, when formed, may be neutralized. If iodin nitrate be added to feces containing nitrites the latter will disappear in two or three days. Maasen has proved that certain bacteria in the bowel convert the nitrites into ammonia or into nitrogen. It is likely that the bismuth subnitrate ingested always causes a liberation of small quantities of nitrites, which are either absorbed and owing to the small amount cause no toxic symptoms, or are changed in the intestine into ammonia or nitrogen.

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[4] Samml. klin. Vortr. (Volkmann's), 1882, No. 224, p. 1907.
[5] Deutsch. med. Wchnschr., June 20, 1883.
[6] München. med. Wchnschr., 1901, No. 6, p. 238.
[7] Univ. Penn. Bull., 1906, August, 1906, p. 122.
[8] München. med. Wchnschr., 1906, No. 19.
[9] Arch. f. Exper. Path. and Pharmacol., 1907, p. 441.
[10] Deutsch. med. Wchnschr., 1889, No. 41.
[11] Arch. f. exper. Path. u. Pharmakol., xiii.
[12] Arch. f. exper. Path. u. Pharmakol., October, 1908, p. 246.
[13] Berl. klin. Wchnschr., 1906, No. 43, p. 1307.
[14] Berl. klin. Wchnschr., 1908, No. 39, p. 1764.

When, however, large quantities of bismuth subnitrate are given, and the liberation of nitrites is abundant and can not be neutralized quickly, so that large quantities of nitrites are absorbed, typical symptoms of nitrite poisoning will appear. Alcohols and glycerin accelerate the formation of nitrites in the intestines. This suggests a practical point, namely: When a case of nitrite poisoning is encountered alcoholics and glycerin should be withheld from ingestion and some form of iodin should be administered.

From these experiments and reports of fatal cases it must be concluded that the poisonous effects of bismuth subnitrate were not due to the absorption of the metalic bismuth, but to the absorption of nitrites, which caused the methemoglobin to precipitate in the blood. The methemoglobinemia appears to be the factor producing most of the clinical symptoms, the cyanosis, dyspnea, diarrhea and cramps. These symptoms indicate that the sudden change in the blood impairs the internal or tissue respiration, and the patients succumb with symptoms of suffocation.

It appears that the intestine, and especially the sigmoid and the rectum, are the laboratories for the liberation of nitrites. The bacteria in this part of the intestinal tract evidently are the nitrite-splitting factors whereas those in the stomach and small intestine allow the bismuth subnitrate to pass into the large intestine without liberation of larger quantities of nitrites.

In the fatal cases thus far reported the patients were all suffering from intestinal diseases, especially diarrhea or constipation, which suggests that the intestinal putrefaction accelerated the nitric formation and rapid poisoning.

During the past two years I have employed bismuth subnitrate extensively in the treatment of empyema, sinuses and abscess cavities[15] by injecting into the cavities a mixture containing 33 per cent. bismuth subnitrate incorporated in vaselin. The question arose as to what became of the bismuth paste after injection. A study of the subject revealed the fact that if the paste was not discharged from the sinus soon after injection, but was retained, it became encapsulated and absorbed. In non-resilient cavities, as in bone, the mass was gradually penetrated from all sides by fibroblasts and gradually replaced by connective tissue, while in collapsible cavities, such as the pleura, the expanding lung gradually replaced the slowly absorbed bismuth paste. This could be confirmed by taking radiographs of the regions so injected, at certain intervals.

This, then, proves that the bismuth paste is absorbed, and the question arises: How is the bismuth excreted, and is its absorption harmful? These two problems are now being investigated, but as the investigation is not completed, I shall in this paper bring forth only definite practical facts and defer the publication of the theoretical aspect of the investigation until the data obtained warrant definite conclusions.

From the experiments of Harnack,[16] M. M. Bergerett[17] and E. S. Wood[18] it may be concluded that the bismuth is slowly absorbed and slowly eliminated.

Before attempting to answer the question whether the absorption is harmful, it is necessary to decide whether the harmful effects noted in the cases reported are due to the absorption of the liberated nitrites or of the bismuth itself. After comparing the symptoms of the two cases reported by Collishon, which were caused by sodium nitrite poisoning, with those of other authors, caused by the administration of bismuth subnitrate, one can hardly doubt that the source of poisoning is identical and that the nitrites are the factors which are responsible for the sudden and violent attacks of poisoning. This fact is supported by the experiments of Boehme, and Novak and Gutig.

In my experience of two and one-half years with the injection of bismuth vaselin into sinuses and abscess cavities I have not encountered any case in which the train of symptoms would correspond to that of an acute nitrite poisoning, so graphically described by the various authors who have met with these cases. In many cases I have noticed a slight lividity of the mucous membranes and skin and a bluish border at the margin of the teeth; otherwise conditions were perfectly normal. In only one case did I note a distinct ulceration in the mouth, which was characteristic of the bismuth absorption as described by Kocher. In another case, that of an empyema pleuræ, I injected into the pleural cavity 720 gm. of 33 per cent. bismuth paste, which was retained there for six weeks; then the patient developed a desquamative nephritis, albuminuria, rapid loss of previously gained weight and the blue border around the teeth. As soon as the bismuth paste was withdrawn by means of an injection of olive oil and the application of a specially devised suction pump, all the symptoms disappeared and the patient regained his weight in a few weeks.

I desire to record a case referred to me by Dr. Roberts, in which the bismuth injections had caused severe bismuth intoxication, and after the symptoms abated the patient died:

Patient.—R., a lawyer, aged 57, for many years an invalid, had had tuberculosis of the hip since 1896, and after extensive operations retained several sinuses which discharged large quantities of foul pus.

Bismuth Injections.—In March a 33 per cent. bismuth vaselin paste had been injected into the sinuses by Dr. Roberts twenty times in a period of sixty days, the total amount representing about 400 gm. of pure bismuth subnitrate.

Intoxication.—While the patient's general condition improved at first and the sinuses healed, he gradually developed all the signs of typical bismuth intoxication as described by Kocher. The mucous membrane of the mouth and gums became bluish-black with ulcerations, his teeth became loose and his lips edematous. He experienced great thirst, diarrhea, and had nephritis. The symptoms gradually abated, the patient became well enough to resume his work as an attorney, and for two months was active in his vocation. A radiograph taken of his pelvis demonstrated that there were only small quantities of bismuth within the tissues, but they appeared to be disseminated through the entire pelvis.

Later History.—Aug. 1, 1908, the patient fell and injured his wrist, and a large abscess was formed, which was operated on by Dr. Verity. A large area of necrosis followed. From this time the patient's temperature varied from 99 to 101.5. He lost in strength; his urine was loaded with casts and albumin; his heart became weaker and irregular, and he died Aug. 16, 1908.

Autopsy.—This, made by Dr. Gehrman and myself, revealed all organs practically negative except the kidneys, which showed evidences of incipient contraction, the capsule being irregularly depressed, and the intestines, which were lined with a mucous membrane, resembled huckleberry jam in color.

Histologic Examination.—The microscopic examination of tissues from the liver, spleen, kidney, heart muscle and intestine, and the chemical analysis of tissues were made by Dr. Maximilian Herzog. His report is as follows:

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[15] Illinois Med. Jour., April, 1908, xiii, 402; July, 1908, xiv, 38.

[16] Arzneilehre, 1883, p. 383.

[17] Jour. de l'anat., 1873, p. 242.

[18] Tr. Am. Neurol. Assn., 1883, p. 23.

Liver: A number of parenchyma cells showed bile granules in their paraplasm. Whether the latter also contained here and there bismuth could not be definitely decided, since no microchemical reaction for bismuth is known. It appeared, however, that the granules darker than the bile granules which were found frequently in the liver cells were bismuth granules. The latter could first be seen distinctly and beyond doubt in the intralobular capillaries. The dark granules were seen in the lumen of the small vessels, and crowded in fusiform cells, probably the star cells of Kupfer. In the interlobular veins (the terminal branches of the portal vein) bismuth was present to a large extent; it was found in the vascular endothelium and deposited in the form of fine granules on the free surface of the intima. Bismuth was also occasionally found in the small interlobular bile ducts, but the biliary ducts and capillaries were generally collapsed and empty.

Kidneys: The renal tissue showed chronic interstitial changes with hyaline degeneration of a considerable number of glomeruli. A few of the degenerated hyaline spheres contained lime salts. Some tubules contained hyaline casts; here and there the tubular epithelia showed marked cloudy swelling. There was no bismuth present in the renal sections.

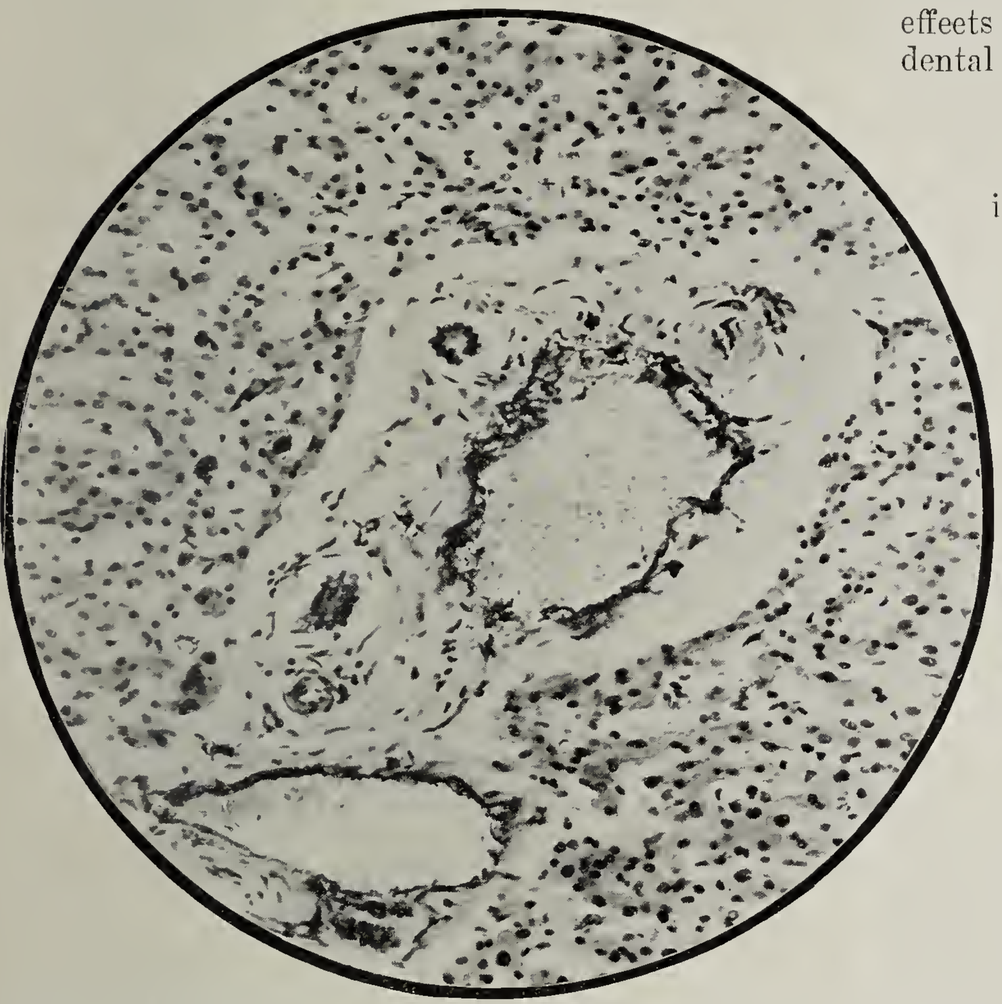

Fig. 1.—Microphotograph of section of liver 4 microns thick. In the center an interlobular vein, to the right and above a sublobular vein. The intima of both lined with bismuth. Magnification, 210 diameters.

Spleen: There was some thickening of the capsule and of the trabeculæ noticeable. The pulp spaces were not very distinct and were well crowded with erythrocytes and leucocytes. The Malpighian bodies were not well defined. Some bismuth was present in the shape of amorphous granules and denser masses in the pulp spaces.

Myocardium: Fairly normal.

Intestinal and Lymphoid Tissues: The intestinal tissues showed an extensive infiltration of the mucosa with bismuth. The lymphoid tissue likewise showed bismuth and much of the latter was found in the veins of the submucosa.

Chemical Examination.—The heart muscle contained a faint trace of bismuth. The spleen (very small piece) gave a distinct reaction for bismuth. The liver contained 0.13 per cent. of bismuth oxid. The tissue was pressed fairly dry between filter paper. The total weight of the specimen was 2.292 gm. and the total ash weight 0.03 gm., in which bismuth oxid amounts to 0.003 gm.

The above case does not present the typical symptoms of an acute nitrite poisoning, such as collapse, cyanosis, etc., and while the absorption of the metal bismuth is proved by microscopic examination and chemical analysis, the question still remains whether the absorption and presence of metallic bismuth in the tissues was a cause of death. The pathologic changes in this liver, spleen and heart muscle do not indicate that a severe destructive process which would interfere with function was going on. The interstitial nephritis was probably not due to the bismuth absorption, since the renal tissue was free from deposits of the metal and many pathologic conditions could be expected in an old man who had for years suffered from a chronic suppurative disease. Dr. Verity reports to me that the patient was treated by him ten years ago for chronic nephritis.

The point open to debate is whether this case should go into literature classed as a fatal case of death from bismuth intoxication, or as a case of recovery from the effects of bismuth absorption, death being only accidental and due to other causes.

CONCLUSIONS

1. Bismuth subnitrate administered by stomach in small doses is harmless.

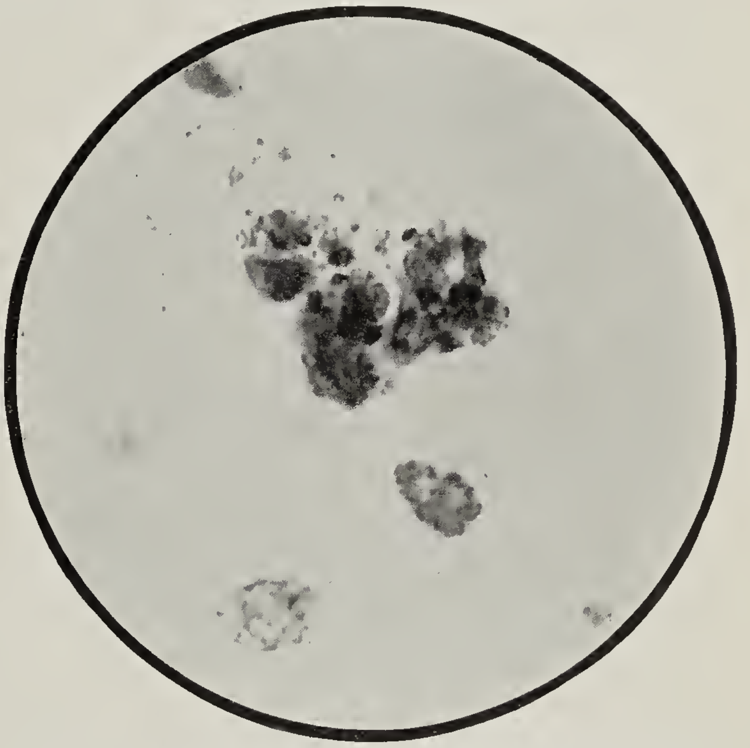

Fig. 2.—Microphotograph of section of liver about 4 microns thick. Some liver cells loaded with bismuth. Magnification, 1,000 diameters.

2. In the presence of certain bacteria, or the feces of children, bismuth subnitrate will liberate nitrites, which will be absorbed by the intestines and eliminated by the kidneys; and if the production is faster than the elimination, methemoglobinemia will result.

3. In larger doses per os bismuth subnitrate is liable to produce an acute nitrite poisoning, characterized by cyanosis, collapse, methemoglobinemia, and may terminate fatally.

4. Rectal injection of bismuth subnitrate may cause nitrite poisoning much quicker and more severe than when the drug is administered per os.

5. Children are more susceptible to nitrite poisoning from administration of bismuth subnitrate.

6. Persons suffering with intestinal putrefaction are more susceptible to nitrite poisoning when taking subnitrate of bismuth internally.

7. After the injection of large quantities of bismuth paste into suppurating sinuses, mild symptoms of nitrite intoxication may appear.

8. The bismuth injected into these sinuses and encapsulated will be gradually absorbed and may be found in the liver, spleen, muscles and intestines.

9. Characteristic symptoms of black borders of gums, ulcerations of mucous membranes, diarrhea, desquamative nephritis, may appear several weeks following the injection of the paste.

10. The acute nitrite poisoning is to be regarded as a distinctly separate affection from the more chronic bismuth absorption.

11. Radiographers should employ some other preparation of bismuth instead of the nitrate, and refrain from injections of subnitrate into the bowels, especially if intestinal putrefaction is present.

173 Lake View Avenue.

A DECEPTIVE CASE OF LEPROSY *

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REPORT BY DR. WHITE

In August, 1907, a young woman from Courland, Russia, was referred to the skin department of the Massachusetts General Hospital for diagnosis. She had been treated one week previously in the "throat room" for "chronic rhinitis" and at her second visit blue-red papules had been discovered on her arm and she was consequently referred to us. The diagnosis of leprosy was made and subsequently corroborated by Dr. Richardson's pathologic findings and the girl was taken to the state leprosorium.

A few days later the board of health of Brookline was informed by an anonymous letter that another leper was working as a servant at a certain residence in that town. The members of the board made an immediate investigation at the house mentioned, but found that the young woman in question had disappeared. Two days afterward this suspected individual presented herself voluntarily at the skin clinic of the Massachusetts General Hospital and was sent to the skin ward for observation and study.

History.—The patient, a young woman, aged 19, was born in a village in the Baltic province of Courland.[1] She stated that her father was dead (cause unknown), but that her mother and brothers were alive and well in their native village. At the age of ten a cutaneous eruption appeared, and on its subsidence scars were found on the right elbow, which still exist. In December, 1906, a sore developed on the genitals and was followed by a rash but no evidence of any labial cicatrix was visible at our first examination. In July, 1907, another outbreak on the skin occurred and was treated by a neighboring physician, but unfortunately his testimony could not be secured. During the last year the girl had been well except for occasional headaches. This was all that could be gleaned from the past history of the case. At entrance on Aug. 24, 1907, the patient stated that the present abnormal conditions began five days previously without any known cause, and she denied absolutely that she had taken any medicines before or since the appearance of her present symptoms.

Examination.—The general condition of the girl was fair; temperature 99.4 F., pulse 90, and respiration 25. The pupils were unequal in diameter and irregular in outline. The conjunctiva of the right eye, especially about the cornea, was considerably injected and pain and photophobia were present. The eyebrows were somewhat scanty, particularly at the distal ends. The tongue protruded straight and was covered with a slight, white coat. Cervical, axillary, epitrochlear and inguinal glands were moderately enlarged and shotty to the touch. The neck was not rigid or tender. Examination of the internal organs revealed nothing abnormal save a soft systolic murmur at the apex of the heart which was transmitted but a short distance toward the axilla. The knee jerks were present and equal. The cutaneous eruption, however, proved more interesting. The face was rather generally suffused and edematous and the nose, in particular, seemed swollen. There were no nodules here, but the lateral diameter was evidently increased and this feature persisted throughout the fourteen weeks of observation. In addition to these general appearances the face, forearms, hands and lower legs showed thickly scattered, round, pea to dime-sized, brick-red macules and maculo-papules with bluish centers. The trunk exhibited a few similar lesions. On the lower legs, especially on the extensor surfaces, more advanced lesions were apparent in the nature of numerous pea to dime-sized exulcerations covered with a sero-purulent, sometimes blackish crust.

Diagnosis.—Despite the anonymous letter and despite the long continued intimacy between this girl and her fellow-townswoman, whom we had so recently adjudged a leper, we were inclined to regard this present eruption as a form of autointoxication resembling erythema multiforme (possibly bullosum).

Treatment.—A soothing carbolic acid and zinc wash, boracic acid ointment, Epsom salts, a diet of milk and soft solids and atropin for the eyes were recommended.

Subsequent History.—On Aug. 27, 1907, three days later, the maculo-papular erythema had perceptibly diminished, the temperature was normal and the crusts had fallen but the ocular symptoms were still present, though to a lesser degree, and on the legs the exulcerations were drying up. Here, however, new features were now exposed consisting of several large pea-sized, round, deep, punched-out ulcers and several still larger pigmented scars. One of these chocolate-colored cicatrices was excised and sent to Dr. Richardson for examination as to the presence or absence of acid-fast bacilli. With these apparently typical gummatous ulcers and the presence of a general adenitis before us, coupled with the history of a previous genital sore, we now made the diagnosis of syphilis and began the tri-weekly injections of a sixth of a grain of bichlorid of mercury which were continued until Sept. 28, 1907.

On Aug. 30, 1907, Dr. Richardson reported the finding of numerous acid-fast bacilli in the sections from the cicatrix of the leg. It must be confessed that this finding was a great surprise, but nevertheless from a clinical standpoint, we were unwilling to believe that the disease was leprosy. Under ether a two-inch incision was made over a subcutaneous mass felt about three inches above the left elbow in the region of the ulnar nerve and two large pea-sized nodules, apparently glands, were dissected out. The nerve itself was found to be perfectly normal. In addition, a small crusted lesion was excised from the right leg, half way between the knee and ankle. An examination of the urine showed it to be slightly cloudy, 1.025 in specific gravity, without albumin or sugar, and containing in its sediment a few round cells, a rare blood globule, but no acid-fast bacilli.

On Aug. 31, 1907, the skin was carefully examined for anesthesia but none was found. The rash had now entirely faded, leaving some pigmentation and a slight, superficial, branny desquamation. The blood showed 100 per cent. of hemoglobin, and a differential count of polymorphonuclears 77 per cent., mononuclears 21 per cent., and eosinophiles 2 per cent.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

[1] At the Lepra Conference of 1896, it was recorded among other statistics that 134 lepers were known to be living in this province.

Two days later the board of health insisted on transferring the patient to the Detention Hospital, but on the following day, as the result of our protests, and because certain members of the city board of health and of the state board of charities regarded the disease as syphilis, the young woman was returned to our care. On readmittance it was found that the superficial scaling, first observed four days previously, was still present.

On Sept. 5, 1907, Prof. Eric Hoffmann, of Berlin, was kind enough to make a thorough examination of the patient. Nothing was told him about the girl and no mention of the pathologic findings was made until afterwards, and this was the rule followed with all the distinguished foreigners[2] whom we were fortunate enough to be able to call in consultation over this puzzling case. Professor Hoffmann's diagnosis was syphilis, possibly complicated with tuberculosis or a tuberculide. Prof. James C. White studied the case also and made the diagnosis of syphilis. In the afternoon 0.001 gram of old tuberculin was administered subcutaneously.

On Sept. 6, 1907, Prof. Bertarelli and Dr. Pizzini of Milan kindly looked the patient over very carefully and both stated that in their opinion she was suffering from syphilis. They also wished to have borne in mind the possibility of a complicating tuberculosis or a tuberculide. The two-hourly chart kept since the injection of the tuberculin showed no temperature exceeding 99 F. The urinary examination revealed no changes, save a lower specific gravity (1.017) from that of the previous week.

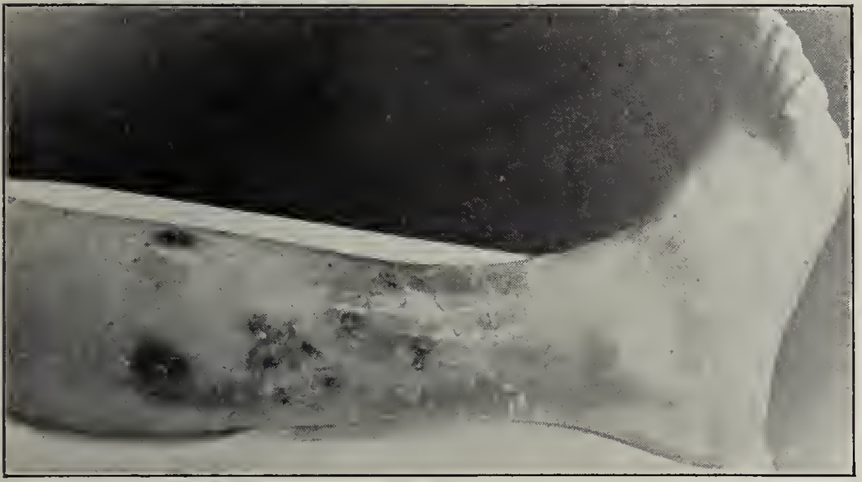

Fig. 1.—Showing the abundance and distribution of the healed ulcers on the lower part of the leg.

On Sept. 10, 1907, the areas of pigmentation were fading away. The patient was bearing well the injections of mercury, but complained somewhat of pain for a few hours after each dose was administered. Dr. A. Quackenboss of the Massachusetts Eye and Ear Infirmary made an ocular examination. He reported that the right eye showed evidence of a previous iritis with one adhesion and several spots on the anterior capsule. The left eye also presented signs of previous iritis.

On Sept. 12, 1907, 0.005 gram of old tuberculin were injected at 5 p. m. The two-hourly chart recorded during the next twenty-four hours, as before, no temperature in excess of 99 F.

On Sept. 16, 1907, Dr. Hallopeau of Paris and Dr. Whitfield of London were good enough to make a thorough examination of the patient and both of these gentlemen were convinced that the girl was the victim of syphilis. In order to study the nasal secretion, 20 grains of iodid of potash t. i. d. were ordered in the hope of producing a coryza.

On the following day, Dr. Radcliffe-Crocker of London came to see the patient, but he had been told of the case and its pathologic details by his compatriot, Dr. Whitfield, and consequently was unwilling to commit himself to a definite opinion. That morning the girl's temperature was 101 F., and in the afternoon it climbed to 102 F. Concomitantly there was a slight return of the erythema and edema of the face and a feeling of general malaise. [In the light of our present maturer conception of this girl's condition, we are inclined to regard this occurrence and the severer earlier outbreak on admission as explosions of leprosy bacilli from some focus into the general circulation rather than a possible reaction from the iodid of potash administered during the previous twenty-four hours.]

On Sept. 18, 1907, Dr. W. R. Brinkerhoff of the government leprosy staff of Honolulu saw the patient and stated that there was no clinical evidence of leprosy except in the scantiness of the eyebrows and in the thickening of the nose. After an examination of the pathologic sections he said that the bacilli seemed shorter and thicker than the leprosy bacilli he was accustomed to see at Molokai, but the tissues and the arrangement of bacilli were very suggestive of leprosy and not at all compatible with our ideas of tuberculosis.

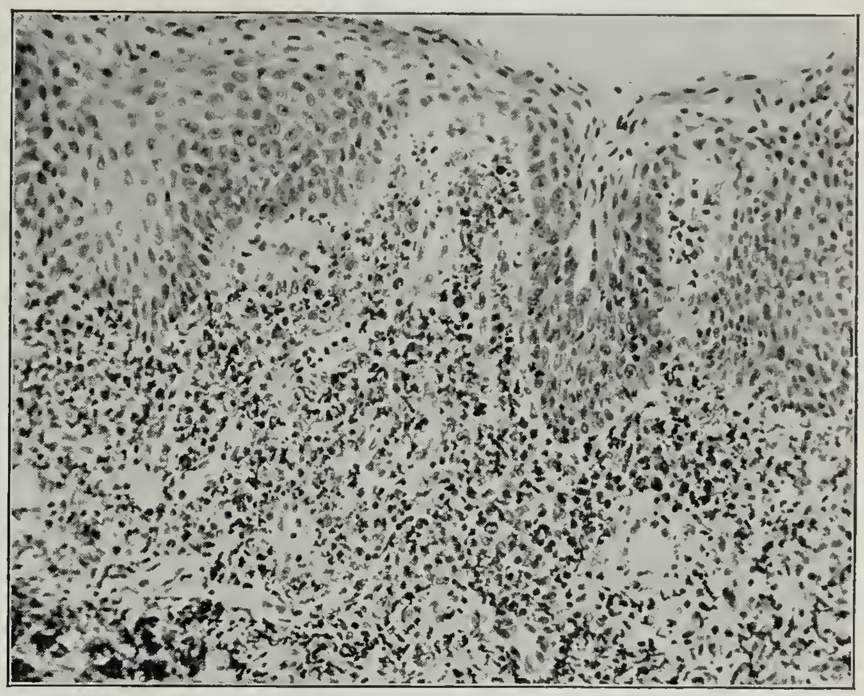

Fig. 2.—Section showing the histopathology of one of the late nasal nodules. Note the unusual development of cells up to the epidermis itself; the absence of giant and of leprous cells; the dilatation of the lymph vessels with their vesicular nuclei.

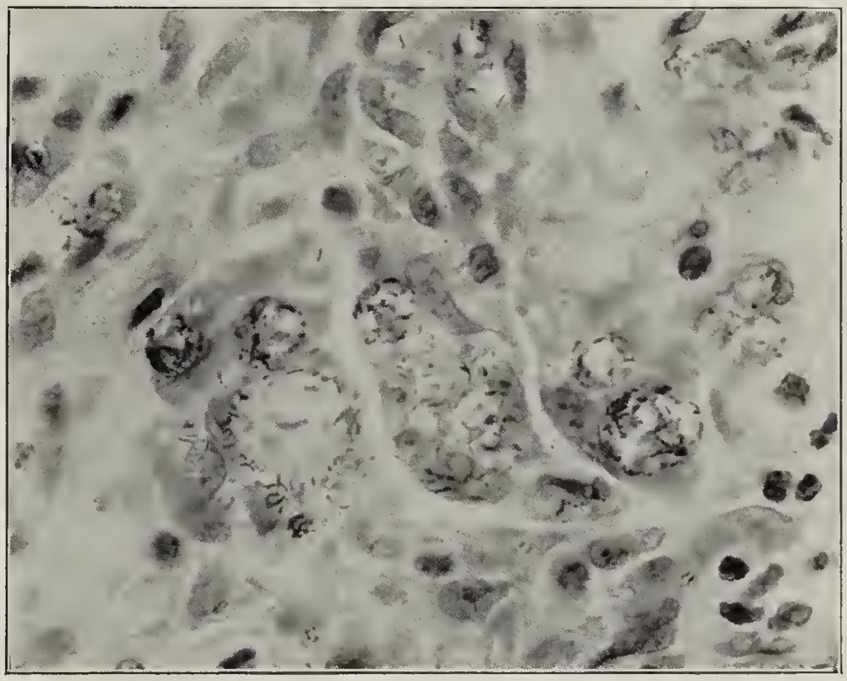

Fig. 3.—Section illustrating three typical leprous cells. Note their dissimilar size and shape, their vacuoles and their numerous bacilli.

There had been no increase of nasal secretion resulting from the administration of iodid of potash and several smears from the nose, stained carefully with hot carbolfuchsin and Gabbet's blue, failed to reveal any acid-fast bacilli. The ulcers on the legs were now healed—twenty-five days after entrance and after ten injections of 1/6 of a grain of bichlorid of mercury—but a very marked pigmentation of the skin remained at their sites.

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[2] Passing through Boston on their way to or from the Sixth International Dermatological Congress.

On Sept. 20, 1907, Dr. H. C. Baldwin of the neurologic staff of the hospital made a careful examination of the sensations of the skin and of the general reflexes, but found nothing abnormal. The weight was now 102 pounds.

On Sept. 27, 1907, two small, hard, pea-sized nodules were noticed for the first time on the right arm, but in the opinion of the patient these lumps had been present for at least a month. They were both hard, not raised above the skin, and were freely movable with the integument. One-sixth of a grain of pilocarpin was injected in order to study the nature of the sweat secretion, but the reaction, although present, was so slight that nothing definite was learned.

On Sept. 29, 1907, under ether, an incision was made over the right elbow and a pea-sized mass lying in contact with the ulnar nerve was excised and sent to Dr. Richardson. At the same time smears were made on various culture media from the juice of this gland. The nerve itself seemed smooth and normal in appearance.

On October 1 the patient passed into the service of Dr. J. T. Bowen, but he kindly allowed us to continue our investigations.

Second Examination.—Two days later we made a systematic clinical examination of the girl. The eyebrows were mostly gone except in the middle. There were no nodules to be felt. The corneæ showed a few dilated veins. The pupils were widely dilated but the circles were not perfect. On the forehead there was one irregularly-circular, rather deep cicatrix. The skin of the nose was somewhat seborrheic, but without dilated follicular orifices. The nose was broad at the alæ. The cheeks were flushed and on them were noted one roundtopped, dark red papule with a delicate collarette of exfoliated epithelium and four small, deepish, oval scars. Near the right angle of the mouth, but not radiating from it, were three pin-head, shallow scars. The ears were normal and bore no nodules. The hair was fair in color, distinctly abundant, and not in the least dry. The back showed nothing abnormal, save a few, faint, irregularly distributed macules. The axillæ presented normal and dark hairs and the localized sweating was rather profuse. The skin of the chest was not remarkable except for the presence of numerous, dull-red macules suggesting cutis marmorata. On the left upper arm, near the outer condyle, was found an oval, pea-sized, blue-red scar and on the inner side the marks of the biopsy of Sept. 29, 1907. The left forearm exhibited five, dull red, subsiding papules, some of which could be more aptly designated as scars. The right upper and lower arms were quite similar to the left. The hands were blue and cold and rather moist, but bore no pathologic lesions. On the right buttock were eight fading blue-red papules and scars. The largest papule was firm and infiltrated and three-eighths of an inch in diameter. Seventeen similar, smaller and larger papules were counted on the right thigh. The left buttock presented one blue-red, flat, oval tubercle, slightly infiltrated and firm. The left thigh showed eight blue-red macules with accompanying scar formation. On the right leg were found (Fig. 1) on the inside, front and outside of the middle third, blue-black, round or oval, dry scars, the remains of the previous exulcerations and other antecedent lesions. There was some originally appeared as a typical gummatous ulcer. The feet confluence noted, but no grouping as in typical late syphilis and nearly seventy-five of these cicatrices were counted. The left leg presented a somewhat analogous picture and below the patella was found a circular scar, the remnant of what were normal except for the dryness of the skin.

On Oct. 5, 1907, a nodule was excised from the right ulnar region.

On October 11 the weight was 105 pounds and 6 ounces. Two days later the records state that the patient was up all day, "felt splendid," and had an excellent appetite. This satisfactory condition existed despite the frequent mental perturbations caused by our numerous investigations and despite her compulsory and really almost solitary confinement in her narrow hospital room.

On Oct. 16, 1907, another biopsy was made, this time from a healed, mahogany-colored, smooth scar on the right leg, of a month's duration. On the following day the weight was 107 pounds.

On Oct. 22, 1907, Professor Veiel, of Cannstat, kindly made a most thorough examination of the patient and felt convinced that the lesions on the skin were syphilitic.

On Oct. 25, 1907, Dr. Richardson reported that the sections from the last biopsy were more typical of leprosy than any of their predecessors and that the acid-fast bacilli appeared in greater numbers.

On Oct. 28, 1907, a nasal examination was requested because lesions had been discovered and Dr. H. P. Mosher of the throat department of the hospital reported that the mucous membrane of the nose was rather dry and that a small yellowish tubercle was present on the anterior end of the left inferior turbinate bone. The pharynx and larynx were normal.

On the following day Dr. Algernon Coolidge, the senior physician of the throat department asked to see the patient and found three large pin-head sized points under the epithelium of the mucous membrane on each side of the septum nasi and a similar growth on the anterior end of the left inferior turbinate. One of these lesions was excised. Dr. G. H. Waterman of the neurologic department of the hospital examined the cutaneous reactions of the patient and found nothing abnormal save a slight insensibility to pin prick over the dorsum of both feet. Smears from the nose were stained with steaming carbol fuchsin and Gabbet's blue and for the first time a few grouped and clearly defined bacilli were found.

On Nov. 2, 1907, the weight was 111 pounds and 2 ounces.

On Nov. 19, 1907, an investigation of some of the finer diagnostic points of the disease was made and the following data were obtained:

1. *The presence of hair on the most affected parts of the body:* As a whole, over the legs normal hair existed in sufficient quantities except in the immediate vicinity of the scars, where it appeared only occasionally.

2. *Anesthesia in or near the scars:* None whatever, the most delicate pin prick being appreciated.

3. *The sensibility of the nasal mucous membrane:* This power was absolutely intact.

4. *The condition of the eyes:* The conjunctiva presented a few comparatively large vessels arranged in a radial manner. The iris was round and reacted perfectly to light. There were no nodules to be seen.

5. *Menstruation:* For the first time since entrance the patient menstruated during the first week of November, 1907.

6. *Glandular system:* In the right groin there was a large mass of soft, somewhat sensitive glands. On the left side there was one large soft element. In the left cervical region there was a chain of glands. No epitrochlear enlargements could be felt.

On Nov. 21, 1907, the weight was 116 pounds and 8 ounces. On the next day it was noted that no new cutaneous features had appeared but several minute ulcerations were observed on the mucous membrane of the nasal septum. The general health was most satisfactory.

On Nov. 24, 1907, we felt that the time had come when we could no longer doubt that the girl was a leper and she was therefore reluctantly turned over to the authorities for transfer to the state leprosorium on the island of Penikese.

Such is the detailed history of this unfortunate patient. It is easy enough for us now in the light of our present pathologic and bacteriologic knowledge to pronounce this case leprosy, but let it be well understood that until the nasal symptoms developed the dominant clinical features were not those of leprosy, as may be well appreciated when such distinguished European dermatologists as Bertarelli, Crocker, Hallopeau, Hoffmann, Pizzini, Veiel and Whitfield unanimously declared that the girl was syphilitic. When these gentlemen were informed, after pronouncing their opinions, that the pathologic sections were typical of leprosy they could only shrug their shoulders with astonishment and incredulity.

Let me pause one moment before enumerating the conclusive pathologic details to record what clinical symptoms were present up to the late appearance of the nasal features which should have convinced us that we were dealing with leprosy and not with syphilis. After rather an extensive perusal of leprologic literature, I have been able to record only the following symptoms which coincide with the conditions found in the present case: Place of birth; edema and suffusion of the face, especially of the nose, accompanied by a general seborrhea and small acneiform papules; rarefaction of the eyebrows; conjunctivitis and iritis; general adenitis, cyanosis of the hands; irregular menstruation; ulcerations and, lastly, hyperpigmented scars with local and adjacent alopecia. But what a short and unconvincing list in such a protean disease as leprosy! Not one of these symptoms is pathognomonic and all of them are common to many pathologic processes.

On the other hand, we were confronted by an apparently healthy young girl who entered the hospital partially covered with a fairly typical but severe eruption of erythema multiforme, who later presented one absolutely characteristic gummatous ulceration and many other conceivably syphilitic exulcerations, who quickly freed herself from all these active symptoms after ten injections of mercury and in the face of the constant mental excitement of repeated examinations and biopsies, and who, despite her solitary confinement, gained fourteen and one-half pounds in two months. Such conditions made us extremely skeptical of the microscopic revelations, and until the nose began to develop its convincing symptoms we obstinately rejected the idea of leprosy and, supported by the most expert authorities, clung to the syphilitic conception of the process.

In concluding this part of the paper I wish to thank the various gentlemen whose names have appeared in the preceding pages for their conscientious examinations and diagnostic support, but I also wish to express my gratitude to Drs. Bowen, Towle, Burns, Oliver, C. G. Mixter and R. M. Green, members of our hospital staff, for their kind cooperation in our various investigations.

HISTOPATHOLOGY

The sections which form the basis of the following microscopic details were prepared and stained with carbol fuchsin and hematoxylin by Dr. Richardson, who has kindly allowed me to study them and report my findings.

HISTOLOGIC FINDINGS

1. *Sections from a healing subcutaneous nodular ulceration, excised from the left leg on Aug. 24, 1907.*

Epidermis.—The stratum corneum is very slightly developed and consists of a very fine layer of homogeneous cells free from nuclei. The stratum granulosum is composed of one to four layers of practically normal, keratohyalin-bearing cells. Over the areas where the papillæ are absent these cells are most abundant and in some instances exhibit a tendency toward nuclear shrinkage. The stratum spinosum is somewhat acanthotic and as a whole has stained poorly, for cellular boundaries are difficult to trace and this feature is particularly emphasized throughout the apapillary region. The nuclei for the most part are normal, although they incline somewhat toward hypertrophy. The stratum germinativum is well developed and persistent over the greater extent of the rete and here and there contains delicate pigmentary deposits.

Corium.—The papillary layer is unevenly but well differentiated except for a broad area in the center of the sections where the papillæ are wanting. The papillary vessels are not markedly dilated, but their endothelial cells are often swollen and at times vesicular. The perivascular spaces are crowded with mononuclear cells which in some instances block the entire papillary space. The striking feature of the corium is its rich cellular infiltration which is everywhere noticeable—these elements reaching even to the epidermis in the apapillary portion. [This phenomenon is unusual in the recorded histologic descriptions of the disease]. In addition to this general invasion there are band-like and oval areas, corresponding to vessels and sweat glands and follicles, where the cells appear in far greater abundance. These cells are principally swollen connective tissue cells, mononuclear leucocytes and some plasma cells with an occasional epithelioid element. Bacilli are not numerous, judged by the usual standard of leprosy. The elastic tissue is universally somewhat diminished. Near the epidermis elastin appears as short, broken, coarse fibers. In the cellular foci about the vessels elastin is totally wanting while in the neighborhood of the sweat glands it appears only in the structure of the glands themselves.

Gland from the left epitrochlear region excised on August 30.

The tissue is composed of lymphoid, endothelial and connective tissue cells. The acid-fast bacilli are unevenly distributed but wherever present they appear in great numbers, sometimes singly, but oftener in round or oval masses. As a rule the normal tissue becomes poor in cells in the areas of bacterial distribution and not infrequently vacuoles appear with the bacilli arranged excentrically around the vacuolar membrane. The organisms seldom present themselves as well defined rods but seem to be broken up into series of long dots. Zoogleal formation is abundant and characteristic and frequently the colonies are of great size. Blood vessels are rare but are normal when found. The determination of the intra- or extra-cellular emplacement of the organisms is always difficult to determine, but in the present instance it would seem as though the latter position was usually chosen. The gland is distinctly altered by the invasion of the disease. The acini have lost their identity, the vessels are few in number, the individual cells have vanished in many instances, and finally connective tissue is seen replacing the normal elements.

Healed scar from leg, excised on Aug. 30, 1907.

Epidermis.—The palisade layer of the rete is well differentiated and the cells are normal. The immediately adjacent superficial cells are also sound but in the next layers the normal structure is soon lost and the nuclei shrink and disappear, but the spinous processes of the cells persist. In the granular layer the cells are pale. The stratum corneum is thin, but otherwise normal.

Corium.—Papillæ are gone and vascular twigs are wanting in the immediate vicinity of the epidermis. The subpapillary vessels, however, are present, but decreased to a minimum. Their walls are normal, with the exception of some endothelial vesiculation and no bacteria were noted either intra- or extramurally. A large portion of the sections show marked cellular and bacillary infiltration—the remainder appearing as delicate scar tissue with moderately numerous, slightly swollen connective tissue nuclei. The deeper vessels are few in number and glands and follicles have gone.

The cellular areas are composed of many plasma cells, especially about the vessels, some lymphocytes and connective tissue cells and finally collections of lepra cells which play a dominating rôle in the picture. They are of various shapes and sizes; some elongated, others round or oval; some are anuclear, amorphous masses, others have generally distributed nuclei, and again others show distinct giant cell distribution of nuclei; some have a few vacuoles, others are composed almost entirely of empty spaces; some present zoogleal bacilli and others contain only one or two scattered organisms. Some of the isolated bacteria appear in close proximity to the epidermis, but none are seen in this layer of the skin.

Right epitrochlear gland, excised Sept. 29, 1907.

This gland differs from that of the left side in the relative paucity of its cellular contents. There is no such solid massing of cells—they are more evenly, though meagerly distributed. In addition, there are comparatively large areas from which cells have disappeared, leaving a vacuolar network the trabeculæ of which are usually lined with bacilli. Another striking dissimilarity is in the arrangement and distribution of the bacteria. Here the organisms are more evenly placed throughout the sections and occur usually as single elements or at times in small clumps. They are seldom found in a zoogleal state, but here and there a zooglea is noted in the center of a vacuole.

Once more it is evident that where the bacilli are most numerous there the normal collagenous structure is the poorest. The organisms are nowhere seen in the few vascular walls present. Fibrous tissue is replacing normal structures. Pigment granules, ocher colored or canary-yellow in hue, large or small, are found scattered throughout the sections.

Small sections from the edge of a one-month-old, mahogany-colored, smooth, shining cicatrix, excised from the leg on October 16, 1907.

Epidermis Rete.—The palisade layer is composed of cubical rather than the ordinary elongated cells. No pigment is found here or elsewhere in the epidermis. The overlying cells become almost immediately horizontal and compact, the spinous processes being rather inconspicuous and the nuclei in many instances being absent or again relatively prominent on account of the retraction of the surrounding cell protoplasm. The granular layer is comparatively thick and its cells also have lost some of their nuclei. The stratum corneum is also comparatively broad, in places compact, while in others the cells are expanded into a loose meshwork of six or seven layers of anucleated cells.

Corium.—The papillar layer is entirely wanting and the corium as a whole is composed of a dense structure of fibrous tissue containing numerous nuclei and supporting scattered upright vessels, some large dilated lymph spaces, abundant brilliant, ocher colored pigment granules and some sweat glands and ducts. The perivascular infiltrations are not marked except in the subcutaneous fat spaces and in the deeper layers of the corium, but here and around the sweat glands there are very prominent infiltrations composed of plasma cells and lymphocytes, with occasional connective tissue cells, the whole lying in a loose connective tissue reticulation. Except, therefore, in the deepest layers of the corium there are no suggestions of lepromata.

The study of the elastic tissue reveals a strange condition. The larger half of each section shows an excessively abundant normal elastin while the remaining portion is apparently altogether devoid of this element. I can offer no explanation for this phenomenon as the supporting collagen presents no other apparent abnormalities.

The preceding description of the corium affords a good idea of the distribution of the acid-fast bacilli. Where the lepromata appear, there one finds the organisms and the deeper in the sections one looks the more abundant become the bacteria. Therefore, in the upper corium no bacilli are found, in the middle strata an occasional short rod is noted, while in the depths of the layer around the vessels and especially in the subcutaneous fat closely packed, small clumps of the bacilli appear. The individual elements are for the most part short, thick rods while many dots, sometimes in long rows, complete the picture.

Nodule from the lower left turbinate, excised Oct. 29, 1907.

Epidermis.—The epidermis is well preserved in its lower layers. The cells are in the majority of instances well-formed, although the spines are indistinct and the nuclei everywhere emphatically vesicular with prominent nucleoli and numerous chromatin granules. Here and there appear areas of cloudy degeneration with accompanying disturbance or disappearance of nuclei. Karyokinesis is normally abundant throughout the layer. As the free surface is approached cells become amorphous and nuclei vanish.

Here for the first time in this series of sections lepra bacilli are visible in the epidermis. They exist as single, scattered elements or appear in foci, isolated or in small zoogleal, round groups. They are in all instances well preserved and are found at all levels of the epidermis. At one point a cell was observed with a beginning vacuole lying close to the nucleus and containing a clump of bacilli. In some areas it was thought that cellular degeneration and richness in bacteria went hand in hand, but for the most part the germ-bearing cells were well preserved. Interpapillary downgrowths of the rete were abundant here and there, becoming hair follicles containing bacilli within their walls.

Corium.—The picture here is extremely interesting, illustrating as it does the typical young leproma. Here lepra cells are absent and giant cells are represented by one example in fifteen sections. On the other hand bacilli are swarming in enormous numbers, the red coloring of the bacteria being almost as conspicuous as the blue-stained cellular elements. The structure is one of intense infiltration, the nature of the cells being dificult to determine. They are composed of oval or round vesicular nuclei containing numerous chromatin granules surrounded by a small amount of dull protoplasm, the individual cell outlines being hazily demarcated. Whether these elements are distorted connective tissue cells or whether they are lymphocytes is a perplexing question to answer. In addition there are a few polynuclear leucocytes and a very occasional plasma cell.

The papillæ are prominent and support very minute vessels containing bacilli intramurally and an occasional bacillus in their lumen. Otherwise, the papillæ are filled with the indeterminate, mononucleated cells just described. There is a marked tendency in these papillæ toward fatty degeneration, the cells being represented by hollow, yellow spheres bearing an infrequent bacillus but no nuclei. The leproma is practically contiguous with the epidermis—an unusual condition.

Throughout the corium there are a very few contracted blood vessels with somewhat vesicular nuclei and here and there a few bacilli. The lymph channels, however, are numerous and frequently form widely dilated spaces with round vesicular nuclei in their walls, and contain single or grouped bacilli and occasional erythrocytes and mononuclear leucocytes.

In the depths of the sections there are areas of degenerated collagen and elastin, but the sweat glands preserve their integrity and contain no bacilli. The bacillary invasion is extremely marked, the organisms appearing singly or in groups, intra- or extra-cellular, and often in the zoogleal state within a round or oval lymph space or else lining these cavities. The unique giant cell noted in these sections contained no bacilli. These acid-fast bacilli everywhere retained the fuchsin uniformly, no interruptions or dotlike structures being visible and this condition betokens their youth and activity.

In conclusion, I wish to thank Mr. L. S. Brown, photomicrographer to the Massachusetts General Hospital, for the two excellent photographs which illustrated so clearly some of the salient points in the histology of this case.

PATHOLOGIC REPORT BY DR. RICHARDSON

The foregoing record of a case of leprosy in the skin ward of this hospital during the service of Dr. C. J. White has many points of interest, one of which emphasizes the value of extended pathologic investigations in the study of the disease.

As Dr. White has stated, I examined in August, 1907, sections from a nodule in the skin taken from a case which clinically Dr. White diagnosed as leprosy (first case). The pathologic examination amply confirmed his diagnosis.

A short time after this examination I received from Dr. White another piece of tissue which had been removed from the margin of an ulcer on the leg of a young woman who had just been admitted to the skin ward (second case). The tissue was hardened, sections cut and stained and report was made that the sections showed acid-fast bacilli and were quite comparable in other respects with sections of tissue removed from typical cases of leprosy.

This report necessitates further study of the case because clinically it was decidedly not one which would be diagnosed as leprosy. With Dr. White's cooperation portions of tissue from various parts of the body were examined and culture experiments and animal inoculations were undertaken. The results of these investigations were as follows:

Aërobic and anaërobic cultures were made on various kinds of media, as well as on egg medium and other media suitable for the growth of the tubercle bacillus. Cultures were also made in neutral 2 per cent. glucose agar. In this medium an Italian investigator (Campana) recently claims to have been able to obtain a growth of the lepra bacillus.

The tissue material planted in the various kinds of media was obtained under aseptic precautions and the cultures were made by Dr. J. H. Wright. Portions of the tissues used for inoculation of the culture media were hardened and stained and on examination the sections all showed numerous acid-fast bacilli, thus demonstrating the presence of the bacilli in the tissues used for the inoculation purposes.

The various cultures were under observation over a long period of time, but no growth was ever obtained. Other portions of the tissue material used for culture inoculation were placed in the subcutaneous tissues of a large normal guinea-pig and the skin wound closed with sutures. The pig never showed any signs of infection after the inoculation and was allowed to live fifty-seven days, when it was killed. The autopsy showed a normal animal and it was with difficulty that the scar of the inoculation wound could be made out. The inoculation material had apparently been absorbed.

The question of syphilis having been raised, sections from various situations were hardened and stained by the silver salt method, but no spirochetes were ever found.

Many portions of tissue were taken at different times from widely distant parts of the body, and finally a minute piece was excised from the mucous membrane of the nose. The sections from these tissues all showed more or less well-marked chronic inflammatory and degenerative changes, with varying numbers of the so-called lepra cells and acid-fast bacilli. In instances the lepra cells were very numerous and acid-fast bacilli swarmed in these cells and in the subcutaneous tissues.

Dr. White has recorded the histologic details of many of the sections, and I have only to call attention again to a few of the more interesting points.

The presence of the acid-fast bacilli in the cells of the epithelium is well shown in some of the sections, and the so-called lepra cells are notable both for the great variation in their size and for the great numbers of bacilli which they contain. In instances these lepra cells are not unlike giant cells and many of them present a vacuolated appearance. As to what these cells are it is difficult to say, but from their situation in the tissues and their relation to the lymph spaces it is probable that they are endothelial in origin.

In regard to the presence of the bacilli in the cells of the epithelium, it may be said that they have probably reached these cells by way of the lymph stream and possibly some of them may have been carried by leucocytes. In certain sections it is interesting to note the persistence of the bacilli in the subcutaneous tissues beneath the epithelium of one of the healed ulcers. Outwardly the lesion has run its course and is healed, but the section shows the bacilli resting in the subcutaneous tissue biding their time.

It is of interest that only late in the history of the observation of this case were acid-fast bacilli found in the nasal secretion, which, to say the least, is unusual.

The bacilli themselves require but little comment. They are acid-fast, but not so much so as the tubercle bacillus, which they resemble morphologically, and they stain well enough by Gram's method. The slight variation in their morphology is of assistance in ruling out the tubercle bacillus and making it probable that we have to do with the lepra bacillus. We failed completely in our attempts to grow them and they produced no effect whatever on the inoculated guinea-pig.

The pathologic examination of the lesions in this case thus shows both histologically and bacteriologically that these lesions are in all respects comparable with and like similar lesions in individuals who clinically are undoubted lepers. The histologic character of the lesions and the biologic character of the bacillus present in them are also in harmony with those first described as present in leprosy by Hansen in 1871 and since then confirmed and amplified by many investigators.

It remains to be said that recently this unfortunate young woman whose case we have here recorded was sent back by the state to Courland, Russia, as a leper.

I am indebted to Dr. White and Dr. Bowen for much kind cooperation and assistance in the study of the case, and I also am under obligations to Dr. Oliver, house officer in the skin ward, for much assistance during the investigations of this case.

ABSTRACT OF DISCUSSION

Dr. John A. Fordyce, New York: This carefully reported case illustrates the resemblance between the various forms of the infective granulomata. The more we study the cutaneous manifestations of tuberculosis the more we appreciate their similarity to the syphilides, and the same is true of leprosy. Some of the tuberculides, too, are very similar to papulopustular syphilitic lesions. I recall a case of leprosy in which the lesions responded to hypodermic injections of mercury in very much the same way as in Dr. White's case. A man from South America came to the City Hospital with pigmentations on the skin; these had been the sites of infiltration which had disappeared under injections of mercury, and the diagnosis of this case was difficult until the subsequent development of other lesions took place, rendering the real nature of the affection fairly clear.

Another case which recently came to the notice of the Health Department of the City of New York was regarded by the health authorities and by several dermatologists as one of multiple sarcoma. The patient, a man from Courland, had purplish lesions about the ankles identical with those described in Kaposi's hemorrhagic sarcoma. One of these was excised and examined by two expert pathologists, who pronounced it sarcoma, but they failed to look for the lepra bacillus, which was subsequently found in enormous numbers.

Multiplying Words Without Knowledge?—In the Harveian oration, Dr. J. A. Omerod (*Lancet*, London, Oct. 24, 1908, p. 1202) says: "Thus it has been supposed on the analogy of other facts, that hemophilia is a character which becomes dominant or recessive according as the sex of the person is male or female, and that this accounts for the rarity of female bleeders."

Cf. Molière: *Le Malade Imaginaire:* Intermède.

Primus Doctor: Domandabo causam et rationem quare opium facit dormire.

Bachelierus: Quia est in eo virtus dormitiva. Etc.

Another illustration of this was found in a manuscript recently submitted to The Journal for publication, at the close of which the author enumerated the advantages of his method, and gave as the first advantage: "1. Its marked superiority over any other method.'

THE HYGIENE OF TUBERCULOSIS *

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The widespread sanatorium movement has demonstrated the fact that tuberculosis can be arrested in any climatic zone. This, however, should not lead us to ignore valuable scientific facts relative to the influence of certain well-known climates in the arrest of consumption.

As Hippocrates has well said: "Whoever desires to understand medicine thoroughly can by no means neglect the study of the seasons with their variations of the winds, both as to heat and cold, and those peculiar to certain regions."

As the able surgeon knows well his anatomy, so the physician should acquaint himself with meteorologic facts and climatic data relative to well-known health resorts. In climatology there are fundamental principles, a knowledge of which would be of great value to every physician.

The contributions of such men as Solly, Dennison, Vivenat, Copeland and Lombard have been of decided value and a stimulus to others for further research and investigation in this important subject.

TABLE SHOWING CLIMATIC CHARACTERISTICS OF VARIOUS LOCATIONS

	Elevation.	Latitude.	Soil.	Temperature.			Humidity.	Cloudy days.
				Annual	Dec.	Aug.	Rainfall.	
Santa Fe, N. M.	7,000	33.34	Sand and Adobe	51	32	71	16.1	52
Colorado Springs	6,000	38.51	Gravel	47	28	70	15.2	58
Denver, Colo.	5,280	38.76	Gravel and Sand	49	29	76	14.1	63
Flagstaff, Ariz.	6,300	34.26	Gravel and Sand	53	33	74	16.0	51
Oracle, Ariz.	4,650	32.50	Gravel and Adobe	60	44	82	17.7	—
Las Cruces, N. M.	3,850	32.17	Adobe	59	46	77	7.2	18
Tucson, Ariz.	2,300	32.14	Sand and Gravel	69	50	83	12.0	57
Phœnix, Ariz.	1,100	32.28	Adobe	70	52	90	9.0	52
Yuma, Ariz.	130	32.44	Sand	72	56	96	3.1	18

Most men, I believe, recognize as ideal for the tuberculous that climate possessing the greatest possible amount of sunshine, a pure, dry atmosphere, light winds and porous soil, with elevation sufficient to increase the respiratory act in depth and vigor. All students of climatology recognize the germ-destroying power of sunlight, its power to destroy anaërobic bacteria; the use of the blue, violet and ultra-violet rays of light is an argument as to the value of sunlight in the arrest of tuberculosis. The mental effects of sunshine can not be overlooked, such as the promotion of cheerfulness of disposition and repose of mind in those compelled to live an out-of-door life. Solar light reddens the blood and cures chlorosis in the same manner as it restores the color to plants bleached in darkness.

Downs and Blunt, in 1877, reported to the Royal Society of London the results of their experiments relating to light, as follows:

1. It is inimical to the development of bacteria and the microscopic fungi associated with putrefaction and decay; its action on the latter organisms being apparently less rapid than on the former.
2. Under favorable conditions it wholly prevents that development, but under less favorable it may only retard.
3. The preservative quality of light, as might be expected, is more powerful in the direct solar rays, but it can be demonstrated to exist in ordinary diffused daylight.

As for sun heat, Solly says:

> Its direct physiologic effects are to increase growth, to lessen the amount of food needed, and to diminish muscular force; the important indirect effects of sun heat are to induce patients to live more out-of-door lives and to keep doors and windows open.

In the Philippine Islands, 15 degrees north of the equator, sunlight and sun heat do not exert any untoward influence on the native population. Dr. D. A. Appel, of the Army Medical Corps, has recently informed me that his observation in the Philippines lead him to believe that tuberculosis is not as prevalent there as it is in our large cities; the poorer classes live mostly in shacks in which ventilation can not be prevented, even where the doors and window shutters are closed.

Atmospheric clearness and transparency, the so-called diathermancy, is a test of purity. Dennison, in his Colorado observations of 1876, proved that it steadily increases with elevation by consecutive thermometric observations of the sun's influence at different heights, and near sea level, and under conditions calculated to exclude radiation.

The increasing purity of the atmosphere, the absence of dust and smoke, or of moisture, with its attendant infusoria is a decided feature of elevation.

Tyndal has shown that each higher successive stratum contains less and less of infusoria. Mequel of Paris found that with rise in elevation the number of bacteria in 10 cm. space was reduced from 5,500 in the Rue de Rivoli, Paris, and 7,600 in the park of Montisuris, near by, to 600, 85 and 8 respectively in a hotel at Thunet, 560 meters elevation, near Paris, while at 2,000 to 4,000 meters high there were none. Purity, therefore, goes with dryness, coldness and rarefaction of the air incident to elevation. Individuals arriving at a high altitude of approximately a mile above the sea experience an increase in both depth and frequency of respiration; after acclimatization there is a fall in the frequency of respiration, but the breathing continues deep. Spirometric records prove this fact; also, the increased size of the chest in both adults and children.

Time will not permit of an exhaustive consideration of this subject; elevation above the sea, dryness of the air, sunshine, winds, variability of the air temperature, electricity of the atmosphere, are all attributes of climate, and contributing factors in the arrest of tuberculosis. Colorado, northern New Mexico and northern Arizona are illustrative of the high altitudes, while Las Cruces, New Mexico, and El Paso, Texas, furnish a

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

moderate altitude. Tucson, Arizona, Phoenix, Arizona, and Yuma are comparatively low. The accompanying table of elevation, soil and latitude is appended for reference. I quote from the editorial in *American Medicine,* November, 1907, soon after the publication, in the *New York Dietetic and Hygienic Gazette,* of my article on this same subject:

> And what can be said of Dr. Clarence L. Wheaton of Chicago, who says that the ideal climate would be the one possessing the greatest possible amount of sunshine when he should know that for a third of a century there has been obtained the best results in the world in the Adirondacks, which are noted for the absence of sunshine, and if he really exposes his patients to what is now known to be harmful to them, we commend his cases to the trustees of that institution.

We have here evidence of commendable loyalty to the home climate, but it is seemingly unwise to attribute "the best results" in the world to a given health resort; the physician endeavoring to substantiate such a claim would meet with tremendous opposition from all quarters. As for sunlight or even sun heat being harmful to tuberculous patients when properly utilized, the facts herewith presented speak for themselves, no contributions to the literature covering this subject, either by climatologists or phthisiotherapists, have been presented, so far as I am aware, denying the effects here attributed to the sun's influence. The government has established at great expense in Colorado and New Mexico sanatoria for the treatment of tuberculous soldiers and sailors. These respective climatic zones approach our ideal in the choice of a climate, and the untoward effects of sunlight have not as yet been reported.

To one enlisted in the antituberculosis crusade in a great city like Chicago the study of climatology is of interest and value from a scientific standpoint alone; the rôle it plays here in the solution of the tuberculosis problem is an insignificant one.

The chain of dispensaries established by the Chicago Tuberculosis Institute and their affiliation with regularly organized relief and aid societies will eventually solve the medical and sociologic problem as it is presented to the worker here. The state sanatorium will in time be constructed and enable us properly to utilize the home climate in arresting tuberculosis. The results of the sanatorium treatment in so-called unfavorable climates has far exceeded our expectations. Let us be frank to admit that some climates are better than others; that they possess certain attributes exerting a decided beneficial influence in pulmonary disease; but with all our knowledge of these facts we must know that most of those afflicted should avail themselves of the home environment, for the end of the bow of promise for the average traveling consumptive rests on the mystic shores of the spirit land.

My long residence in Colorado and study of climatic conditions throughout the southwest have convinced me that often without regard to the circumstances of the patient or stage of his disease, it has been the custom to prescribe change of climate. Nothing can be more cruel or irrational than this; in the case of those too poor to afford the expense incident to a change, it opens the door to regrets which are likely to harass the mind when it most requires repose. In most instances the disease progresses more rapidly to a fatal termination, and in many cases the expatriated invalid finds not only a foreign climate but a foreign grave.

There are hundreds of human wrecks scattered over the desert waste of the great southwest, and thousands wandering in the mountain wilderness of some distant state, struggling for the mere necessities of life, with death an inexorable companion, and all the future dimmed by the shadow of waiting Charon.

Our knowledge of these facts must impress on us all the responsibility we assume in prescribing change of climate, yet let us recognize the fact that in selected cases climate is not all fallacy, and that it plays its rôle in the hygiene of tuberculosis.

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THE CONJUNCTIVAL TUBERCULIN REACTION AS A MEANS OF DIAGNOSIS AND CONTROL *

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It should be plainly stated and clearly understood that tuberculin tests of whatever nature are but confirmatory evidence for the substantiation of clinical findings. A large proportion of cases of pulmonary tuberculosis are capable of being diagnosed by the practitioner from examination of the local focus and consideration of the clinical history. In these cases fever, emaciation, cough with sputum more or less characteristic, and consolidation or destruction of lung tissue are sufficient evidence. These cases, however, form the long list of incurables, and diagnosis has its main importance in so far as it affects prophylaxis. It is in incipient or early involvements that the greatest amount of effort should be exerted toward diagnosis, because these patients are to a large extent curable, and cure means the ridding a community of a class of persons inimical to public health and public economy. These incipient cases of tuberculosis frequently present many elements of doubt as to diagnosis even after the most thorough physical scrutiny. If they are not tuberculous it is a great injustice to ostracise them; if they are tuberculous it is beneficial both to the patients themselves and their fellows that they be treated as such. It is in this class of patients particularly that diagnostic tuberculin tests are warranted. The choice of test to be applied depends on a variety of circumstances and conditions.

It will be granted that whatever tuberculin test is used must be convenient, rapid in execution and manifestation, inexpensive, harmless and dependable before it can be recommended for general use for the examination of one or of many hundred patients. By convenient we must understand tests which are readily submitted to and easily and accurately followed. The rapidity of execution and manifestation of the reaction are points of weighty moment when many people are to be tested in a comparatively short time or when the patient happens to be the support of a family or the manager of a business. In the examination of school children, candidates for life insurance, for the army or the navy, in the routine inspection of factories or lodging-houses, etc., where the expense is borne by municipalities or by private individuals, the cost of material for the tuberculin test is frequently a prime cause of its not being used. All tuberculin tests must be harmless to the great majority, else this fact will doubtless be strongly urged against their use by unwilling subjects, imperfectly trained physicians or misinformed officials. As a consequence, both prophylaxis and cure will be interfered with. Inasmuch as tuberculin tests are to be taken as confirmatory evidence —evidence which is frequently final and crucial—then it goes without saying that such tests must be dependable

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The conjunctival tuberculin test, as directed to be practiced by Calmette and others, is admittedly the most convenient, rapid and inexpensive means of administering tuberculin for diagnostic purposes. It is impossible to conceive of a maneuver more simple than the instillation of a drop of a non-irritating solution into the conjunctival sac and then in the main merely watching for the appearance of evidences of conjunctivitis in the instilled eye. The rapidity of execution and manifestation of positive reactions make this method ideal when large numbers of patients are to be tested and when time and assistance are limited. The chief objections that have been urged against its employment are that it is not altogether harmless and that there is question as to its dependability. It is with these questions that we shall principally concern ourselves.

A. CONSIDERATION OF THE SAFETY OF THE CONJUNCTIVAL TEST

Harmlessness of Tuberculin Tests in General.—The application of any tuberculin test is essentially the introduction into an organism of a substance which is foreign to it. This foreign substance is in effect a poison, whether it be introduced by the subcutaneous, the cutaneous, the inunction, the rhinologic, the pharyngeal or the conjunctival routes. The manifestation of the body's defensive powers constitutes the tuberculin reaction, modified for the form of application of the test. It may be stated, then, that improperly controlled, whether as regards, amount, time, class of patient or method of application, all tuberculin tests are capable of producing harmful results. This was early shown by Virchow[1] and others respecting the subcutaneous injection of Koch's "old tuberculin," and more recently by Trudeau and Baldwin[2] and Thelling[3] for the Koch's "new tuberculin." Pick[4] has lately mentioned the finding of fragments of tubercle bacilli in preparations of "old tuberculin *Hochst,*" used in the cutaneous reaction of v. Pirquet, and has found that the lesions produced as a result of positive manifestation of the reaction are in many ways similar to tubercles in parts of the body actively infected with the tubercle bacillus. In respect to the conjunctival reaction, attention has been frequently called to inconveniences and actual disability of the ocular apparatus which may follow indiscriminate instillations.

The harmful results from the use of the conjunctival test have mainly followed (a) when tuberculin was instilled into eyes which were not altogether normal, (b) when the patients were not kept under observation but were allowed to become exposed to dirt, mechanical irritants and infection, or (c) when unsuitable preparations of tuberculin were used. Calmette[5, 6] reports 1,000 personal observations and 13,000 instillations performed by workers other than himself, and states that in no case in which the tests were properly applied and controlled were there serious complications. Petit[7] tabulated 2,974 instillations with no ill effects out of 698 positive reactions. Mantoux[8] mentions no eye injury from instillation of 200 children. Ausset,[9] commenting on 300 tests also in children, speaks of but one case in which the positive reaction was the cause of any considerable inconvenience. In this child there was a prolonged conjunctivitis following the instillation. He believes that rubbing the eye and secondary infection were responsible for the condition. Etienne[10] tabulates no harmful consequences following the instillation in about 100 old men. In the routine examination of soldiers Simonin[11] records one case of kerato-conjunctivitis which he is inclined to consider as evidence of secondary infection. Citron[12] reports no unfavorable results from instillation in 115 cases in which the instillations had been carefully made and the patients watched. In 54 typhoid patients who were instilled with tuberculin, out of 20 positive reactions Cohn[12] noted no harmful consequences. Fritz-Levy,[13] after 300 instillations, considers the procedure safe when properly carried out. Lignieres[14] observed no ill effects following 200 instillations in cattle. Denis[15] calls attention to the fact that there were no harmful results in his cases even when the subjects were febrile. Levy[16] speaks of no eye complications in 120 instillations. Blum[17] instilled 240 patients, all ages, tuberculous and non-tuberculous, without harmful results. Schroeder and Kaufmann,[18] after 125 instillations, claim that when the eyes are examined before the instillation there is no danger of harmful results. Damask[19] instilled 74 patients, with no injurious effects; Morelli[20] tabulates 276 cases, tuberculous and non-tuberculous, but reports no permanent inconvenience to the eyes. In 220 cases Levi[21] cites two severe reactions: one in an old case of carcinoma with cachexia and the other in a patient with old tuberculous cervical glands. The latter patient had rubbed his eyes. Wolff,[22] from 101 observations, mentions two cases in which severe conjunctivitis followed, but fails to make mention of the eye examinations preceding the instillations. Stadelmann[23] reports no severe reactions following instillations in eyes which were negative before instillation. Of 100 cases Gaupp[24] noted no severe reactions. Of 310 instillations in tuberculous and non-tuberculous patients Cohn[25] mentions no serious ocular disturbances. In our own experience,[26] working with 1 per cent. solutions in normal salt solution, of more than 450 instillations in 377 individuals we have observed but four prolonged or stubborn reactions. These were: a case of splenomyelogenous leuke-

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1. McFarland: Pathogenic Bacteria, 1906, p. 335.
2. Med. News, Aug. 28, 1907.
3. Centralbl. f. Bakteriol., July 5, 1902, p. 28.
4. Pick: Semaine médicale, Jan. 29, 1908, p. 59.
5. Calmette: Semaine méd., Jan. 22, 1908, p. 46.
6. Progrès méd., Feb. 22, 1908, p. 97.
7. Petit (quoted by Ausset): Rev. de méd., April 10, 1908.
8. Mantoux: Rev. de la Tuberc., February, 1908.
9. Ausset: Rev. de méd., April 10, 1908.
10. Etienne: Rev. méd. de l'est, April 1. 1908.
11. Simonin: Semaine méd., No. 48, 1907, p. 575.
12. Citron: Deutsch. med. Wchnschr., 1908, No. 8, p. 316.
13. Fritz-Levy: Deutsch. med. Wchnschr., 1908. No. 3, p. 194.
14. Lignières: Semaine méd., Dec. 4, 1907, p. 586.
15. Denis: Soc. clin. d. hôp. de Bruxelles, Province med., July 13, 1907.
16. Semaine méd., Feb. 12, 1908, p. 84.
17. Blum: München. med. Wchnschr., Jan. 14, 1908, p. 60.
18. Schroeder and Kaufmann: München. med. Wchnschr., Jan. 14, 1908, p. 62.
19. Damask: Wien. klin. Wchnschr., 1908, No. 4, p. 121.
20. Morelli: Wien. klin. Wchnschr., 1908, No. 3, p. 83.
21. Levi: Berl. klin. Wchnschr., Feb. 3, 1908, p. 261.
22. Wolff: Berl. klin. Wchnschr., 1908, No. 6, p. 295.
23. Stadelmann: Deutsch. med. Wchnschr., 1908, No. 7, p. 271.
24. Gaupp: Deutsch. med. Wchnschr., 1908, No. 7, p. 275.
25. Cohn: Berl. klin. Wchnschr., Nov. 25. 1907, p. 1507.
26. Smithies and Walker: THE JOURNAL A. M. A., Jan. 25, 1908, l, 259 and herewith.

mia, with old, postoperative cervical glands, leukemic retinitis and iritis with many adhesions; one case of old syphilitic keratitis, with history of early involvement of the cervical glands (before the patient contracted lues); one case of chronic Bright's disease associated with a high degree of arteriosclerosis, marked sclerotic fundus changes and increased intraocular tension; one case of long-standing arthritis deformans with apical tuberculous involvement, who responded to the conjunctival test after a subcutaneous injection of 1 mg. T. A.

Unfavorable evidence against the conjunctival reactions is scant when one eliminates that associated with cases in which patients presented eye changes before reaction came on. It is possible to conceive how in the course of instillation of many eyes even superficial lesions may be overlooked. It is certain that the way the conjunctival test is practiced in many large hospitals and dispensaries, in this and other countries, there is abundant opportunity for such lesions as iritis, keratitis, corneal ulcer, ocular tuberculosis and affections of the vitreous and fundus to escape notice.

After instillation, when people are allowed to go about their ordinary duties with the eyes unprotected, it is not unlikely that positive reactions can be aggravated and prolonged by mechanical irritants. In both children and adults rubbing the eyes has been shown to influence the severity and the duration of the reaction (Ausset,[9] Citron,[12] Calmette,[6] Wolff-Eisner[27, 28, 29] Levi,[21] the authors[26] and others). In hospitals, barracks, schools or neighborhoods where contagious ophthalmias are prevalent a positive conjunctival test may readily furnish a point of least resistance for the beginning of a specific infectious process, as suggested by Citron.[12] Variations in strength and character of tuberculin instilled appear to be responsible for a certain proportion of severe positive reactions and possibly for reaction in people not tuberculous. Solutions of old tuberculin varying in strength from 1 to 10 per cent. have been used, and of the precipitated, dried residue in solution, strengths of from 0.1 to 4 per cent. have been suggested. Preservatives, as glycerin and carbolic acid, have been variously added. One rarely finds mention of whether human, bovine or mixed cultures have been used. The solvents have been either normal salt solution or sterile, distilled water. Frequently the strength of solution has not been varied between children and adults; often many instillations have been made into the same eye at short intervals; the stage of the disease has received little study from most writers. It is not to be wondered at that unlooked-for consequences have sometimes followed.

A few writers have noted general harmful effects, as distinct from local eye changes. Occasionally severe facial neuralgia and headaches have been reported (Demarest and Arloing[30] and authors[26]). Febrile changes have been observed in a few instances (Demarest and Arloing,[30] Wolff,[22] Treupel[31] and others). In no case, however, were the general symptoms so marked as in a characteristic subcutaneous tuberculin reaction.

B. CONSIDERATION OF THE DEPENDABILITY OF THE CONJUNCTIVAL REACTION

1. *Necessity for Proper Technic.*—We have before[26] called attention to the mistakes which may follow careless instillation or the failure to make sure that the tuberculin instilled is not washed out by tears, wiped out or washed out intentionally after the physician has left. We have not thought best to instill into the inner canthus, as suggested by certain French and German writers (Calmette,[32] Wolff-Eisner[27] and others), but have preferred to hold the lower lid away from the eyeball, and while the patient's head is tilted back and eyeball turned upward we instill the drop into the inferior cul-de-sac. The lid is gently moved over the eyeball a few times, the lids are approximated for a few moments, the patient being directed to rotate the eyeball several times. Both before and after instillation all parts of both conjunctivæ, caruncles and semilunar folds are compared while the eyeballs are rotated in all directions. Abnormalities are noted in writing. Examination after instillation should be made frequently after the third hour.

2. *Consideration of Preparation.*—Our former work was done with 1 per cent. solution (?) of tuberculin prepared according to the formula of Calmette. Our results were in accord with those published by the majority of French writers. The preparation used was demonstrated to contain fragments of bacilli. The tuberculin was said by the manufacturers to be made from virulent, human and bovine cultures of the tubercle bacillus grown on 5 per cent. glycerin bouillon. Inasmuch as later it appeared desirable to the manufacturers to put forth a product absolutely free from tubercle bacilli, a process of extra purification was introduced. With the ordinary microscope this could not be said to contain any fragmented cells. It is not impossible, however, that they may have been revealed by the ultra-microscope, as suggested by Pick.[4] This second lot of tuberculin, which was supplied us in tablet form, was not dependable. The reactions were poorly manifested and the percentage of positive reactions was considerably lower for all classes of tuberculosis than had been given by our early preparation. We were able to establish this fact by comparative tests, fortunately having preserved some of the first samples submitted to us. Our results agreed in the main with those of other clinics where the second lot of tuberculin had been used in comparison with the first. The reason for this discrepancy involves considerable detail. Suffice it to say that, as shown by Detre[33] and T. Smith[34] too much precipitation and heating with hot alcohol, and the use of bovine tubercle bacillus cultures, or material derived from a mixture of bovine and human tubercle bacilli, might reasonably be expected to account for some of the differences noted. A proper preparation should be entirely from human tubercle bacillus growths, from virulent cultures grown on a proper medium. In the consideration of statistics from various sources it is absolutely essential that one know with what preparation the tests were made. The tendency in Germany appears to use solutions of from 0.25 to 4 per cent. "old tuberculin *Höchst.*" The French observers mainly follow the originally marketed preparation of dried, precipitated tuberculin in from 1 to 2 per cent. strength. Distilled water or physiologic salt solution are used as solvents. It has been clearly pointed out by many observers, notably Schmidt,[35] Citron,[12] and Damask,[19] that severe

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27. Wolff-Eisner: Berl. klin. Wchnschr., 1907, No. 22.
28. Wolff-Eisner: Beitr. z. klin. d. Tuberk., 1908, ix, 1-189.
29. Stadelmann and Wolff-Eisner: Deutsch. med. Wchnschr., 1908, No. 5, p. 181.
30. Province méd. Oct. 12, 1907.
31. Treupel: München. med Wchnschr., Jan. 14, 1908. p. 66.
32. Calmette: Rev. internat. de la Tuberc., xiii, No. 2, 1898, p. 119.
33. Detre: Wien. klin. Wchnschr., Feb. 6, 1908, p. 173.
34. Smith: Jour. Exper. Med., 1898, p. 451.
35. Schmidt: München. med. Wchnschr., Jan. 14, 1908, p. 66. (Breslau cases.)

conjunctival reactions may be brought on by the use of 1 per cent. dried "tuberculin *Hochst*," whether glycerin mixed or free, and that 0.1 per cent. strength is sufficient to bring about results corresponding to the preparation of 1 per cent. strength sent out from the Pasteur Institute at Lille. It has been well shown also by Damask[19] that the Pasteur Institute preparation is at least two and one-half times as effective as is the 1 per cent. solution of "old tuberculin *Hochst*." It thus appears that when possible tuberculin prepared according to Calmette's originally described method is the most reliable. The variations in the results stated with the use of other preparations may also have been influenced by the variation in virulence of the growths from which the tuberculin was derived, the use of bovine cultures in the attempt to bring about reaction in humans, the use of bacilli grown on improper media, and the classes of cases in which each of the various forms of tuberculin was used. It will be readily understood how difficult it is to review statistics of reported work when such work has been done under so great a variety of conditions. It seems proper to compare separately the results from German and from French clinics.

3. *Results in Cases Known to Be Tuberculous.*—A summary of 1,554 cases of tuberculosis, all stages, from the reports of German observers (Fritz-Levy,[13] Daus,[36] Levy,[16] Blum,[17] Cohn,[25] Morelli[20] and Gaupp[24] reveals positive conjunctival response in 86 per cent.

Of more than 14,800 French cases tabulated from the writings of Mantaux,[8] Petit,[7] Ausset,[9] Comby,[37] Calmette[38, 6] and others, positive evidence was given in 93 per cent.

In our own experience 15 cases of incipient pulmonary tuberculosis were all positive, of 20 cases of bone tuberculosis 80 per cent. were positive. In 74 cases of moderately advanced pulmonary tuberculosis positive manifestations were secured in 75.6 per cent., with slight ocular changes in an additional 13 per cent. Of 42 cases of pulmonary tuberculosis, including moribund and miliary tuberculosis, positive reactions were secured in 59.5 per cent., with suspicious eye changes in an additional 15 per cent. In summary, of 151 cases of known tuberculosis, all stages, positive manifestations were secured in more than 79 per cent. In incipient and early cases positive manifestations were secured in 93 per cent.

4. *Presence of Reaction in Doubtful Cases.*—Of 476 cases in which tuberculosis was suspected, German statistics (Blum,[17] Schroeder and Stadelmann,[29] Morelli,[20] Levi,[21] Wolff[22] and Gaupp[24]) exhibit positive reactions in about 51 per cent.

With French writers the proportions are rather higher. Of 273 cases (Ausset,[9] Petit,[7] Grasset and Rimbaud,[39] Dufour[40]) 64.5 per cent. showed positive ocular manifestations. In Calmette's résumé of 14,000 cases he states that 61 per cent. of patients suspected of having tuberculosis gave distinct reactions.

In our own series, of 13 suspected tuberculous patients positive conjunctival changes were noted in 9, or in 69 per cent. It is possible that we secured a higher percentage of reactions than German or French writers because we were able to keep our cases under observation constantly from the time of instillation. Perhaps, however, were our series larger we should approach proportions similar to those of other workers.

5. *Presence of Reaction in People Apparently Well.*—Of 1,379 cases not clinically tuberculosis in the writings of German workers (Fritz-Levy,[13] Blum,[17] Schroeder and Kauffmann,[18] Morelli,[20] Levi,[21] and Cohn[21]) there were 9.9 per cent. positive conjunctival tests.

In Calmette's summary 18 per cent. of those not suspected of having tuberculosis gave positive manifestations. He suggests that this is in proportion to the gross percentage of tuberculous lesions found at autopsy. In Petit's[7] summary of 938 patients, many of whom were children, about the same percentage was obtained. He calls attention to the fact that many of his patients had adenoids and enlarged tonsils. Etienne,[10] working with old men, was able to secure positive conjunctival manifestations in 66 per cent., which he mentions is about the same proportion as Bruardell claims tuberculous lesions are found in the aged at autopsy.

Our own work shows that of 205 cases not clinically diagnosed as tuberculous 13 revealed positive ocular changes. This percentage, 6.8 per cent., is lower than that noted by other writers. Explanation might be found in the fact that many of our hospital patients were anemic, some were tested with poor tuberculin, and there were many young adults. Of 76 instillations in young men apparently well, but two gave positive ocular manifestations. In both of these there were fairly well marked signs of tuberculosis.

6. *Presence of Positive Conjunctival Reactions in Diseases Other than Clinical Tuberculosis.*—Much proof has been advanced to show that the conjunctival reactions are not specific for tuberculosis. The same sort of proof has long been held against all forms of tuberculin test, particularly the subcutaneous. It has long been maintained that patients affected with syphilis, leprosy and actinomycosis respond to the subcutaneous injections. Probably the same might have been noted had tuberculin been used subcutaneously in various acute infectious diseases, as typhoid fever, scarlet fever, articular rheumatism, etc. The contraindication to the use of the tuberculin may have been responsible for the lack of positive evidence. We have not been able to discover work in which negative evidence has been furnished. It has been urged by many that in typhoid fever, particularly, conjunctival tuberculin reactions may be obtained. The excellent work of Kraus, Lusenberger and Russ,[41] and the reports of Cohn[25] and Blum,[17] seem to furnish evidence that the occurrence of the reaction is not altogether accidental. The reaction appears to be most constant in convalescents. It is not always obtained, as shown in Levy's[15] cases. In one of Montagnon's[42] typhoid cases, in which the patient died, abundant evidences of tuberculosis were discovered. In our own series we failed to get positive evidence after two instillations in a case of typhoid in a young adult. A case of miliary tuberculosis suspected of being typhoid for some days gave positive conjunctival reaction after injection subcutaneously of 1 mg. of TA. Fortunately for clinicians and public health officers, incipient tuberculosis is rarely mistaken for typhoid. When the two exist together, then again one must emphasize the fact that all tuberculin tests are but confirmatory evidence. Several writers (Citron[12] and Blum[17]) call attention to

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36. Daus (quoted by Fritz-Levy): Deutsch. med. Wchnschr., 1908, No. 3, p. 194.
37. Comby: Semaine méd. July 31, 1907, p. 271.
38. Calmette: Progrès méd., Jau. 25, 1908, p. 45.
39. Province méd., July 13, 1907.
40. Dufour: Societe Méd. hôpitaux, Semaine med., July 24, 1907, p. 358.
41. Kraus, Lusenberger and Russ: Wien klin. Wchnschr., 1907, No. 45, p. 1385.
42. Montagnon: Presse méd., July 20,.1907.

the fact that positive conjunctival reactions may be obtained in syphilitics and cases of acute articular rheumatism. Citron[12] suggests that the reaction may be due to old lesions that make themselves manifest as a result of the secondary change. Blum[17] has noted the reaction in nine cases of scarlatina, in eight cases of lobar pneumonia and in six of sepsis. He does not furnish evidence to show that in these cases it was possible to exclude tuberculosis, typhoid, syphilis or previous eye lesions.

The experiments of Arloing[43] have been frequently cited as indicating the non-specificity of the conjunctival test. In brief, they consisted in injecting subcutaneously into rabbits, supposedly non-tuberculous, successive doses of tuberculin, diphtheria toxin, typhotoxin and staphylotoxin. The eye reaction in all cases was found negative before the injections. After the eighth daily dose of toxins eye changes were noted in all classes of animals, particularly in those which had been injected with typhotoxin and tuberculin. The serum reactions of each remained negative during the entire list of tests. At postmortem no evidences of tuberculosis were discoverable in any of the animals. Criticism of this work might be freely offered. There were no control rabbits. The rabbits were not protected after instillation; reactions were not noted until after the eighth dose of subcutaneous toxin, or about at the tenth day, a proper period of sensitization. There were no rabbits injected at the same time with tuberculin subcutaneously, with note as to whether or not they developed fever reaction. A series of four rabbits is too small a number from which one may draw conclusions. Finally, clinically, there should be no difficulty in distinguishing between tuberculosis, typhoid fever, diphtheria or sepsis. De Lapersonne[44] calls attention to the fact that reaction similar to the conjunctival test may be produced after intoxication with abrine and serpent venom. Inasmuch as these occurrences are infrequent, the observation can have little practical value, although it has considerable scientific interest.

7. *Presence of Positive Conjunctival Reaction in Cases in Which Tuberculin Has Been Used Subcutaneously, Either for Diagnostic or Therapeutic Effect.*—This is a factor that has doubtless led to much confusion. If, after patients have received two subcutaneous injections of tuberculin, according to the method of Koch, at an interval of several days, without reaction, and then positive reaction is manifested when tuberculin is instilled on the conjunctiva, discredit is likely to be thrown on the method. The work of many writers (Dumarest and Arloing,[30] Baldwin,[45] Hutchins,[46] Fritz-Levy,[13] Cohn[25] Damask,[19] Stadelmann and Wolff-Eisner,[29] the authors[26] and others) demonstrate that in patients who have received two or more cutaneous injections for curative or diagnostic purposes conjunctival reactions may be produced, may be brought out after being negative, may be aggravated if already present, or may become again evident weeks after they have subsided. The patients who have been the longest under treatment with subcutaneous injections show a lower percentage of response, with frequently less pronounced reaction, than do those in whom there have been few, fairly large doses of tuberculin, subcutaneously (as when tuberculin is used diagnostically in ascending doses). Patients under treatment with tuberculin may, however, fail to react, as shown by Baldwin[45] and Schroeder and Kaufmann.[18] Cases of incipient tuberculosis show more prompt and vigorous responses than do middle or late stage cases (Damask[19]). Patients with tuberculosis frequently show violent reaction after subcutaneous injections when the tuberculin has been instilled in the same eye. Patients not tuberculous may exhibit conjunctival reaction after several injections of small doses of tuberculin subcutaneously (Cohn[25] and authors[26]). This is particularly so when the subcutaneous injections are continued at intervals after the tenth day. There is less response when the subcutaneous injections are small, as TR for therapeutic effect, than when the dose is fairly large, as TA for diagnosis.

8. *Comparison of Results Obtained with Conjunctival Tuberculin Tests and Various Other Tests.*—As yet there is little literature available on the inunction, the rhino-tuberculin[47] and the pharyngeal-tuberculin[48] tests, so they may be left out of consideration. Statistics compiled from many sources seem to point to the fact that, for greatest accuracy when the test can be carried out on hospital or sanitarium patients, the subcutaneous test is somewhat more reliable than cutaneous or conjunctival tests. Unfortunately, however, concerning the subcutaneous method statistics are usually quoted in regard to its diagnosis only of early or incipient cases, which are fever-free, whereas statistics are quoted for conjunctival and cutaneous tests from whole number of patients tested, be they incipient, moderately advanced or moribund cases. The subcutaneous method, for obvious reasons, has been little tried on apparently healthy persons. When it has, results have been not altogether favorable. (Franz obtained positive reactions in 61 per cent. of "able-bodied recruits" to the Bohemian army.) One can not conceive that all these were syphilitics, lepers, actinomycotics, trypsin or peptone poisoned individuals!

When the conjunctival, the cutaneous and the subcutaneous tests are compared as regards incipient or early stage cases, the percentages of positive reactions do not greatly vary, and, after all, this is the stage when tuberculin should be used. Calmette's statistics on 14,000[38] cases give the percentage of positive reactions with the conjunctival, early cases as 92 per cent. Schroeder and Kaufman[28] in 971 cases of tuberculosis as 88.5 per cent. In our own series the conjunctival reaction was positive in 93 per cent. of early and moderately advanced cases. It is difficult to get actual figures on the subcutaneous method. In but very few clinics, however, are percentages over 90 exceeded.[33, 34] It is not quite proven that repeated injections of tuberculin for diagnostic purposes are not capable of ultimately producing reaction in cases which are not tuberculous or where the lesions are very old and inactive. Especially does this seem so where from six to ten injections are made during a few weeks. The securing of reaction in incipient cases by the repeated injection of the same size dose, as shown by Hinman and Wolman,[49] is very significant. Doubtless hypersensitization may be thus produced quite as distinctly as with the conjunctival method. In respect to the relative merits of the cutaneous (v. Pirquet's) and the conjunctival tests, numerous comparisons are available.

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[43] Arloing: Prov. méd., Feb. 1, 1908, p. 54.

[44] De Lapersonne: Presse méd., Dec. 7, 1907.

[45] Baldwin: THE JOURNAL A. M. A., Dec. 14, 1908, xlix, p. 1969.

[46] Hutchins: Therap. Gaz., Dec. 15, 1907.

[47] Lafite, Dupont and Molinier: Jour. de méd. de Bordeaux, Feb. 16, 1908.

[48] Plehn: Deutsch. med. Wchnschr., 1908, No. 8, p. 315.

[49] Johns Hopkins Hosp. Bull., Aug. 1, 1907.

In 114 cases of tuberculosis, Morelli[20] obtained positive cutaneous reaction in 98 per cent. and positive eye changes in 86 per cent. He neglects to state which test was applied first. It is possible that the one exerted a perceptible sensitizing effect on the other. In cases of suspected tuberculosis, the v. Pirquet reaction was positive in 94 per cent., the conjunctival in 47 per cent. In 96 cases not clinically tuberculous, the cutaneous reaction was positive in 21 per cent. of the cases, the conjunctival in 11 per cent. The latter figure agrees rather closely with that obtained by other workers. There is a question as to whether or not secondary infection does not increase the percentage of positive reactions, so-called, to the v. Pirquet reaction. This appears to be particularly likely when dispensary patients are treated and then allowed to depart with the skin improperly protected. Several of Morelli's cases showed at autopsy old tuberculous processes when both conjunctival and cutaneous reactions had been negative. Wolff's[22] figures are slightly in favor of the skin test, especially for children. He has noted radiograph indications of infiltration when the cutaneous reaction was negative. Stadelmann[23] cites a case in which the cutaneous reaction was positive and the subcutaneous negative until injection of 5 mg. TA. He is inclined to think that the conjunctival test is valuable in early and suspected active cases, while better results may be obtained with the cutaneous test in quiescent lesions. He calls attention to the prognostic value of both reactions. Usually they both appear with severity in inverse ratio to the virulence of the infection. This severity is in direct proportion to the patient's protective powers. The instillation, application or the injection of tuberculin derived from bovine tubercle cultures might affect the results with the various tests, as suggested by Detre.[33] Wolff[22] states that in his experience the cutaneous and the conjunctival tests have shown very similar results. Other statistics might be cited.

In general, then, it may be stated that when properly applied and controlled the conjunctival tuberculin test shows results which compare favorably with those obtained by the subcutaneous and cutaneous methods. The facility with which this test may be applied and wider range of its usefulness speak strongly in its favor. It has been suggested that the subcutaneous injection might be used to supplement the conjunctival test (Citron,[12] Vallée,[50] Schroeder and Kaufmann,[18] Stadelmann,[23] Fritz-Levy[13] and others).

9. The Question of Interpretation of Positive and Negative Results.—This question is one which deserves attention. It appears that when the conjunctival reaction is prompt (typhoid, mechanical irritants in the eye, or irritant properties in the tuberculin instilled being excluded, and with the use of a suitable preparation in so far as strength, character of bacilli, etc., are concerned) there is good reason to consider that the patient is tuberculous. The test in these cases will doubtless be readily confirmed by local or general examination. A negative reaction in a suspected individual should not be taken to mean that the case is non-tuberculous. In doubtful reactions, cytologic examination for polynuclear leucocytes in the eye discharge may be made, as suggested by Lafite, Dupont and Molinier.[47] It is best, however. to make a second instillation after two days' interval in the eye not previously instilled. It is sometimes advisable to use stronger solutions at this instillation. (Eppenstein,[51] Fritz-Levy[13] and others). If this second instillation is negative after two or three days one may safely say that the patient is free from active tuberculous lesion. Reinstillation later into the first eye might be possible with the same strength solution as first used, but after five days there is strong probability that the second instillation may produce local hypersensitization and reaction in people not actively tuberculous, or a very severe reaction in cases tuberculous. In more than 100 instillations in moderately severe and moribund cases, we have never seen a case fail to respond to a second instillation of 1 per cent. solution in the same eye, when such instillation were made within three days. We have frequently noted that people not tuberculous clinically failed to show ocular changes, when from three to five instillations were made in the same eye within ten days. We have also reported instances[26] in which after the tenth and as late as the twentieth day repeated instillation of 1 per cent. freshly made solution failed to produce conjunctival changes in persons not clinically tuberculous. In moribund cases we have had negative reactions to one instillation made in eyes which had been instilled a month previously, but positive manifestations to second instillation made two days later in the same eye. We have also noted response to the second instillation made in the previously non-instilled eye.

The local anaphylaxis in tuberculous individuals may persist for weeks and even months. This has already been commented upon in the literature. We have noted a case in which conjunctival changes appeared spontaneously three times in an eye where rather severe reaction had followed the second instillation (made within four days). The case was one of old tuberculous hip-joint disease. During five months following the first instillations the patient had three attacks of night pains, tendernesss over the hip joint, with disability. Each time conjunctival changes appeared and lasted for from one to three days. The first spontaneous reaction was the most pronounced. These facts are significant. Patients should always be questioned regarding whether or not they have previously submitted to the conjunctival test, and if so, with what result. We have never seen, either in the literature or our own experience, a case in which prolonged sensitization was maintained in patients free from tuberculous taint.

In our work we have made an attempt to correlate the instillation time with respect to the clinical symptoms, especially with regard to the instillation in patients febrile and not febrile. In a few instances of early and moderately advanced pulmonary tuberculosis with fever, we have secured prompt and vigorous responses to the first instillation. But we have also noted reactions equally prompt and equally vigorous in patients who were afebrile. We have never, however, failed to secure prompt and well-pronounced response in febrile tuberculous patients, whereas in many cases of tuberculosis which were afebrile we have secured delayed and not well-marked conjunctival changes. This fact suggests that in incipient or early cases of pulmonary involvement better results could be expected from instillations made in the afternoon, when such patients are apt to have rises in temperature. The point requires more confirmation however.

It would appear from the foregoing discussion of the work of others and ourselves that the questions of the harmlessness and the dependability of the conjunctival reaction to tuberculin were fairly well supported, and that as a method whereby confirmation of more or less extensive physical examinations is desired it has numerous advantages over other forms of tuberculin test. In the rapid examination of large numbers of cases, as for example, in the army and navy, public institutions, schools, manufacturing establishments, immigrants, etc., the method appears to be of great worth. It should be preceded or supplemented by local examination in all instances before final judgment can be given. It may be combined satisfactorily with the subcutaneous method when deemed necessary as the weight of evidence appears to be that these reactions reinforce each other.

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[50] Vallée: Progrès méd., Feb. 8, 1908, p. 69.

[51] Eppenstein: München. med. Klin., Sept. 8, 1907.

In the routine examination of many individuals it appears desirable that a general scheme of work be followed out, that the best results may be obtained.

First: Accurate register of each patient tested should be kept in convenient form. A chart enables us to watch each patient thoroughly and furnishes a valuable lot of information for the subsequent study of cases and the reaction. On this chart is recorded the patient's name, age, sex, preparation of tuberculin used, eye in which it is instilled, date and time of instillation, reaction, including time beginning, degree and time ending, and whether slight, moderate, pronounced or very pronounced.

Second: A proper preparation must be insisted on. In all instances it should be freshly made—with sterile diluents — physiologic salt solution or water. That manufactured according to the original method of Calmette appears most desirable. It is conveniently marketed in 1 per cent. solution and in powdered form. We have always preferred to use sterile, physiologic salt solution as a diluent, and have found the 1 per cent. solution satisfactory. It might be advisable in picked cases, *e. g.*, children and febrile patients, to use the 0.5 per cent. solution. If preparations of "old tuberculin" are used, then solutions of various strengths might be prepared according to the method of Eppenstein[51] (1, 2 and 3 per cent.) or of Fritz-Levy[13] (0.5, 2 and 4 per cent.).

In children, and particularly in scrofulous patients, even weaker solutions than 0.5 per cent. may be used with satisfactory results. If a preparation of the "dried tuberculin *Hochst*" be used then 0.1 per cent. solution is amply strong. If stronger are employed severe and prolonged reaction, with perhaps serious damage to the eye may follow.

Third: Examination of the eyes for evidence of old or recent lesions.

Fourth: After instillation, the eye should be protected from rubbing, mechanical irritants, injury and secondary infection. This may be managed in adults by giving them simple directions; in children celluloid shields or eye-pads may be adjusted. Violent reactions can be appropriately treated by cold applications, mildly antiseptic eye washes, or washes containing astringents.

Fifth: Reinstillations should be made in the eye not first instilled, and if the preparation is from old tuberculin, the strength of the solution should be increased in order to obtain the best results. If instillations are made in the eye first instilled, then positive evidence is not possible after the fifth day. If instillations are made in the other eye positive evidence is doubtful after the tenth day.

CONCLUSIONS.

In the routine examination of many individuals tuberculosis is readily overlooked unless some form of tuberculin test is administered. These tests, however, are but confirmatory of physical findings.

The conjunctival tuberculin test as directed to be practiced by Calmette and others is convenient, rapid in application and manifestation, inexpensive, can be used in febrile cases, is practically harmless when properly carried out and controlled, and is, in the hands of the general practitioner, for incipient and early cases, as dependable as are any other forms of tuberculin test.

Proper technic, proper preparation, discrimination in the interpretation of both positive and negative reactions, and care of the patients following instillation are necessary for the success of the reaction.

Patients presenting disease of the eye other than simple conjunctivitis should not be instilled.

Second instillations should be made in the opposite eye. Positive reaction in this is dubious after the tenth day, if the suspected focus is not examined.

Care should be taken to eliminate recent typhoid, colon infections, syphilis and acute infections, as diphtheria, sepsis, scarlet fever and articular rheumatism. Patients receiving tuberculin subcutaneously for diagnostic or therapeutic purposes may be expected to react, frequently irrespective of active tuberculous foci.

Prompt, positive manifestation generally means an active focus with good systemic resistence. This is especially so in early cases. Delayed response, with feeble ocular changes, may be considered as of bad prognostic import in both early and late stages of the disease.

Severe conjunctival disturbances may result from reinstillation in the same eye, particularly in tuberculous individuals, and after the tenth day in others. Sensitization of the conjunctiva may persist for months and reinstillation may be responsible for violent reaction. This may be aggravated by synchronous or subsequent subcutaneous use of tuberculin.

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EARLY DIAGNOSIS OF TUBERCULOSIS AS A MEASURE OF CONTROL,

ESPECIALLY THE RELATION OF TUBERCULIN THERETO *

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The Department of Health of Chicago began the registration of consumptives July, 1907. A rule was passed requiring it. At the time the number of available beds for consumptives was 325. These were for late cases. In addition the Tuberculosis Institute was maintaining a sanitarium for early cases. The capacity of that institution shortly after July was increased to twenty-six beds.

There are two tent colonies near the city. One, that of Drs. Pettit and Butterfield, was then in existence; that of the Homeopathic Medical Society was founded last year. The general hospitals were taking a few cases, generally without plain, straightforward acknowledgment of the fact, and lacking the better control which goes with candor.

The experiences of these institutions was that consumption was not being diagnosed early enough for successful handling. Occasionally a diagnosis was made when an arrest could be accomplished in less than five months. Rarely one was determined when an arrest in two or three months was possible. The usual favorable case, according to the opinion of the diagnostician, required from one to three years of expensive maintenance without any earning power during the interim. Returned to work with his disease arrested, his outlook was a life of diminished capacity for productive work with a high probability of recurrence of his disease.

Viewed strictly from the economic standpoint, it is doubtful if anything is gained by curing these two to three year cases. I have in mind one institution which has been confronted with a great dilemma, due to two factors: (1) The physicians in attendance are *not* diagnosing the disease until it has reached such a stage that more than two years are required for arrests; (2) the patients who constitute the clientele are not financially able to withstand the needed expense.

This, as you see, leaves another problem untouched—the late and dangerously contagious consumptive. Our provision for these patients is much more adequate than that in any other direction, as it is most immediately vital.

As a means to reporting, we adopted disinfection of premises previously occupied by tuberculous patients and the use of tuberculin. All such premises are disinfected and instructions for cleaning are given. The number of premises disinfected for tuberculosis since Jan. 1, 1908, is 1,268, with 6,673,500 cubic feet. It has been unopposed, except in two minor instances. We have given away more than 500 doses of tuberculin. Our *Bulletin* has carried seven notices as to early diagnosis and the use of tuberculin therein; 928 cases of living tuberculosis have been reported since Jan. 1, 1908. The newly established tuberculosis dispensaries, six in number, are valuable factors in the discovery of consumption.

The methods employed are three days' preliminary observation of pulse and temperature, at 8 a. m., 12 noon, and 8 p. m. Late in the evening of the third day 4 milligrams of old tuberculin are given hypodermically. The temperature and pulse observations are made every two hours during the next day. A rise in temperature to 101.5 F. + is held to be a reaction, when there is a rise of pulse of 15 beats, a general and local reaction. As soon as the reaction is definite, control of the neuralgias with phenacetin is advised.

We have also made use of the ophthalmic tuberculin test. We reserve judgment as to its value. We are now engaged in testing 1,500 cows with it, doing controls with the hypodermic method. We endeavored to determine that dose which would give clear-cut, definite reactions in those cases which were of some clinical importance. A larger dose would discover some cases with quite well encapsulated small lesions, oftentimes limited to the lymphatic glands. Many of these cases are of small clinical importance and should not be handled as one would a clinical case. A smaller dose would give reactions so mild that a man of considerable experience would be required to interpret them.

I have in mind now a case of very chronic pleural infection in which the other method of administration gave a result which was variously interpreted by many observers.

The method which begins with a progressively increasing dose is open to the objection that greater skill is required in interpreting the result, and the coefficient of certainty is lowered and the progressing immunity adds a factor of uncertainty. While there is not the same degree of immunity as veterinarians have noted with regard to the use of full doses, it is, in some degree, a factor. I know of no observations tending to prove that the principle of sensitizing has any bearing on the conditions which obtain in examinations for diagnosis.

The objection is that the patient is uncomfortable for twenty-four hours. The claim that there is danger will be discussed separately. The discomfort can be made slight with antineuralgics. In my experience, the patients have recognized that the proceeding meant too much to be obfuscated by minor considerations.

The second question is the danger. I have no evidence that leads me to believe that in this respect the minor dose method differs from the other. Therefore, the question of danger is the danger of the use of tuberculin for diagnostic purposes. The arguments for its danger may be divided into two groups, (1) the histologic and bacteriologic, and (2) the clinical. The first teaching, that of Virchow, was that miliary generalization of tuberculosis was due to degeneration of the granuloma tissue with discharge into the blood vessels. The proof now is quite conclusive, to my mind, that blood generalization is by thoracic duct transmission. Longcope and Whipple have proved this. The miliary diffusion so very frequent in tuberculosis is of this origin. Tuberculous intestinal ulcers were found in 89 out of 161 cases of pulmonary tuberculosis coming to autopsy at Cook County Hospital.

The observations of Weigert and Benda of the histology of tubercle in relation both to the new vessels of the tubercle and to the pre-existing blood vessels is proof about as conclusive as that of Longcope and Whipple.

The next theory is that when tuberculin is injected there is a lowering of the opsonic index. This presupposes that tubercle bacilli are being discharged into the blood lymph at some time during the period of opsonic depression. There is no proof that such discharge is occurring so frequently that there is likelihood of its occurring at any given moment. So far as I know, however, there is no proof of such a spreading coincident with lowering of the opsonic index due to tuberculin.

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It is difficult to weigh the clinical data. I have not yet read of a case in which there was a clear demonstration of cause and effect, or anything to prove or even indicate that the use of a single dose of 4 milligrams of tuberculin increased the incidence of generalizations. My autopsy experience, fairly large, has taught me that periodic partial bacillary diffusion is the rule in long continued phthisis.

In the Knopf case it is impossible to determine whether the result is coincidence or cause and effect. The Billings cases, two in number, belong in the same category. I have not been able to get the data in the Edwards and Greene cases. Letters to them elicited no more data than those given in their books and I am not able to draw a conclusion from them. Trudeau writes of a man who was to have been injected at a given time, but who had a generalization just before the proposed injection. He said: "Had the generalization followed the injection, it would have seemed an incontrovertible case."

My experience is limited to a moderate personal use extending over ten years, and a consulting relation in the hospital where it has been fairly frequently used for ten years. Results in 100 cases have been published. A second hundred cases have been studied. The Chicago Department of Health has publicly advocated its use for nearly a year, and 500 doses have been distributed. Probably in other capacities I have sent over 200 additional doses. I have heard of no ill effects in any of these cases. We are justified in concluding, therefore, that the incidence of dissemination is but low.

The certainty of the test needs no argument. The advisable dose in order to determine the limitation of discovery is a fair field for discussion.

The question now arises, do we need this means of diagnosis? This question should be asked, not of the most skilled specialists, but of the rank and file of the profession, those who are consulted before the patient has developed much of a symptomatology.

Consideration of history in the afebrile cases is of but little value in the hands of the inexperienced. Physical examination requires too much technical skill in the earlier cases for the average practitioner. Sputum examination does not reveal the disease when it is curable without great drain on the resources. Fever, rapid pulse, emaciation, sweats, are, of course, not to be considered in discussing early cases.

There is urgent need for a test easy of application, requiring no technical skill and not requiring much of experience to evaluate. With present methods for the next quarter of a century the average diagnosis will mean death after a prolonged illness.

Let us suppose, however, that there is some proof that bad results have followed the use of tuberculin for diagnostic purposes. The question next arises, is the frequency of diffusion and the degree of danger therefrom surpassed by the benefit to be derived. Diffusion is not a rare incident in consumption. It is the rule, or nearly so. Many of the resulting lesions are found cured at autopsy. The bearing of this is that diffusion, if it does result from tuberculin injection, is not as appalling as if it were otherwise unknown.

Weighing all of the factors, valuing the incidence of danger, on the one hand, and the increased curability and the decreased length of illness on the other—the possible harm, the probable gain, the weight of each—it is my judgment that no health officer with a conscience can fail to advocate the diagnostic use of tuberculin in the human subject.

A surgeon contemplating an appendectomy weighs the danger of the anesthetic and of the operation, he weighs the advantages. He acts on the balance of favor, one way or the other. Would his conscience allow him always to refuse operative procedure because there has been a rare case of death from anesthesia?

103 State Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. EVANS, WHEATON AND SMITHIES

Dr. S. A. Knopf, New York: It has been said here this morning that the man who does not use tuberculin in diagnosis of tuberculosis is a man without a conscience. I am guilty of not having used tuberculin or recommended its use, except once or twice as a therapeutic means in a case when there was neither progress nor the contrary. I have the consolation of believing that in opposing tuberculin when they used to give 15 to 20 mg., I have helped in some measure to reduce the quantity to the small doses now in use. My distinguished friend, Dr. Evans, said he used 4 mg. When he said that I heard some whispering to the effect that that was altogether too much. I believe that early physical diagnosis is more carefully and frequently practiced, because of the opposition to tuberculin as a means of early diagnosis. I believe that if every practitioner would feel that the simple injection of 1 or 2 mg. of tuberculin would surely reveal the presence of tuberculosis, it would do away with physical diagnosis. I believe that careful physical diagnosis is still very important and absolutely essential as a preliminary to any one of the three tuberculin tests. That the tuberculin test is not infallible, we all know; even the tuberculin enthusiasts will admit that, but since we have so many means of using tuberculin in small and consequently less dangerous doses, I am less opposed to it. Still, even with small doses we have had the reaction in actinomycosis and in syphilis and in pure chloranemia. The examination of the sputum was once thought to be the only means of diagnosing tuberculosis, but I do not agree with that statement. It is true that you must easily find tubercle bacilli when there is a large disintegration; nevertheless, if the bacilli are not found at the first examination, then attempts should be made the second, third, fourth and fifth time; I know Dr. Brown has found the bacilli on the twentieth trial. It is something I would not wish to neglect in favor of tuberculin tests. But, of course, it must not be forgotten that while the finding of the bacilli in the sputum proves beyond a doubt the presence of a tuberculous lesion, their absence in the sputum does not by any means exclude the presence of tuberculosis.

I was very glad that Dr. Wheaton brought out the value of sunlight, for a prominent scientific man has recently made the statement that sunlight produces tuberculosis, and that the ideal way to live would be in a dark room. It will be my privilege to reply to that theory next Saturday morning before the Society for the Study and Prevention of Tuberculosis. The ideal climate to my mind is one where the patient can live outdoors the largest number of days with the greatest amount of comfort, wherever that may be. There are idiosyncrasies in the susceptibility to climatic conditions as well as to medicine. If I am called on to decide the climate for a patient, I examine my patient to see what stage he has reached and whether he has money enough to sustain him away from home for a year; and then I ask him whether he prefers and feels best in cold or warm weather. I select the climate in accordance with his preferences. The economic factor is most important. A patient who comes from the laboring classes should, as far as possible, be treated and cured in the climate where he contracted the disease. I firmly believe that the home climate of the patient, or a climate in or near the locality where he wishes to live after his restoration to health, is the ideal climate for him. It may take a little longer to cure a patient in his home climate, particularly if not ideal, but I believe that the chances of his remaining cured are better than if we had sent him to a so-called congenial climate entirely different from the one where he wishes to go back to work. If a patient is in an advanced stage, and I know he will not get well, I let him go away or stay at home, just as he likes.

Diagnosis should be begun in the schools. The Calmette or ocular test is excellent in many ways, but it is not free from danger, particularly in scrofulous children. It is necessary to be careful to avoid keratitis and other serious inflammatory troubles. Sometimes a child has been inoculated three or four times. The little ones forget that it has been done, and whether the test was made in the left eye or the right eye; and because of the sensitizing the diagnostic value is much lessened. I believe that we could accomplish a really great work in the early diagnosis of tuberculosis if we would train our school teachers to suspect tuberculosis when a child fails in its studies, looks anemic or complains of pain in the joints, and to refer such a child to the school physician for a careful examination. It is only by systematic examination and re-examination of suspected cases, that we shall find the children who are tuberculous. After a child has been declared to be tuberculous, it should be sent to an open-air school or school sanatorium. We must teach the child to love fresh air. When we begin by diagnosing tuberculosis in childhood and follow up the case so that the child will not develop full tuberculosis—you all know how curable tuberculosis is in childhood—then we shall strike at the root of the problem. Herein, I believe, lies one of the most important parts of our diagnostic work in regard to tuberculosis.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: In regard to the use of tuberculin, I am midway between Dr. Evans and Dr. Knopf. Some years ago, I was using it a little and then I declared that I would never use it again. Then I used it again for a while, and then I declared I would never use it again. I am there just now. I think I shall never use it again. Of course, there are various forms of tuberculin. Dr. Smithies emphasized the point that we should know what we are using when we use tuberculin. Tuberculin is generally prepared by concentrating a glycerin culture of the bacillus of tuberculosis. In some cases the so-called tuberculin is precipitated with alcohol and re-dissolved in water and re-precipitated, etc.; in some cases it is not. More or less of the tubercle bacillus has gone into the solution. It is a powerful mixture, and we now know certainly that a proteid substance injected into the human body or administered intravenously, subcutaneously, intracranially, intra-abdominally or anywhere except in the mouth, may act as a poison. If you give two injections of egg-white at intervals, you poison the subject. By giving tuberculin you render the subject susceptible to every proteid that is in the mixture. In the hypodermic use of tuberculin I think that we should be very careful and should know what it is. I am much interested in the Calmette reaction. I do not think that the time has come when we can accept it positively. There are a few cautions yet to be borne in mind in using it. We now know, what we did not know at first, that its repeated use in the same eye may bring on rather severe inflammation. I instilled tuberculin into the eyes of 108 or 110 supposedly healthy young men in my class. Six reacted. I concluded, after a physical examination and after taking the temperature, that four of those were tuberculous. I was in doubt about one, and in one I could not find evidence of tuberculosis. That led me to believe that as a diagnostic means this reaction has its value. Twenty-one days later I made a second instillation into the same eye in each one of the students. Fifty-nine per cent. of them reacted, some violently. One young man, who was quite enthusiastic in making experiments, made a third instillation in his own eye, and the inflammation that followed was extremely violent. I did not know but that it was going to be serious. The eye was kept carefully washed out with a saturated solution of boric acid, and it healed. It is dangerous to put the tuberculin too often into the same eye. In order to have a good reaction we must learn the conditions under which we give it. I think it should be applied early. It would be a great godsend if we had an absolutely safe means of early diagnosis. I think that there is one thing about the climate that we do not always realize. I say to my patients: "You are better off in Michigan under good local conditions than in Colorado under unfavorable conditions." You can prove by statistics that the best place for consumptives is in a high latitude, in a low latitude, on the land, and on the sea. The purity of the atmosphere—local conditions—is the important point. It grows on me from year to year that pure air is the best sedative we can give consumptives to allay their coughing, and in general, I think cold, pure air is more sedative than warm air.

Dr. C. L. Minor, Asheville, N. C.: My experience has taught me to believe that the tuberculin test for the presence of tuberculosis is fully justified in skilled hands and in properly selected cases, but that its indiscriminate use by members of the profession not familiar with its administration or action can be fraught with great danger. If the profession were to use it as carelessly as a doctor of whom I have heard, who, suspecting tuberculosis in a trained nurse in his employ, without making any physical examination or taking any history, told her to come to his office next morning for a test dose of tuberculin, the harm that would be done can be easily realized. Used thus, to take the place of a proper physical diagnosis, it certainly could not be recommended. Further, it should not be used simply because of doubt. Repeated examinations and great care in every step are first necessary, but if, after such repeated examinations, you have failed to find evidence of tuberculosis, although the case is very suspicious, then the test with tuberculin is justified and proper. I believe 4 mg. to be a rather dangerously large initial diagnostic dose and that the initial dose should not be over 1 mg. It also seems to me that the distribution by the board of health to the general practitioner of tuberculin for diagnostic purposes is fraught with considerable danger. As to the relative simplicity of the different methods of giving tuberculin, the subcutaneous, the cutaneous and the ophthalmic, while the mastery of the exact doses, etc., of the former, is to the beginner a little more difficult, to any one who has once learned it, the subcutaneous method is just as easy and safe, and more accurate. However valuable a therapeutic measure may be, it must be used with intelligence. Were morphin, for instance, not used in this way, the results would be disastrous. Climate must be used with discretion. But while care will always be essential to these cases, climate, combined with care, will secure results otherwise impossible.

Dr. W. A. Evans, Chicago: My reason for advocating the dosage mentioned is that the findings which result are so definite as to be unmistakable. What we are suffering from at the present time is, I believe, a lack of definiteness of conclusion. I would not say that we should do away with physical diagnosis or valuation of history; but I take exception to the view that those are sufficient in themselves. I do not believe that there is a person here to-day who, in his life work or anything else he has set himself to do, has taken the position that the situation was being met. We all know that thousands of persons are dying because physical diagnosis and valuation of history are not sufficient to make a diagnosis when the disease can be cured. Let us hold on to everything that we have, and then search for everything that we can find. We have heard here that the indiscriminate use of tuberculin in the hands of the unskilful is fraught with danger. I trusted that we might have proof that it was fraught with danger. I have been told that this diagnostic agent should be limited to the hands of the skilful. I have yet to find any sign by which the skilful are to know that tuberculin will do harm. Until they can, I do not see why we should limit it to the hands of the skilful. I think the experiments on animals have demonstrated that it is reasonably safe. I have not yet been able to find any basis for believing that it does harm in any considerable number of cases. I do know that the valuation of history and sputum is doing harm. The consumptive at the period when there is hope for him, has to be handled by the general practitioner. I would that we could force him to go to men like Knopf who can diagnose consumption when it is curable, or Miner, but I believe that you are all of the opinion that this ideal condition will not prevail in this country. I have seen consumptives by the score going down before death cursing the members of the medical profession because they had not been told they were consumptive until they learned that there was nothing in store for them but death. We have heard that one physical examination at the hands of a man as experienced as Dr. Knopf and as Dr. Miner is not enough. We have heard that the continuous examination will eventually reveal the presence of tubercle bacilli. That is probably true. I remember that tubercle bacilli were found in a case in which they had not been found in thirteen examinations. I have been told of a case in which tubercle bacilli were found on the sixtieth attempt. You all know that when the bacillus is found on examination, the adjudication is made from one examination, and there is danger that a man will fail in his diagnosis by reason of the fact that the other fifty-nine examinations will not be made. A promiscuous use of tuberculin may here and there rarely do harm to some individual. I believe that at the same time the promiscuous use of tuberculin will mean a saving of human lives.

Dr. Vaughan has told us that the tubercle body is a multiple body, a compound, and when we inject it into our patients we poison those patients. The same holds true of morphin and chloroform. The fact is this: Everything which is powerful for good may be made powerful for harm, and the argument based on the fact that tuberculin contains poison is no better against the use of tuberculin than a parallel argument would be against the use of morphin. It does not touch the vital question, and that is: Do we add to the possibility of the discovery of the tubercle bacilli by using tuberculin? The old idea, it seems to me, has been refuted. I believe that the action on the part of the Department of Health of the City of Chicago in distributing tuberculin for the use of general practitioners will mean a saving of the lives of many of its own citizens.

Dr. Theodore B. Sachs, Chicago: The question arises if a timely and proper use of tuberculin and a correct interpretation of the resulting reaction does not require as much application and knowledge as an intelligent study of the personal history of the patient and a thorough physical examination of the chest. As an adjunct to the usual diagnostic methods, when examination and history are inconclusive, the tuberculin test has its field of application in the hands of an experienced practitioner, but always under conditions such that a proper observation of the case is possible. A point of practical importance, not to be overlooked, is the occurrence of tuberculin reaction in so-called latent cases of tuberculosis, a reaction which does not point necessarily to need of sanatorium treatment, but still is instrumental in putting the physician and patient on guard. While the practical value of ophthalmic and cutaneous tuberculin tests is still *sub judice*, the work of Birch-Hirschfeld, Calmette, Pirquet and others opens a way to modifications in the tuberculin test, divesting it of any possible harmful effects and yet preserving its reliability.

Dr. J. W. Shankland, St. Louis: I made a report on 142 cases of conjunctival and cutaneous tuberculin reaction before the St. Louis Medical Society last winter. In order to determine whether the reactions were produced by the tuberculous toxins or not, we first used the different diluting fluids and the glycerin bouillon in which no bacilli had been grown, both on the conjunctiva and the skin as controls with negative results. When tuberculin was added to these same diluting fluids, giving some positive results, it was proof enough that the tuberculin was the cause of the reaction. By physical examinations and microscopic work the cases were classified as follows: 1, positively tuberculous; 2, suspected tuberculous; 3, non-tuberculous with other diseases, and 4, clinically normal individuals. The general average of the cutaneous reactions in these four classes of cases shows about 50 per cent. positive. In this series of cases the conjunctival reaction fell to 25 per cent. positive. The cases in Class 3, of other diseases, gave a general average of 37 per cent. positive reactions in the 700 patients inoculated. The results of the various men working with tuberculin vary so greatly, both in the work with animals and in that with people, that at times their reports are precisely opposite; thus destroying confidence in both the conjunctival and the cutaneous reactions. I think that a great deal of work must yet be done with tuberculin before we can come to a definite conclusion as to its real diagnostic value. It would therefore be infamous to advise an individual giving a positive result to either of these reactions to leave his business and his family to seek a different climate. It is impossible to make the diagnosis without the corroboration of other findings. If tuberculin is a specific, then such advice would be possible without the consideration of other facts. As it now stands, tuberculin may be an aid to diagnosis in adults, and yet there is a great deal to be proved as to just what value as an aid these reactions are in the adult cases. Dr. Engelbach, my associate in this work, has inoculated a large number of perfectly healthy individuals in the St. Louis University; among them, a number of football players and athletes in the pink of condition. He reports positive cutaneous reactions in 50 per cent. and positive conjunctival reaction in 25 per cent. of this series of cases. We have simultaneously inoculated patients on the skin and in the eye, and would get a positive conjunctival reaction in a given case, with a negative cutaneous reaction, while in another case the result would be the reverse. We must account for this variance, and how are we going to do this in a perfectly healthy individual? To prove the relations of these reactions to the pathologic conditions found seems to me as impossible as it is to send a telegram from one city to another with the wires severed midway between the starting point and the finish. We put a drop of tuberculin in the eye, and we see the reaction follow; there the message stops. What is back of that reaction in the way of a lesion we are unable to say because we get positive reactions when no pathologic findings are present, and the degree and the kind of reaction bear no definite relation to the location, extent or activity of the lesion when one is found at autopsy. Every symptomatic message should be traceable to a functional or pathologic base.

Dr. H. M. Kinghorn, Saranac Lake: It is our custom at Saranac Lake to begin with a small dose of tuberculin. Of course, we do not give the tuberculin test to any patient until we have used all other tests in making the diagnosis. When we have made a careful examination of the chest and of the sputum, if we think that there is tuberculosis present, we then give the tuberculin test. First of all, we take the temperature every two hours for two or four days. We give the test only if there is no elevation over 99.2. We then give the first test of 0.5 mg. in the evening. We regard a reaction of one whole degree above the highest point of the temperature on the previous days as definite and an elevation of less than a degree as suspicious. We then wait until the temperature has become normal and we either repeat that dose or give a larger dose. I feel that it is wiser to increase the dose from 0.5 to 2 mg., so that within two days or three days we give a second dose of 2 mg. If we get a definite reaction, of course that makes the diagnosis. If we don't get a definite reaction from 2 mg. we increase to 5 mg. after an interval of two or three days, and then to 8 and 10 mg. at intervals of two or three days. It is a very valuable thing in some cases in which the disease is strongly suspected to repeat the dose of 10 mg. I am quite sure that some cases are missed if one does not go to 10 mg. I have used the test for ten years and I have never had any bad results. Of course, the cases in which it was used were incipient cases or they would not have had the test. They were without fever. The only danger I can see in the test is from the reaction. In addition to using tuberculin for test purposes I have used it for treatment, treating as many as twenty patients in private practice at one time. All these patients will some time or another have a reaction, and I have no fear from the tuberculin reaction. Sometimes the reaction may be prolonged for several days or even a week, but I would console the beginners who are using tuberculin by saying that the temperature will become normal if they will only keep their patient quiet and absolutely at rest. I feel as strongly as Dr. Evans and Dr. Miner do about the great value of the test. I think it is one of the finest things we have in medicine. Of course, it is to be used with great care, and the dose should be put up by some one who has had experience in the metric system when the general practitioner intends to give tuberculin injections. There will then be no mistake in the dosage.

Dr. C. C. Browning, Los Angeles, Calif.: I endorse what Dr. Evans and Dr. Kinghorn have stated. I think dosage depends somewhat on how we are going to control our patients. In a sanitarium, where I expect to have the patient under my control, I much prefer the small dose. In addition to watching over the temperature I watch over the physical signs. Of course, I use the tuberculin test only when it is necessary to clear up an obscure case. If there have been suspicious symptoms they will be frequently augmented. It is possible that the temperature rise may be brought about by nervousness. At the time I am taking the temperature I am constantly watching until I become quite familiar with those signs. If my patient happens to be one from whom I am not likely to hear again, and it depends on what we do at one time for him, then I think that probably the larger dose is better. I have no fear of the ordinary tuberculin reaction. I have used tuberculin for years, and for the past few years have had from 75 to 100 patients under my care continuously, and any ordinary reaction I think is absolutely without danger. I think one of the great opportunities for preventive medicine is to begin teaching in the schools. We should give the pupils good ventilation. If a tuberculous patient is to be treated in a home success will be attained by making home conditions approach those of a sanitarium. I do not feel that, because it is possible that a person's temperature may be raised by the direct rays of the sun, therefore a climate in which there is a great amount of sunshine may necessarily be detrimental to that person. I do not think that there is any "best" climate for all patients. Each patient should be studied carefully, thoroughly and scientifically before a climate is recommended, just as before the administration of any medicine.

Dr. Gordon Wilson, Baltimore: I do not think that enough stress has been laid on the dangers of the ophthalmic reaction. The European papers have mentioned a considerable number of cases of ulcer of the cornea and recurrent conjunctivitis following its use. My experience in its use has been only in the case of persons suspected of having the disease. I have had nearly one hundred cases, and so far the reactions have not been very severe. The most severe results that I have had have been edema about the eyes, and conjunctivitis, lasting about a week. In Baltimore there has been one bad case of ulcer of the cornea in a child who had bone tuberculosis, to whom a single dose was given according to Calmette. It was in a hospital for tuberculous children, where the chances for secondary infection were slight, and as soon as the reaction took place the usual treatment for conjunctivitis was instituted. I heard night before last of a doctor in Denver, Colo., who tried it on himself, and he had a severe conjunctivitis. Since then he has noticed that after reading late at night the conjunctiva of that eye is markedly injected on the following morning. I think that we are dealing with a dangerous agent, dangerous because used on a very important organ of the body. The danger of secondary infection is present in both the ophthalmic and the skin test, but there is less danger from secondary infection when injected in the skin.

Dr. C. H. Johnston, Grand Rapids, Mich.: What constitutes a reaction? Dr. Kinghorn says that a reaction in his mind simply consists of an elevation of temperature of one degree. This is not the belief of all of Dr. Kinghorn's colleagues. Two of them have told me repeatedly that, in addition to the elevation of temperature, there must be some other indication, such as backache, or headache, or muscular pains. In Dr. Kinghorn's opinion, is a simple rise of temperature alone, without any other indications, enough for us to base a diagnosis of a reaction on? I hope to-day to get some definite information on the relative importance or reliability of the ocular as compared with the hypodermic test, because in the last few months, in ten different cases, I got no reaction with the eye test, but got a reaction with the hypodermic test. One of my friends said to me that it was probably due to the material that the test was made with, but the material in these cases was the same as was followed by positive reaction in other cases.

Dr. H. M. Kinghorn, Saranac Lake: The temperature is the important point in a reaction. When you have a temperature of one degree over the highest previous temperature, and that one degree of temperature has been rising slowly, any one who has had any experience with the tuberculin reaction will understand that this is characteristic. The temperature rises slowly, and then drops. Even without other symptoms I regard it as very definite. You only occasionally meet patients who will have a temperature of 101 without any other constitutional symptoms except a rapid pulse. That occasionally occurs. Usually, however, with that rise in temperature you will have a definite feeling of malaise, which accompanies the tuberculin reaction, also headache, loss of appetite, pains and aches all over, and very frequently a large lump at the seat of the injection. All this constitutes a tuberculous reaction. However, where the temperature rises slowly I regard it as a definite reaction without those symptoms.

Dr. S. H. Gilliland, Marietta, Pa.: I have prepared much of the tuberculin for use. It has been said that tubercle bacilli may be found in suspension. If the tuberculin is prepared according to the original method of Koch it is impossible to have tubercle bacilli in suspension. As Dr. Vaughan said, after they have grown on the glycerin beef broth the tubercle bacilli are then removed from the beef broth by triple filtration. You must see that the filter is efficient and that the organisms do not go through. The filters I use are tested in this way: A virulent culture of tubercle bacilli suspended in salt solution or media is filtered and the filtrate injected into guinea-pigs, thus determining the efficiency of my filters. I can then feel positive that the filtrate is free from tubercle bacilli. Dr. Smithies brought out the point that for human beings afflicted with tuberculosis the tuberculin should be made from the tubercle bacilli of human type. I am at a loss to understand that statement, as I have made tuberculin from tubercle bacilli of bovine type, and have obtained equally reliable results. It is an accepted fact that a number of cases of tuberculosis are of direct bovine origin. I have supplied material for about 12,000 tests. That excludes the subcutaneous test, but of the other tests the majority were ophthalmic. I have heard of no bad or unsatisfactory results. I have heard of all the work that has been done in this country through the use of my tuberculin, bad and good, and in a series of cases in which a man made three tests in one person the results were almost absolutely uniform. That has not been the case in certain other countries. The eye test has given a positive reaction and the cutaneous test has failed, and vice versa. In these cases the tuberculin was all prepared from the same strain of tubercle bacilli. I believe that the eye test is one with which a certain degree of danger is associated, and I do not believe that the physician is fully justified in using it freely to diagnose any condition in the body; that is, provided we have another test, and I feel that we have other tests that are equally reliable, at any rate in children. Whether they are so in adults remains to be seen.

Dr. M. P. Ravenel, Madison, Wisconsin: I agree with what Dr. Kinghorn has said most thoroughly and believe that tuberculin should be used in every doubtful case. I am sorry that Dr. Knopf has apparently approved the diagnosis by bacilli in the sputum. I think that is one of the worst doctrines that has ever been taught in regard to diagnosis, and am thoroughly convinced that it is responsible for the death of many people. Bacilli can appear in the sputum only after softening and breaking down of the tubercle has taken place. In the great majority of cases this means secondary infection, and a diagnosis based on such findings can not be considered an early one. I believe that the tuberculin test in doubtful cases will enable us to make a much earlier diagnosis than this, and in this way many lives will be saved. I can not entirely agree with Dr. Evans as to the wisdom of putting it in the hands of general practitioners, although I have no doubt that every educated physician can learn its proper use. At the present time it is best used by specialists. I can not agree that this is saying anything against the practitioner, any more than it is to say that the general practitioner should not attempt an oöphorectomy. I am sure that the general physician does not regard it as an attack on him when one advises that cases of surgery go to a surgeon, and at the present time it is the same thing with regard to the tuberculin test. In regard to what constitutes a reaction, if temperature alone is taken as an index, mistakes may be made. It is, of course, a part of the symptom-complex, and a most important part, but should be taken in connection with all other symptoms, subjective and objective. The diagnosis should not be made on any one particular symptom. The point made by Dr. Sachs is well taken. I have recently, in some experiments with tuberculin in the shape of ointment, observed a typical reaction in two men who were in the best of health, one of whom more than a year ago had a cutaneous tubercle. Neither of these men was a subject for sanitarium treatment. While these are special cases, there are many others who will give the tuberculin reaction but who are not fit subjects for sanitarium treatment.

Theoretically, the proposition was correctly stated by Dr. Knopf, that the climate which enables the patient to spend the greatest amount of time in the open air with least expense of vital force is the best one for the treatment of tuberculosis. Practically, this does not seem to hold true. I do not know of any place in any country where better results are obtained than at Saranac Lake, and yet it can not be called an ideal climate according to the standards laid down. I believe that there are certain patients who do better in a selected climate, but that most patients should be treated as near their homes as possible. Sending people hundreds of miles away from home without friends and without money is one of the most cruel things that can be done. More important than climate is the personality of the attending physician. The man who has his patients under strict discipline and who is able to inspire them with hope and courage is the man who gets the best results regardless of what the climate is.

Dr. Charles L. Minor, Asheville, N. C.: I admit that climate without care is almost useless, since the results obtained will be only temporary; but I also maintain that except in unusually favorable cases the best results are not likely to be obtained with care but without climate, and any one, by the use of a little thought, must realize, unless he is so prejudiced as to have his mind closed to conviction, that the combination of these two good things will give the best results.

Dr. S. A. Knopf, New York: About ten years ago, in my first book, I stated that to find the bacilli was absolute proof of the presence of tuberculosis and that not finding them did not exclude the possibility of a pulmonary tuberculosis. I stated distinctly this morning that, as a rule, we find the bacilli only when disintegration has taken place, but this should not be an excuse for not looking for them. I also have been misunderstood in regard to my attitude as to tuberculin. We have now some tuberculin test methods which are relatively free from danger, such as the skin method, the use of which may be justified in rare instances. After the patient's history has been taken and a careful physical diagnosis has been made, he should be informed of the consequences of the tuberculin test. His permission, and that of his family physician, and the approval of the practitioner's own conscience, should be obtained before making the test. How many of you would be willing to have 4 mg. of tuberculin injected into you without a previous physical examination justifying it as a last resort? I still plead with you not to neglect what our fathers have taught us, a careful taking down of the history, and a still more careful physical diagnosis.

Dr. Frank Smithies, Ann Arbor, Mich.: In the routine work of teaching physical diagnosis I have had ample opportunity of observing the effects of both the subcutaneous and the conjunctival reactions to tuberculin. I agree heartily with Dr. Knopf that no form of tuberculin test can take the place of accurate physical examination with the patient stripped. But there are many patients about whom, even after careful examination, one is in doubt. In these some variety of tuberculin test is indicated. I have faith in the ability of the general practitioner to make a reliable test with tuberculin subcutaneously administered, if the practitioner will only take the time to do so. In general practice the conditions are entirely different from those in hospitals or sanatoria, and as a consequence the details connected with the proper administration of tuberculin subcutaneously are more difficult to see to, and as a result the method does not always yield dependable information. I had these facts in mind when I took up the study of the conjunctival reaction, and my endeavor was to secure figures for a dependable and at the same time a conveniently carried out test. I am still inclined to the belief that where men have presented figures from sufficiently large series of cases the results have been favorable to the use of the conjunctival test. Of course, it is quite useless to compare the majority of the German reports with those from the French, inasmuch as in Germany there seems to be a prejudice against the test, largely on account of Calmette's name being associated with it. Then again, the tests have been made in Germany with a great variety of tuberculin preparations, many of which are now recognized as being unfitted for the work. I admit that here and there serious consequences have followed the conjunctival test. I called attention to four violent reactions in the work of Dr. Walker and myself this morning. I know of no case, however, in which such results have followed when the eyes were negative before the test was administered and were looked after following the instillation of the tuberculin. Regarding the different varieties of preparation used, I believe that when possible we should use tuberculin from human bacillus growths when testing human beings. In my opinion, the work of Detre with the cutaneous reaction seems to prove that more distinct manifestations are secured in tuberculous subjects when tuberculin from human bacillus growths are used, in preference to bovine bacillus growth tuberculin. I believe that many of the commercial tuberculin "discs" are not dependable.

THE DIAGNOSTIC VALUE OF THE CUTANEOUS AND CONJUNCTIVAL TUBERCULIN REACTIONS *

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AND

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ST. LOUIS

In endeavoring to arrive at definite conclusions as to the diagnostic value of the recent local tuberculin reactions, we have made a study of the literature on this subject to May 1, 1908, to which we have added the results of personal observations on 1,242 cases. The review of the literature includes the opinions of nine authors on their results with animal experiments; the reports of 41 authors on 5,032 cases of all ages subjected to these reactions, 3,477 to the conjunctival reaction and 1,546 to the cutaneous reaction. Our own investigations were made on adults only at the St. Louis City Hospital and the St. Louis University Medical School. They consist of 499 cutaneous reactions and 743 conjunctival reactions on 125 positive tuberculous cases, 190 suspect tuberculous cases, 700 other diseases not tuberculous clinically and 90 clinically normal individuals. The sum total of all cases considered is 6,305.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

* Owing to lack of space, the article is here abbreviated by the omission of the portions relating to technic and histology as well as some of the case reports and tables. The complete article appears in the Transactions of the Section and in the authors' reprints.

ANIMAL EXPERIMENTS

Lignieres[15] and Valle[16] produced positive conjunctival and cutaneous reactions in tuberculous cattle and horses, and constantly obtained negative reactions in these normal animals. Klemperer[17] observed only one negative cutaneous and conjunctival reaction in a series of tuberculous cattle. Positive reactions have been demonstrated by Valle[16] in tuberculous dogs and rabbits, and by Klemperer in guinea-pigs and dogs. Wildbolz's[18] autopsy findings in rabbits confirmed the value of these reactions. He obtained negative results with both these reactions in twenty normal rabbits which, with one exception, gave positive reactions to both tests six weeks after they had been inoculated in the bladder with tubercle bacilli.

Necker and Paschkis[19] report that the inoculation of animals has confirmed the value of the cutaneous reaction in tuberculosis of the genitourinary tract. In forty-two suspected cases of genitourinary tuberculosis in the human they had only one positive cutaneous reaction which was not substantiated by animal inoculation of urine. Notwithstanding the above favorable reports, a majority of the investigators have reported unsatisfactory results with these experiments. Arloing[20] observed in nineteen tuberculous animals (cats, goats, dogs, rabbits and guinea-pigs) a positive cutaneous reaction which could not be considered specific, however, because the identical reaction occurred in nine normal control animals.

Joannowics and Kapsammer[21] obtained negative results with both reactions in a large series of tuberculous guinea-pigs. Levi and Klopstock[22] did not obtain a positive conjunctival reaction in the series of tuberculous guinea-pigs and dogs. Vaccination of tuberculous guinea-pigs with from a 1 per cent. to a pure solution of tuberculin constantly gave negative results. One animal gave a positive conjunctival reaction and on postmortem no tuberculous lesion was found. One which had given a positive conjunctival reaction to a 1 per cent. solution was free of tuberculous lesions at autopsy. Wolff[23] did not produce positive reactions in tuberculous guinea-pigs or rabbits, although these animals gave positive reactions to the subcutaneous test. From these investigations one must infer that the results of this research have been so variable as not to aid the establishment of the specificity of these reactions.

POSITIVE TUBERCULOSIS

Cutaneous Reaction.—In 500 cases of positive tuberculosis, in patients between the ages of 5 and 14 years, von Pirquet reports 88 per cent. positive and 12 per cent. negative reactions. In a series of 143 cases (Table 1), of patients of all ages compiled of seven different authors, 70 per cent. gave positive reactions and 30 per cent. negative. In our own investigations of 55 cases (Table 10) 31 or 56 per cent. of the patients gave positive reactions, and 24 or 44 per cent. negative. A majority of our patients were in the third stage.

Conjunctival Reaction.—Of 1,572 cases by 30 different authors (Table 5) selected from the literature, 86 per cent. of the patients gave positive and 14 per cent. negative reactions. Schroeder and Kaufman[24] (Table 9) from a collection of 971 cases report that the patients in 88.5 per cent. gave positive and in 11.5 per cent. negative reactions. Our own results (Table 10) in the positive tuberculous cases with the conjunctival reaction was that of 70 patients 52 or 74 per cent. were positive and 18 or 26 per cent. were negative. The majority of these patients also were in the third stage. Wolff[23] found 30 per cent. of the patients in the first and second stages of tuberculosis reacted negatively to the conjunctival test and 37 per cent. negatively to the cutaneous reaction. Heinemann reports six cases of patients in the first and second stages of tuberculosis and Levi[22] four cases of patients not in the advanced or cachectic stages of tuberculosis (one of the kidney, one of the prostate, two of the knee-joint), which gave negative reactions. Webster and Kilpatrick[25] report cases of patients with beginning tuberculosis which gave negative conjunctival reactions. Mentoux[26] obtained negative conjunctival reactions in ten positively tuberculous children in the first stages of disease, MacLennan[27] obtained negative reaction in early tuberculosis (patients with hip disease in good condition and in two patients with phthisis which reacted positively to 10 mg. of tuberculin (O. T.) subcutaneously). Kleinberger[28] reports 7 negative and 2 doubtful reactions of 17 patients with not advanced tuberculosis.

SUSPECTED TUBERCULOSIS

Cutaneous Reaction.—in a series of 23 cases of children von Pirquet[1] reports 5 positive and 18 negative reactions. The patients in the 5 positive cases proved to be tuberculous and 15 of the patients in the negative cases were found to be free from tuberculosis at necropsy. In 195 cases of five authors (Table 2) 55 per cent. of the patients reacted positively, 44.5 per cent. negatively and in 0.5 per cent. the results were doubtful. In our own results (Table 11) of 55 patients with suspected tuberculosis other than pulmonary (arthritis, adenitis, peritonitis, meningitis, etc.) 30 or 55 per cent. reacted positively and 23 or 45 per cent. negatively. In 42 patients with clinical symptoms of pulmonary tuberculosis (Table 12) 28 or 67 per cent. reacted positively and 33 per cent. negatively.

Cutaneous Reaction.—In a series of 23 cases of chil-(Table 6) 48 per cent. of the patients reacted positively, 50 per cent. negatively and in 2 per cent. the reaction was doubtful. Schroeder and Kaufman[24] (Table 9) reported practically the same percentage, 51.4 per cent. positive and 48.6 per cent. negative. For our own results (Table 11) in 40 cases other than pulmonary 21 or 52 per cent. of the patients resulted positively and 19 or 48 per cent. negatively. Of 52 patients with the clinical symptoms of pulmonary tuberculosis 15 or 28 per cent. reacted positively and 38 or 72 per cent. negatively (Table 12).

OTHER DISEASES CLINICALLY NON-TUBERCULOUS

Cutaneous Reaction.—Of 252 cases in the literature (Table 3) 15 per cent. of the patients reacted positively and 85 per cent. negatively. In our own results (Table 14) in 268 cases 149 or 56 per cent. of the patients reacted positively and 119 or 44 per cent. negatively.

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[15] Semaine méd., 1907, p. 585.

[16] Acad. d. sc., May 27, June 17, 1907; Semaine méd., 1907, pp. 85, 399.

[17] Deutsch. med. Wchnschr., 1908, No. 4.

[18] Berl. klin. Wchnschr., March 16, 1907.

[19] Wien. klin. Wchnschr., March 5, 1908.

[20] Soc. de biol., June 22, 1907.

[21] Berl. klin. Wchnschr., 1907, No. 45.

[22] Berl. klin. Wchnschr., Feb. 3, 1908. Deutsch. klin. Wchnschr., No. 3, 1908.

[23] Berl. klin. Wchnschr., Feb. 10, 1908.

[24] München. med. Wchnschr., Jan. 14, 1908.

[25] Brit. Med. Jour., Dec. 7, 1907.

[26] French Congress for Internal Medicine, Paris, München. med. Wchnschr., Jan. 14, 1908.

[27] Brit. Med. Jour., Dec. 7, 1907.

[28] München. med. Wchnschr., Jan. 14, 1908.

Conjunctival Reaction.—From a total of 932 cases collected (Table 8) the reactions of the patients in 17 per cent. were positive and in 83 per cent. negative. Schroeder and Kaufman[24] (Table 9), on a basis of 627 cases, found the patients' reactions in 12.7 per cent. positive and in 87.3 per cent. negative. Our own results (Table 13), with 417 patients, gave 102 or 24 per cent. positive and 315 or 76 per cent. negative. Cohn[9] produced positive reactions in 38 per cent. of the cases of typhoid. Plehn[29] obtained positive reactions in 2 of 5 patients with typhoid, 2 of 5 patients with scarlet fever, 6 of 12 patients with articular rheumatism, 3 of 6 patients with acute bronchitis, and in 3 patients with enteritis. In none of these patients was there the slightest evidence of tuberculosis. In one case, a pregnancy complicated with pleurisy, a positive reaction occurred from a 1 per cent. solution, and in the other eye two weeks later a negative reaction occurred from a 2 per cent. solution. In a case of articular rheumatism the patient gave a positive reaction during the activity of the symptoms. The symptoms of rheumatism promptly subsided on the administration of salicylates, but two weeks later returned and, simultaneously, without installation, a marked conjunctival reaction recurred in the eye previously instilled. Reuschel[30] reports one case of a patient with leukemia (free from tuberculous lesions at autopsy), which gave a positive reaction. Blum[31] obtained 16 per cent. of positive reactions in non-tuberculous diseases. Fiseu[32] observed positive reactions in 31 per cent. of various non-tuberculous infections. Serafini found that the ocular reaction is not conclusive in tuberculosis of the bone. The reaction was positive in certain gonorrheal, senile and other non-tuberculous articular affections.

CLINICALLY NORMAL INDIVIDUALS

Cutaneous Reaction.—Of 181 cases selected from the literature (Table 4) 91 or 50.2 per cent. of the patients gave positive and 49.8 per cent. gave negative reactions. The patients were of all ages. Burnet[13] reports positive cutaneous reactions in non-tuberculous people. Kleinberger obtained positive reactions in 16.6 per cent. of normal individuals. Stadelman[33] obtained positive reactions in 50 per cent. of adults. Warfield[34] reports 7 positive reactions in apparently normal individuals (1 in a 7-months-old baby and 6 in adults). von Pirquet[1] has found that in individuals from 10 to 14 years of age 55 per cent. and in adults 90 per cent. reacted positively. Freer obtained 35 per cent. of positive reactions in patients between the ages of 10 and 15 and Mainini[35] obtained positive cutaneous reactions six times more frequently than conjunctival reactions.

Conjunctival Reaction.—Of 351 cases selected from the literature (Table 8) 11 per cent. gave positive reactions and 88 per cent. negative and 1 per cent. doubtful. Smithies and Walker[36] obtained negative reactions in 70 apparently normal individuals. Webster and Kilpatrick[25] observed two positive reactions in four normal individuals. Mentoux[26] produced positive reactions in 16 children in only 3 of whom was there a slight suspicion of tuberculosis clinically. Stadelmann[33] obtained positive reaction in 16 per cent. of normal individuals. Baldwin[8] obtained 16 positive reactions in 57 normal individuals or a percentage of 28.

Our own results of clinically normal individuals were obtained from experiments on students of the St. Louis University. These students were apparently healthy and many of them were active athletes, such as football men. Of a total number of 90 patients (Table 14) subjected to these reactions 79 were given the cutaneous and 70 the conjunctival, the entire number not taking both reactions. Of 79 cutaneous reactions 41 or 51 per cent. were positive, 18 negative and 20 doubtful, or 49 per cent. negative or doubtful. In 70 of these the conjunctival reaction in 18 or 25.5 per cent. was positive, in 46 negative and in 6 doubtful, or 74.5 per cent., was negative or doubtful. In 63 of these students who volunteered to take both reactions at the same time, the following remarkable results were obtained: In 43 per cent. both reactions were negative or doubtful; in 19 per cent. both reactions were positive; in 33.3 per cent. the cutaneous was positive and conjunctival was negative; in 4 per cent. the cutaneous was negative and the conjunctival was positive; 57 per cent. reacted positively to either one or both; 52 per cent. gave positive cutaneous, and 23 per cent. positive conjunctival reaction.

Of the students who gave positive reactions six gave histories of either having tuberculosis in the family or of exposure to tuberculosis. In over twenty who were examined no clinical evidence of tuberculosis could be demonstrated. Two of the students who gave positive conjunctival reactions had chronic conjunctivitis. In three of the students conjunctival reactions were produced which required treatment. In one case a marked phlyctenular conjunctivitis, and in another edema of the eye-lid with a severe conjunctivitis occurred.

SUMMARY

We must agree with Smithies and Walker[36] that the failure of definite conclusions with regard to these reactions in the above cases is to a certain extent due to poor technic, difference in the tuberculin preparation, absence of more positive control than the clinical findings, indefinite standard of reactions and the presence of unknown conditions which modify or prevent these reactions. Whether or not all of the above difficulties will ever be satisfactorily overcome, from the present status of the accumulated report on these reactions in adults, we deduce the following marked inconstancy with regard to their value as diagnostic agents:

SUMMARY OF ALL CASES CONSIDERED

CUTANEOUS REACTIONS

	No. Cases.	Per c't. Pos.	Per c't. Neg.
I. PositiveTuberculosis.			
Seven authors (Table 1)	143	70	30
Engelbach and Shankland (Table 10)	55	56	44
II. Suspected Tuberculosis.			
Five authors (Table 2)	195	55	45
Engelbach and Shankland (Table 11)	190	61	39
III. Other Diseases.			
Five authors (Table 3)	252	15	85
Engelbach and Shankland (Table 13)	268	56	44
IV. Clinically Normal.			
Four authors (Table 4)	181	50	50
Kleinberger	...	17	83
Freer (10 to 15 years)	...	35	65
Stadelmann	...	50	50
Engelbach and Shankland (Table 13)	517	24	76
Pirquet (10 to 14 years)	...	55	45
Pirquet (Adults)	...	90	10

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29. Deutsch. med Wehnschr., Feb. 20, 1908.
30. München. med Wehnschr., Feb. 25, 1908. Reuschel quotes a case of leukemia reported by Escherich[67] in which there was a marked reaction to an injection of 4 mg. tuberculin (O. T.).
31. München. med. Wehnschr., Jan. 14, 1908.
32. Beitr. z. Klin. d. Tuberk., viii, No. 4.
33. München. med. Wehnschr.. Jan. 14. 1908.
34. THE JOURNAL A. M. A., Feb. 29, 1908, l, 687; Interstate Med. Jour., March, 1908.
35. München. med. Wehnschr., Dec. 17, 1907.
36. THE JOURNAL A. M. A., Jan. 25, 1908, l, 259.

Conjunctival Reactions

	No. Cases.	Per c't. Pos.	Per c't. Neg.
I. PositiveTuberculosis.			
Thirty authors (Table 5)	1572	86	14
Schroeder and Kaufman (Table 9)	971	85.5	11.5
Engelbach and Shankland (Table 10)	70	74	26
II. Suspected Tuberculosis.			
Twenty-two authors (Table 6)	642	48	52
Schroeder and Kaufman (Table 9)	284	51	49
Engelbach and Shankland (Tables 11-12)	190	40	60
III. Other Diseases.			
Nineteen authors (Table 7)	932	17	83
Schroeder and Kaufman (Table 9)	627	13	87
Engelbach and Shankland (Table 13)	517	24	76
IV. Clinically Normal.			
Eight authors (Table 8)	351	11	89
Stadelmann	...	16	84
Engelbach and Shankland (Table 14)	79	25.5	74.5
Baldwin	70	28	72

In positive tuberculosis the negative cutaneous reactions have varied from 30 per cent. to 44 per cent., and the negative conjunctival reactions from 11.5 per cent. to 26 per cent. It has been conceded from the first that patients with advanced tuberculosis give negative reactions. The later reports, however, of Wolff, Levi, MacLennan, Kilpatrick, Klemperer and others prove that patients in the first and second stages of tuberculosis, in good condition, also frequently give both cutaneous and conjunctival negative reactions. Negative reactions in beginning tuberculosis have been reported in as high as 30 per cent. to 37 per cent. of the cases by Wolff.

In suspected tuberculosis there is a constant finding in the hands of different men of about 50 per cent. negative and 50 per cent. positive reactions. The positive reactions in these cases have varied from 40 per cent. to 48 per cent. with the conjunctival reaction, and 55 per cent. to 61 per cent. with the cutaneous reaction.

In other diseases not considered tuberculous clinically the percentage of positive reactions has varied from 15 per cent. to 56 per cent. with the cutaneous and from 13 per cent. to 24 per cent. with the conjunctival.

In clinically normal individuals there has been a wide range of difference with the positive reactions. These have ranged from 17 per cent. to 90 per cent. with the cutaneous reaction, and from 11 per cent. to 28 per cent. with the conjunctival reaction.

In comparing the table of cases selected from the literature one is struck with the same amount, practically, of positive reactions which occur in non-tuberculous diseases and clinically normal individuals. In comparing the suspected with the positive tuberculous cases compiled, the difference is not enough to warrant positive conclusions.

	Cutaneous.		Conjunctival.	
	P.C. Pos.	P.C. Neg.	P.C. Pos.	P.C. Neg.
Positive Tuberculosis	56	43	74	26
Suspected Tuberculosis (not pulmonary)	55	45	52.5	47.
Suspected Tuberculosis (pulmonary)	67	33	28	72
Other Diseases (non-tuberculous clinically)	56.5	43.5	24	76
Clinically normal individuals	51	49	25.5	74.5

In our own work, which is shown in the above table, the cutaneous reaction in the five conditions (positive tuberculosis, 56 per cent.; suspected tuberculosis, not pulmonary, 55 per cent.; suspected pulmonary tuberculosis, 67 per cent.; other diseases, 56 per cent.; clinically normal individuals, 51 per cent.) was practically the same percentage. Our cases of positive conjunctival reaction in suspected pulmonary tuberculosis (28 per cent.), other diseases non-tuberculous clinically (24 per cent.) and clinically normal individuals (25.5 per cent.) also occurred practically in the same relative number of cases.

Clinically Normal Individuals Subjected to Both Cutaneous and Conjunctival Reactions

	No.	Per Cent.
Individuals	63	..
Positive reactions	36	57
Positive cutaneous reactions	33	52
Positive conjunctival reactions	15	23
Positive cutaneous, negative or doubtful conjunctival	21	33
Positive conjunctival, negative or doubtful cutaneous	3	4

Furthermore, a perusal of the above table will demonstrate that these reactions are very variable in normal individuals, i.e., one reaction will be present in the absence of the other one without any definite relation or apparent cause for this variation. We have also observed this variance in known tuberculous cases and in other diseases not considered tuberculosis clinically.

LOCAL LESIONS OF THE EYE

It has already been established that a number of diseases of the eye, tuberculous and non-tuberculous, will in themselves give positive reactions and absolutely interdict the use of the conjunctival reactions. These conditions of the eye necessarily restrict the use of this reaction in a high percentage of cases. The lesions of the eye may be so slight as to be entirely overlooked by those not especially skilled in the diagnosis of eye diseases. It is probable that in two of our normal cases in which the patients gave positive eye reactions, that this reaction was due entirely to a slight chronic conjunctivitis which was not observed previous to the instillation. The above facts probably account for many of the positive reactions which are credited to non-tuberculous diseases.

THE SPECIFICITY OF OTHER TOXINS

In attempting to determine the specificity of tuberculin reactions it is necessary to consider the specific reactions of other toxins applied in this manner, especially those reactions produced or present in other diseases with tuberculin and the reactions produced in tuberculosis by other toxins.

Our own observations with the use of typhoid toxins in known tuberculous cases and other diseases (Table 15) are as follows: We instilled 78 patients with this toxin. Of 48 positive tuberculous patients 8 reacted positively in the first 36 hours. Only 2 of these reactions remained positive after the first 36 hours. None of these patients gave a history of typhoid. Of the 29 patients with other diseases not tuberculous, 1 reacted markedly and 2 gave mild reactions after 24 hours. None of these three patients had had typhoid. Among these cases, however, were three typhoid patients, of whom one gave a negative, and 2 gave slight reactions after 36 hours. We used in this series of typhoid toxin instillation 1 per cent. and 2 per cent. toxin furnished us by the Alexander Laboratory. This laboratory did not recommend the toxin on account of having some difficulty in providing a reliable one which actually contained typhoid toxin. The difficulty has been encountered by Orsvag and others who claim it is impossible to obtain typhoid toxin for this use on account of the toxins of typhoid being endotoxins.

We are led to conclude from the above that toxin reactions in general have not proved specific for the following reasons: 1. Tuberculin gives positive reactions in cases of typhoid fever; 2, typhoid toxin reactions have been demonstrated positive in tuberculosis; 3, the different toxins, typhoid, paratyphoid, colon and tuberculin have given positive reactions in the same case.

ACTIVITY OF THE LESION

Believing that both of these reactions are specific ones for tuberculosis, Wolff-Eisner, Mainini,[35] Stadelmann[33] and others maintain that they also indicate the activity and the extent of the lesion. They believe that a positive cutaneous reaction with a negative conjunctival reaction on the first instillation with a positive conjunctival reaction on the second instillation indicates a latent tubercular lesion. A positive conjunctival reaction at the first instillation is indicative of an active tuberculous lesion. Wolff-Eisner and Teichmann[57] draw definite conclusions from the onset, intensity and the duration of the cutaneous reaction to the activity of the lesion and the prognosis of the case. They have described the following three types of the cutaneous reaction:

Type 1.—The reaction begins 4 to 6 hours after vaccination, reaches its greatest intensity in 20 to 24 hours, as an elevated papule, 10 to 20 mm. in diameter, continuing thus throughout the second day, and gradually disappearing during the third and fourth day to a slight pigmented area for the course of 3 or 4 weeks. There are two varieties of this type, the "marked" and the "moderate." This type is taken to indicate incipient tuberculosis, and first and second stage of tuberculosis, of non-progressive type with a favorable prognosis.

Type 2.—This is a slight reaction characterized by rapid course of mild intensity. It begins about the sixth hour, rapidly reaches its acme, sometimes in 10 hours, when it is from 4 to 10 mm. in diameter, and rapidly disappears not later than the second day without pigmentation. It is said to occur in the third stage of tuberculosis, and in the first and second stages of unfavorable cases having a bad prognosis.

Type 3.—This is a late prolonged reaction. It begins as the other types, reaches its greatest intensity 8 to 10 mm. in diameter at the end of the second day, and persists unchanged for at least a week. It is taken to indicate latent tuberculosis.

The conjunctival reaction they say occurs only in Types 1 and 2, in varying degrees of intensity. They conclude that the cutaneous reactions show marked differences in intensity in the various forms of tuberculosis, depending on the lysis of the bacilli-débris, and the effect on the body of the toxin's set free.

In contending against the value of the diagnosis of the activity of the lesion, as claimed above, we wish to join those investigators who disagree with these authors for the following reasons: 1. Animal experimentations have not confirmed their findings; 2, positive tuberculosis of the first and second stages have given both the conjunctival and cutaneous reactions in an inconstant manner, a negative cutaneous reaction, or negative cutaneous reaction with a positive conjunctival reaction; 3, the clinical course of cases giving these reactions has not borne out their predictions; 4, not enough absolute postmortem control has been observed to substantiate their theory.

Baginsky[58] reports negative cutaneous reactions in a child in good general condition who reacted positively to 1/5 mg. tuberculin (O. T.) subcutaneously. Wolff,[23] Heinemann,[59] Levi,[22] MacLennan[27] and others have shown that negative reactions occur in the first and second stages of active, but not cachectic, tuberculosis. Webster and Kilpatrick[25] have demonstrated that the conjunctival reaction occurred in clinically quiescent and non-quiscent tuberculosis. Mentoux[26] has shown that negative conjunctival reactions occur in beginning active tuberculosis, and that positive reactions were present in non-tuberculous children.

The clinical course on positive reactions has not borne out the prognostic value of the combined reactions as demonstrated by Heinemann,[59] who reports one case of tuberculous peritonitis which gave a negative reaction with a final recovery. He also reports a case of bilateral apical lesion which was treated for many months after negative reactions, and which gave later a positive reaction. Engel and Bauer[60] found 6 cases which gave positive cutaneous reactions, five of the patients were certainly free from tuberculosis, as proved in one case by postmortem, and in four cases by negative subcutaneous reaction.

Our own observations have demonstrated a marked variability of the occurrence and intensity of these reactions which we have not been able to explain upon the activity or extent of the lesion. The relationship of these reactions either in combination or the degree of intensity of the single reaction are so inconstant that we are inclined to believe with Reuschel[30] that the reactions demonstrate at most the presence of anti-tuberculous bodies and not tuberculosis. These antibodies depend more on the resistance of the body for their productions than the extent or activity of the infection. The variability of these reactions on this basis is consequently more easily explained. It is yet to be determined, however, whether the sensibility, demonstrated by these methods, is due to antibodies or to albuminous substanes in the serum.

PROGNOSTIC VALUE

The prognostic as well as the diagnostic value of these reactions have been affirmed by the majority of the investigators as more or less certain. Some have even claimed that a negative reaction in known tuberculosis indicates a very unfavorable prognosis, death occurring in the majority of these cases within ten days. The same contention would apply to these tests as has been given above, i. e., the questionable specificity of these reactions and the inconstant relationship of the activity and extent of the lesions to the intensity of the reaction. The presence of negative reactions in non-progressive tuberculosis of the first and second stage, as demonstrated by Wolff, Heinemann, Levi, Phlen and Mentoux, and the presence of a positive conjunctival reaction with a negative cutaneous reaction in clinically normal individuals, argue against this claim for these reactions. The clin-

DURATION OF LIFE AFTER REACTIONS IN POSITIVE TUBERCULOSIS

Days from reaction to death.	Reactions.	Positive (26)	Negative (26)
1 to 10	pos. 7	*b, a, b, a, b, b, a*	*b, d, b, d, a, b*
	neg. 11	....	*b, a, a, a*
10 to 20	pos. 5	*b, b, b, a, a*	*b, b, a, a, d, e*
	neg. 6	....	....
20 to 30	pos. 6	*b, b, b, b, b, c*	*c* (112 days)
	neg. 3	....	....
40 to 50	pos. 3	*b, b, a,*	*a, b*
	neg. 2	....	....
After 50	pos. 5	*a* (120 days) *c* (87 days)	*b* (69 days) *d* (59 days)
	neg. 4	*c* (128 days) *a, d, c*	*d* (83 days) *c* (71 days)
Total	52	*c* (68 days)	

(*a*, cutaneous reaction; *b*, conjunctival reaction; *c*, both reactions positive; *d*, both reactions negative; *c*, cutaneous reaction positive, and conjunctival negative.)

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[57] Berl. med. Wchnschr., Jan. 13, 1908.

[58] Berl. med. Wchnschr., June 3, 1907.

[59] München. med. Wchnschr., March 17, 1908.

[60] Berl. klin. Wchnschr., No. 37, 1907.

ical course and postmortem findings of cases subjected to these reactions have not borne out this significance of these reactions. Known tuberculous patients have given negative reactions and then been observed for a long time or cured as reported by Heinemann,[59] Sabrazes, Duperes[14] and others.

In our own work we had 52 patients who died after being subjected to these reactions (see above table). Twenty-six of the patients reacted positively and 26 negatively. Of those who died in the first ten days, after one or the other of these reactions, 7 reacted positively and 11 negatively. Of 11 patients who died in from 10 to 20 days after inoculation 5 reacted positively and 6 negatively. Ten patients died in from 20 to 30 days after inoculation, of whom 3 reacted negatively and 7 positively. Of 5 patients who died in from 40 to 50 days after inoculation, 3 reacted positively and 2 negatively. Nine patients lived for from 50 to 128 days after being inoculated; four of these reacted negatively and 5 positively. Three patients who were not considered tuberculous clinically, and on whom the postmortem findings were negative, gave positive reactions. One of these gave a positive cutaneous reaction 6 days before death. One gave a positive cutaneous and

TABLE 1.—CUTANEOUS REACTIONS.—POSITIVE TUBERCULOSIS

Author.	No. of Cases.	Age.	Reaction.		Control Diagnosis.	Reaction.		Control Diagnosis.
			Pos.	Per Cent.		Neg.	Per Cent.	
1. Pirquet[1]		5-14		88			12	
2. Olmer and Terres[70]	37		20			11		
3. Baginsky[53]	1	Child				1		Pos. to 0.5 and 0.2 mg. sub.
4. Wolf[23]	19	17 adults, 2 child.	12	63.2	First and second stage	7	36.8	First and second stages.
5. Reuschel[30]	28		10		Tuberculosis, 7 cases, autopsy; 6 + and 1 − subcutaneous.	18		20 of this number = + clinical findings and 8 were +
	14		14					
6. Necker and Paschkis[19]	19		19		Animal inoculation			
7. Bing[71]	19		14	73.7		5	26.3	
8. Warfield[34]	12	Adult	11			1		
	143		100	70		43	30	

TABLE 2.—SUSPECTED TUBERCULOSIS

Author.	No. of Cases.	Age.	Reaction.		Control Diagnosis.	Reaction.		Control Diagnosis.
			Pos.	Per Cent.		Neg.	Per Cent.	
1. Pirquet[1]	23	Child	5		Autopsy +	18		Autopsy, 15 negative.
2. Wolf[23]	90	5-13 23 adults.	47	52.2	27 of these suspect, 16 or 59.2 per cent. = + reaction; 25 or 92.5 per cent = +, 11 subcut. Pos. findings in 7 of above 27 by x-ray.	43	47.8	
3. Reuschel[30]	14		14		Pleuritis, serose, scrofula, clinical T. B. C.			
4. Bing[71]	36		25	69		11	31	
5. Warfield[34]	32	8-51	16			16		
Total	195		107	55		88	45	

TABLE 3

OTHER DISEASES, NON-TUBERCULAR

Author.	No. cases.	Reaction. Pos.	Reaction. Per cent.	Control Diagnosis.	Reaction. Neg.	Reaction. Pr. ct.	Control Diagnosis.
1. Pirquet[1]	16	..	16				
2. Olmer & Terres[70]	17	3	..		14	..	
3. Reuschel[30]	8	..	..	Autopsy leukemia..	7	..	Autopsy subcutaneous.
	18	1	..		18	..	
4. Necker & Paschkis[19]	23	1	..	Animal inoculation.	22	..	Animal inoculation.
5. Bing[71]	186	34	18.2		152	81.8	
Total	252	39	15		213	85	

TABLE 4

CLINICALLY NORMAL INDIVIDUALS

Author.	No. cases.	Reaction. Pos.	Reaction. Per cent.	Control Diagnosis.	Reaction. Neg.	Reaction. Pr. ct.	Control Diagnosis.
1. Pirquet[1]	..	..	35		..	65	
	..	..	2		..	98	
2. Engel & Bauer[60]	48	6	..	1 cut. T. B. C. 4— to subcut. test. 1 + to subacut. test.	42	..	
3. Baginsky[53]	19	12	..		7	..	
4. Warfield[34]	55	54	..		1	..	Mother T. B. C. Neg. to 5 and 10 mg. T. O. subcutan.
	51	15	..	Reacted to 1 mg. T. O. subcutaneous.	36	..	
	1	1	..				
	1	..	..		1	..	
	6	3	..		3	..	
Total	181	91	50		90	50	

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70. Presse méd., Sept. 18, 1907.

71. Berl. klin. Wchnschr., March 16, 1908.

TABLE 5

CONJUNCTIVAL REACTIONS

POSITIVE TUBERCULAR

Author.	cases.	Reaction.		Control Diagnosis.	Reaction.		Control Diagnosis.
		Pos.	Per cent.		Neg.	Pr. ct.	
1. MacLennan[27]	25	23	..		2		
2. Kohler[72]	169	161	51		8	49	
					..	4.7	8% + to 4% O. T. 41% + to 2% O. T.
3. Maillet[37]	4	4					
4. Plehn[29] (see article)	38	31	81.6		7	18.4	
5. Cohn[9]	86	60	2	3 not in terminal stage.	26	2	
6. Colzolari[73]	12	3	..		9		
7. Wolff[23]	20	14	70	18 adults, 2 children.	6	30	Early 2d stage tubercular.
8. Webster & Kilpatrick[25]	43	43					
9. Letulle[74]	75	72	..		3		
10. Grasset & Rumdand[75]	7	7			1		
	1						
11. Proff	13	13					
12. Smithies & Walker[36]	29	29	..	1 after 1 and 5 mg. T. O. 1 slight after 1 1 mg. T. O. 2 marked after 1mg. T. O. 1 after 1, 5 and 10 mg. T. O.			
13. Baldwin[3]	53	50	..		3	..	1 miliary tuberculin; 1 tuberculin treated.
14. Schenck & Seiffert[47]	28	27	..		1		
15. Lenhartz	37	33	..		4	..	4 tuberculin treated.
16. Citron[79]	31	25	..		6		
17. Eppenstein[62]	85	60	..		25		
18. Mentoux [26]	15	14	..		1		
19. Schroeder & Kaufmann[24]	48	43	..		5		
20. Franke & Ratjen	6	6					
21. Andeoud[76]	13	12	..		1		
22. Blumci-Clarns[77]	289	260	..		29		
23. Calmette, Breton, Petit, Painblan and other authors[80]	111	108	..		3		
24. Comby[78] (children)	62	62	..	Clinical and autopsy 4 +			
25. Bing[71]	6	3	50		3	50	
26. Citron[79]	36	70	81	+ without cachexia.	16	19	
	14	2	14.4	+ with cachexia....	12	85.6	
	15	14	93	+ not tubercular...	1	7	
27. Mentoux[26]	10	..	..	Children, 1st stage.	10		
28. Moro[3]	8	5	..	Percut. react. +7..	3	..	Percut. react.—1. Percut. react. —1. Percut. react.—3.
	12	12	..	Percut. react. 11 2d.			
	4	1	..	Percut. react. 1 3d.			
29. Heinemann[59] (1st, 2d, 3d)	25	20	..	1 case tubercular peritonitis, recovery; 1 case treated many months for cilat. lesion gave — reac. later.	..	..	3 cases init. hemorrhage.
	18	18	..				
	5	2	..		3		
30. Levi[22]	69	45	66		18	..	14 advanced; 4 not advanced or cachetic; 1 unilteral tuberculous kidney; 1 tubercular prostate; 1 T. B. C. knee.
Total	1,572	1,352	86		214	14	

TABLE 6

SUSPECTED TUBERCULAR

Author.	No. cases.	Reaction.		Control Diagnosis.	Reaction.		Control Diagnosis.
		Pos.	Per cent.		Neg.	Pr. ct.	
1. MacLennan[27]	12	9	..		3	..	Clin. 1 tubercular hip 2 yrs. +2 react.
	.12	10	..		2	..	10 mg. T. O. subcutaneous.
	20	19	..		1	..	Anim. inoc. sacral abscess.
2. Kohler[72]	5	2	..				
	..	3	..				
3. Cohn[9]	32	23	..		9	..	Not all negative to subcutaneous.
4. Wolff[23]	64	20	39.2	14 child. 50 adults. 80 to subcut.	43	61.2	
5. Webster & Kilpatrick[25]	58	36	..	Phys. Ex. +........	18	18	Phys. ex. + .1 mg. O. T. bacilli in sputum 1 month previous.
	16	6	..	Phys. Ex.?........	7	7	Phys. ex. ?
6. Grasset & Rumdand[75]	5	5					
	3				3		
7. Proff	6	..	..		6	..	Babies born; tubercular mother.
8. Smithies & Walker[36]	6	6					
9. Baldwin[8]	26	8	..	Clinical	14	..	Clinical.
10. Schenck & Seiffert[47]	20	6	30	No positive physical findings.			No positive physical findings.
	..	6	30				
	..	3	15		5	25	
11. Lenhartz	63	23	..		40		
12. Citron[79]	14	11	..		3		
13. Eppenstein[62]	89	38	..		51		
14. Metraux	11	9	..		2		
15. Schroeder & Kaufmann[24]	9	4	..		5		
16. Franke & Ratjen	12	9	..		3		
17. Andeond[76]	3	1	..		2		
18. Comby[78] (children)	70	..	..		70	..	Clinically, 6 autopsy.
19. Bing[71]	15	6	..		9		
19. Ctron[79]	18	10	55.5	Clinicl	8	44.5	
20. Mentoux[26]	3	3	..	Clinical			
21. Moro[3]	17	10	..	Percut. +16	7	..	Percut. react. — 1.
22. Heinemann[59]	33	22	..		11		
Total	642	308	48		334	52	

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72. Deutsch. med. Wchnschr., 1907, No. 50.
73. Riforma medica., July 26, 1907.
74. Bull. Soc. d. hôp. de Paris, Aug. 31, 1907.
75. Bull. Soc. d. hôp. de Paris, Aug. 31, 1907.
76. Bull. méd. 1907. xi, No. 20.
77. Med. Klin., 1907, No. 50.
78. Presse méd., 1907, No. 10.
79. Sitz. d. Berl. med. Gesellsch., July 24, 1907; Deutsch. med. Wchnschr., Feb. 20, 1908.
80. Compt. rend. Acad. d. Sc., July 7; la Presse méd., July 13, 1907, No. 56.

TABLE 7

OTHER DISEASES NON-TUBERCULAR

Author.	No. cases.	Reaction. Pos.	Per cent.	Control Diagnosis.	Reaction. Neg.	Pr. ct.	Control Diagnosis.
1. MacLennan[27]	20	4	..		16		
2. Maillet[37]	4	4	..				
3. Plehn[29]	5	2	..	Typhoid, acute articular rheumatism, acute bronchitis, scarlet fever, enteritis, pleurisy and pregnancy, rheumatism, reaction reappeared with return of rheumatism.	3		Typhoid, acute articular rheumatism, acute bronchitis, scarlet fever, pleuritis and pregnancy two weeks later.
	12	6	..		6		
	6	3	..		3		
	5	2	..		3		
	3	3	..				
	1	1	..		1		
	1	1	..				
4. Cohn[9]	192	10	..		182		
5. Calzolari[73]	19	..	..		19		
6. Letulle[74]	50	19	..		31		
7. Grasset & Rumdaud[75]	14	..	..		14		
	1	1	..				
8. Smithies & Walker[30]	136	10	..		126		
9. Baldwin[8]	57	16	..	Clinical	41	..	Clinical.
10. Schenck & Seiffert[47]	52	3	57				
	..	11	22		26		Clinical.
	..	12	23	Clinical			
11. Citron[79]	45	1	..		44		
12. Eppeustein[62]	13	4	..		9		
13. Meutoux[26]	42	2	..		40		
14 Schroeder & Kaufmann[24]	20	12	..		8		
15. Franke & Ratjen	33	4	..		29		
16. Andeoud[76]	15	..	..		15		
17. Calmette, Breton, Painblan, Petit and other French authors[80]	87	1	..		86		
18. Moro[3]	25	6	..	Per cut. + 8	19		
19. Heinemann[59]	63	10	..		53		
Total	932	152	17		779	83	

TABLE 8

CLINICALLY NORMAL INDIVIDUALS

Author.	No. cases.	Reaction. Pos.	Per cent.	Control Diagnosis.	Reaction. Neg.	Pr. ct.	Control Diagnosis.
1. Maillet[38]	15	..	..		15		
2. Webster & Kilpatrick[25]	4	2	..		2		
3. Proff	17	..	..		17		
4. Smithies & Walker[30]	76	2	..		74		
5. Baldwlu[8]	47	16	..	Not all physicians' findings	30		One reacted to a 2 per cent. solution which had been — to 10 mg. T. 0.
6. Bing[71]	79	1	1.2		78	98.8	
7. Citron[79]	100	6	6	Clinical	..	...	
8. Mentoux[26]	13	13	..	Clinical	..	...	
Total	351	40	11		311	89	

TABLE 9

TABLE OF SCHROEDER AND KAUFMANN

Author.	Positive Tuberculosis. No.	Pos.	Neg.	Suspected Tuberculosis. No.	Pos.	Neg.	Non-Tuberculous. No.	Pos.	Neg.
Lenhartz	38	33	4	63	23	40	11	4	7
Cohn	86	60	26	3	23	9	192	10	182
Citron	31	25	6	14	11	3	45	1	44
Kohler	169	161	8	5	5	..	..	..	..
Eppeustein	85	60	25	89	38	51	13	4	69
Baldwin	53	50	3	26	8	18	57	16	41
Metraux	15	14	1	11	9	2	42	2	40
Schenck-Seyffert	28	27	1	20	15	5	52	26	26
Andeoud	13	12	1	3	1	2	15	..	15
BlumelClarus	289	260	29	..	..	..	..	..	..
Calmette u. a. franz. authors	111	108	3	..	..	..	87	1	86
Schroeder-Kaufmann	48	43	5	9	4	5	20	12	8
							(Nor) 18	12	6
Franke Ratjeu	6	6	..	12	9	3	33	4	29
Total	971	859	112	284	146	138	627	80	547
Per cent.		88.5	11.5		51.4	48.6		12.7	87.3

TABLE 10

CASES OF ENGELBACH AND SHANKLAND

POSITIVE TUBERCULOSIS

	Positive No.	Per cent.	Negative No.	Per cent.	Total.
Cutaneous	31	56.4	24	43.6	55
Conjunctival	52	74.3	18	25.7	70
Total	83	66.4	42	33.6	125

TABLE 11

SUSPECTED TUBERCULOSIS (OTHER THAN PULMONARY.)

	Positive No.	Per cent.	Negative No.	Per cent.	Total.
Cutaneous	30	55	25	45	55
Conjunctival	21	52.5	19	47.5	40
Total	51	54	44	46	95

TABLE 12

CLINICALLY PULMONARY TUBERCULOSIS

	Positive No.	Per cent.	Negative No.	Per cent.	Total.
Cutaneous	28	66.66	14	33.3	42
Conjunctival	15	28	38	72	53
Total	43	47	52	53	95

TABLE 13

OTHER DISEASES NON-TUBERCULOUS CLINICALLY

	Positive No.	Per cent.	Negative No.	Per cent.	Total.
Cutaneous	149	56.5	119	43.5	268
Conjunctival	102	24.4	315	75.6	417
Total	251	36.6	434	63.4	685

TABLE 14

CLINICALLY NORMAL INDIVIDUALS

	Positive No.	P.C.	Negative No.	P.C.	Doubtful No.	P.C.	Total.
Cutaneous	41	51	18	22.8	20	25.3	79
Conjunctival	18	25.5	46	65.8	6	8.6	70
Total	59	38	64	44.3	26	16.9	149

negative conjunctival reaction 67 days previous to death. One gave positive reactions to both tests 73 days before death.

From the above we conclude that in known tuberculosis the kind of reaction has no bearing on the prognosis of the case. Positive reactions have occurred with us as early as one day before death; both reactions have been present in variable percentage as long as three months previous to death. The negative reactions have practically equaled the positive reactions in occurrence two or three months previous to death.

UNTOWARD EFFECTS OF THE CONJUNCTIVAL REACTION

The evidence of accumulating cases has unquestionably proven that the conjunctival instillation of tuberculin is not entirely free from danger. On the contrary, from the following report one must conclude that there is a liability of producing severe inflammatory processes in normal eyes, of aggravating non-tuberculous affections of the eye, and of producing an extension, and in some cases a rapidly destructive process, in tuberculous affections of the eye, from its use. McKay[61] reports a severe conjunctivitis lasting over ten weeks in an eye that was normal previous to the instillation of a 1 per cent. solution. Eppenstein[62] reports three cases of conjunctival phlyctenular keratitis which were greatly exaggerated, and says that chronic hyperemia, blepharitis or conjunctivitis of any kind contraindicates its use.

Ferrien[63] reports a conjunctivitis lasting two months, which terminated by having the aspects of tuberculosis of the conjunctiva. Babier and Renon[64] have observed conjunctivitis persist for one or two months. Stevenson reported three cases of follicular conjunctivitis which existed from 20 to 40 days. Kalt[65] reports serious results in iritis, sclerokeratitis and iridochorioiditis. Trousseau[66] reports a marked extension of a tubercle of the conjunctiva immediately following the instillation of a 0.5 per cent. of tuberculin. In another case a tuberculous iritis was greatly aggravated, although the reaction was negative. Babier[64] reports keratitis and ulceration of the cornea from a conjunctival reaction. A large majority of other authors, not oculists, have observed more or less unfavorable results varying in degree and severity from this test.

Besides these local untoward reactions Wolff[23] observed a very marked febrile reaction in the conjunctival test. Wolff-Eisner[57] and many others obtained general reactions. Proff noted that the tuberculo-opsonic index was modified by these reactions, and that in some cases the negative phase was marked and unusually prolonged.

We wish to take this opportunity of expressing to senior house physicians, Dr. R. Bunch and Dr. F. Esselbruegge our appreciation for services rendered us in the preparation of this article.

CONCLUSIONS

The diagnostic value of these reactions in adults is restricted to many limitations:

1. The specificity of these reactions have as yet not been demonstrated.
2. The activity or extent of the lesion bears no definite relation to the degree or kind of reaction.
3. The conjunctival reaction is not free from danger.

THE CONDITION OF THE PERIPHERAL BLOOD VESSELS IN SHOCK *

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From a purely historical point of view the literature devoted to shock may be divided into three periods: 1, From 1795, when the word shock was first used as we now use it, down to the beginning of the era of experimentation in 1870; 2, the period from 1870 to 1885, devoted to careful experimental investigations; and, 3, from the reopening of the question by Crile in 1889 down to the present time. From 1885 to 1889 practically no papers other than purely casuistic ones appeared on the subject.

THEORIES IN REGARD TO SHOCK

The excellent summary published by Mansell Moullin[1] in 1882, and the encyclopedic volume contributed to the subject by Groeningen[2] in 1885 render it unnecessary to restate the historical development of the theme. It is of more than passing interest, however, to note that those views regarding shock which are most commonly accepted to-day differ but little from opinions published nearly half a century ago. It does not seem to be known generally that as early as 1864 W. W. Keen, S. Weir Mitchell and G. R. Morehouse[3] enunciated practically the same theory as that put forward by Crile nearly forty years later. I have been able to find only one reference to this work by Keen, Mitchell and Morehouse, and that reference was in a German monograph. The experimental work of Fischer[4] in 1870 confirmed the theory proposed by Keen, Mitchell and Morehouse, and set on a fairly firm basis the idea that shock was due to vasomotor exhaustion. Leyden,[5] however, took issue with Fischer and announced his belief to be that shock was due to a reflex inhibition of the activity of the centers of the cord. Meltzer,[6] in the most recent paper contributed to the shock question, practically coincides with the theory of Leyden. The theory recently expounded by Boise,[7] that cardiac exhaustion is the main underlying factor in shock, is a reiteration of the conclusion of Blum[8] published in the seventies.

It is in no disparaging sense that we emphasize the fashion in which old views have been rehabilitated. Indeed, we feel that every contribution that we have mentioned has been of of importance. Crile's[9] work, for example, furnishes the most comprehensive data ever contributed to the shock problem and has been instrumental in starting anew investigations as to the cause of one of the most dreaded surgical complications. Our purpose is rather to express agreement with Meltzer, when he says that despite all theorizing and experimentation, "the bringing forward of new experimental facts capable of shedding some more light on our puzzling problem is not yet a superfluous luxury."

Meltzer, in his paper, points out the fact that Crile fails to draw a distinction between surgical shock, with

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[61] Boston Med. and Surg. Jour., March 12, 1908.
[62] Med. Klin., Sept. 8, 1907.
[63] Bull. Soc. d'Ophth. de Paris, Oct. 8, 1907.
[64] Bull. et mém. Soc. d. hôpitaux de Paris, Dec. 12, 1907.
[65] Bull. Soc. d'Ophth. de Paris, Oct. 8, 1907.
[66] Jour. de méd. et de Chir., Jan. 10, 1908.

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* An Experimental Study from the Physiological Laboratory of St. Louis University Medical School.

[1] Mansell Moullin, C. W.: International Encyclopedia of Surgery, London, 1882.
[2] Groeningen, G. H.: Ueber den Shock, Weisbaden, 1885.
[3] Circular No. 6, Surgeon-General's Office, 1864.
[4] Fischer, H.: Samml. klin. Vortr. (Volkmann's), 1870, No. 10.
[5] Leyden, E.: Samml. klin. Vortr. (Volkmann's), 1870, No. 2.
[6] Meltzer, S. J.: The Nature of Shock, Arch. Int. Med., July, 1908, 1, 571.
[7] Boise, E.: Am. Jour. Obst., 1907; Tr. Am. Gynec. Assn., 1908.
[8] Blum, A.: Arch. gén. de méd. de Paris, January, 1876.
[9] Crile, G. W.: Blood Pressure in Surgery, Philadelphia, 1903; An Experimental Inquiry into Surgical Shock, Philadelphia, 1899.

rapid onset of symptoms, and traumatic shock, with slow onset of symptoms. This criticism makes it incumbent on anyone who deals with this problem to define his terms at the very outset. The term "shock" has assumed a medical significance so peculiarly its own that the primitive idea expressed by the word has almost been lost sight of. Originally "shock" signified a concussion or a blow, but toward the middle of the eighteenth century English medical writers began to use the word in explanation of the subtle and unexplained effects resulting from a severe blow or concussion. This latter use became so common that the word finally stood, not for the force itself, but for its resultant destructive tendencies.[10] The essence of this idea is so inherently bound up in the word that the French and German schools have been forced to adopt the word bodily, after numerous and futile attempts at translation by such terms as *impressionabilité extraordinaire. léthargie des blessés, épuisement par la doleur, résolution général des forces, syncope, Wundstupor, traumatische Torpor, Schuss-Erschütterung, Wundschreck. Neuroparalyse*, etc.

This difficulty in translation emphasizes a fundamentally important fact, namely, that the word represents an intricate symptom-complex and does not stand for a specific clinical actuality. The elder Gross[11] furnished the most graphic and satisfying description of this symptom-complex when he said that it was the manifestation of a rude unhinging of the machinery of life. It is confusing to adopt Meltzer's views regarding traumatic and surgical shock, for, after all, we assume that every type of shock results from trauma. Scientific accuracy will not admit the use of Howell's[12] classification of "cardiac" and "vascular" shock, for other vital functions besides the cardiac and vascular ones have been shown to be involved. So we shall use the word in the sense of an unhinging of vital machinery, bearing in mind that the onset of symptoms may be sudden or rapid, or at times insidious, and that either erethism or torpor may be characteristic symptoms.

As the problem stands to-day there are several contradictory theories. Crile and his followers maintain that vasomotor exhaustion is the primary cause of shock, Boise states that cardiac exhaustion is the prime cause, whereas Howell believes that both these factors (cardiac and vascular) must be reckoned with. Meltzer, after a critical survey of the literature, concludes that shock is consequent on the development of the inhibitory side of all the functions of the body. Kinnaman[13] argues for a disturbance of the thermogenic function, Jaboulay[14] for the formation of an irreducible oxyhemoglobin, Vale[15] for an increased specific gravity of the blood, Henderson[16] for the reduction of the carbon dioxid content of the blood and tissues (acapnia), Bainbridge and Parkinson[17] for a loss of chromaffin tissue following trauma, and Schur and Weisel[18] for a loss of this same tissue following the administration of volatile anesthetics.

Our object is neither to criticise these various theories nor to add a new theory to the already formidably long list. Cardiac excitation and inhibition, vascular dilatation and contraction, the modus operandi of the sympathetic nervous system, the complex phenomena of exhaustion and inhibition, would all have to be taken into account by a theory, despite the fact that not one of the factors that we have mentioned is understood fully.

This much is certain, however: that low blood pressure is a constant accompaniment of a pronounced degree of shock—so constant, indeed, that investigators practically always express the state of shock in terms of manometric pressure. We have based our experiments on the fact that the blood pressure is always low in shock, and we have set as our problem the determination whether the peripheral vessels are contracted or dilated during the time that the pressure is low in the larger, more centrally situated vessels, such as the carotids.

Mitchell, Morehouse and Keen, Groeningen and others assert that the peripheral vessels are not contracted, because, in the first place, no one has ever shown that they are, and, in the second place, because it is not probable that the peripheral vessels can be contracted tightly for any great length of time.

Crile argues that, consequent on vasomotor exhaustion, the peripheral vascular system is paralytic and, therefore, relaxed. Porter,[19] on the other hand, denies Crile's contentions *in toto*, and seems to show that the vasomotor center is not exhausted. Neither Crile nor Porter, however, directed their attention to the vessels themselves.

Malcolm[20] of London, dealing with the problem from a purely clinical point of view, makes two assertions: 1, that the peripheral vascular system is contracted in shock; and, 2, that a state of low blood pressure is thoroughly consistent with contracted peripheral arterioles. Malcolm makes an uncommonly strong clinical argument against the views of Crile in a fashion that refreshingly demonstrates the invaluable aid of clinical medicine to laboratory experimentation. If the theory of vasomotor exhaustion is correct, says Malcolm, then the network of smaller peripheral arterioles, being cut off from central control, must be relaxed. This relaxation should result in an overfilling of the vessels, but, as a matter of fact, all clinical evidence speaks against such an overfilling: the body surface is cold and pale, the mucous membranes are anemic, incisions made during the state of shock are almost bloodless, the radial pulse is often small to the degree of being impalpable, and the application of surface warmth tends to lessen the symptoms of shock, despite the fact that warmth usually relaxes vessels.

There are three possible ways of determining whether the peripheral vessels are dilated or contracted: 1, the vessels may be inspected visually; 2, the outflow of blood from an organ or extremity may be measured; 3, coincident variations in venous and arterial pressure may be measured. In our work, which has been done on dogs, we have used only the first two or three methods. We studied visually the vessels of the retina and measured the outflow from the femoral vein. We selected the eye as the site of visual inspection of the caliber of the vessels, because this is the only situation where the vessels can be studied without the necessity of exposing them by dissection. It is unnecessary to say that the caliber of a vessel that has been traumatized by dissection affords no reliable index of the caliber of that same vessel in an undisturbed state. We selected the femoral vein from which to measure the outflow because the circulation in the extremity is, in the strictest sense of the word, peripheral, and because the femoral vein is more accessible than is the axillary.

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[10] It is interesting to note the beginning of a tendency to modify the character of the word again, so that in addition to signifying the destructive results of external force, it will also express the idea of constructive results. For example, Wetherill has published an article entitled "The Conservative Agency of Shock," The Journal A. M. A., March 12, 1908, xxx, 578. Furthermore, we find in recent biologic contributions, statements such as: "Mutation in species may be considered to result from a shock to the organism, the shock being stronger than normal hereditary impulses." In other words, shock enables the organism to construct something new, and possibly useful.

[11] Gross, S. D.: System of Surg., Philadelphia, 1872, i, 426 .

[12] Howell, W. H.: Vaughan Festschrift, Ann Arbor, 1903, p. 51; Am. Med., 1904, p. 482.

[13] Kinnaman, R. C.: Internat. Jour. Surg., 1904, p. 378.

[14] Jaboulay, L.: Lyon méd., 1904, p. 378.

[15] Vale, F. P.: Med. Rec., Aug. 27, 1904.

[16] Henderson, Y.: Am. Jour. Physiol., 1908, p. 126.

[17] Lancet, 1907, p. 1269.

[18] Wien. klin. Wchnschr., Feb. 20, 1908.

[19] Porter, W. T.: Am. Jour. Physiol., 1907-08, pp. 399, 444, 500.

[20] Malcolm, J. D.: Lancet, 1905, i, ii, 573, 618, 737, 922; Med. Chir. Tr., 1908.

METHOD OF EXPERIMENTATION

Our procedure was as follows: Under Grehant anesthesia the carotid artery was connected to a recording manometer and the blood tracing started. Both femoral veins were dissected free, ligated where they leave the thigh to enter the abdomen, clamped just below this, and divided between ligature and clamp. Paraffined canulas were tied into the distal ends of the veins. Both sciatic nerves were dissected free at the posterior aspect of both thighs, and a bridle ligature was placed under each nerve so that it could be drawn out and divided with ease and rapidity. Only a minimal amount of fall of blood pressure resulted from this preliminary, as a rule.

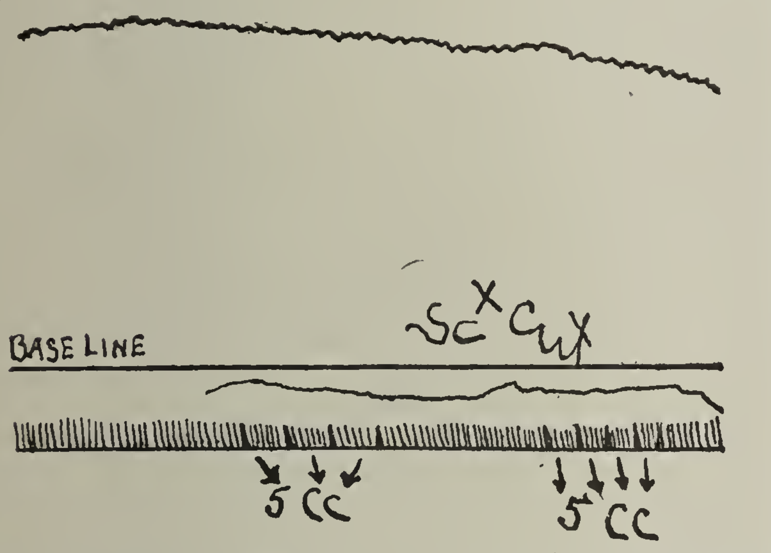

Fig. 1.—Tracing indicating outflow of blood in experiment on Dog 3. Moderate blood pressure. No evidence of shock. Division of sciatic (at X) followed by more rapid outflow of blood from femoral vein. Time markings, 1 second.

The clamp was now removed from the left femoral and the blood allowed to flow through the canula into a tall glass graduate of moderately small caliber. After about 25 or 30 c.c. had flowed out and the current of blood was running smoothly and evenly, readings were begun in order to note the rapidity of the flow. The method of making these readings was as follows: At the moment the reading was begun an electric button connected with the second-time marker was pushed. After 5 c.c. of blood had flowed the button was pushed again, and this was repeated at the completion of the flow of each fifth cubic centimeter of blood until the time record on the drum showed four or five periods, each one representing the time flow for 5 c.c. of blood. Then the left sciatic nerve was severed and, after waiting a short while for the flow to steady, the time flow for 5 c.c. was recorded several times. The animal was then reduced by a state of shock, by manipulation and chilling of the abdominal viscera, and after the blood pressure showed a permanent fall, the blood flow was measured from the right femoral vein, just as it had been from the left one, before and after section of the right sciatic nerve.

The vast majority of vasomotor impulses that reach the blood vessels of the hind leg of a dog travel through the sciatic nerve; therefore, as is well known, severance of this nerve results in vasodilation in the extremity, and consequently in a more rapid flow of blood from the femoral vein. This point is illustrated by the tracing shown in Figure 1. Before the sciatic was cut it took seven seconds for 5 c.c. of blood to flow out, whereas after the sciatic was divided the same quantity of blood flowed out in five seconds. The crux of these experiments lay in the rate of outflow after the animal was reduced to a state of shock, for if in profound shock the vessels are beyond the control of the vasomotor centers, then severance of the sciatic nerve ought not to make any appreciable difference in the rate of flow. All our experiments showed that the proportional rate of flow from the vein was more rapid after division of the sciatic in a shocked animal than it has been from the opposite veins before the animal had entered the state of shock. Figure 2 is a continuation of the tracing shown in Figure 1, taken from Dog 3 of our series. This portion of the tracing represents a period when the animal was in a profound degree of shock. It will be noted that before the sciatic was divided it took nineteen seconds for 5 c.c. of blood to flow, whereas after section of the nerve it required only eleven seconds. This shows that the intact sciatic must have been transmitting impulses that were maintaining vascular tone. More than this, the proportionately more rapid flow[21] can not be due to an actually greater dilatation of the vessels in one instance than in the other, because in both instances we have a maximal dilatation consequent on severance of the nerve. It must be due to the fact that during shock the vessels (arterioles and capillaries) are more contracted than they are before the animal shows the effects of trauma. It must be borne in mind clearly that these experiments do not show anything more than that the division of the sciatic nerve of a shocked animal causes dilatation of the vessels of the leg, just as it does in a normal animal. This dilatation, however, is proportionately greater than that which occurs in the normal animal, and this proportional difference must be referred to the fact that in the shocked animal, before division of the sciatic, the vessels are in a state of greater contraction than they are in the normal animal.

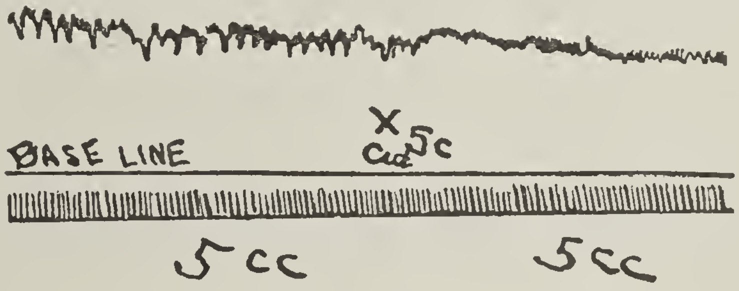

Fig. 2.—Tracing indicating outflow of blood in experiment on Dog 3. Very low blood pressure. Animal in profound shock approaching *exitus lethalis*. Division of sciatic (X) followed by a proportionately more rapid outflow from femoral vein than in Fig. 1. Time markings, 1 second.

Two reasonable objections may be made to our results, on the ground, first, that the time measurements were not accurate in the strictest scientific sense, and, second, that the anterior crural nerve was not severed so as to cut off all possible vasomotor impulses to the leg. As regards time measurements, they were not taken automatically and were, therefore, not true to a fraction of a second. Repeated experiments, however, demonstrated that this source of error was minimal, and, furthermore, our object was not to measure the exact time rate. We did not sever the anterior crural, because we found this procedure to be unnecessary. Our object was not to cut off all impulses, but to block out most of them.

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[21] In the normal animal, the rate of flow before and after division of the sciatic was 7 to 5, whereas in the shocked animal the rate was 19 to 11. These two sets of figures demonstrate a proportionately more rapid outflow in the shocked animal.

The task now remains to confirm by visual inspection the statement that the peripheral vessels are contracted. For reasons already stated, we selected the retina as our field for this part of our work, and we are indebted to Dr. John Green, Jr., for our ophthalmic reports. Unfortunately, we failed in efforts to devise a scheme for measuring, with absolute accuracy, the diameters of the retinal vessels. In order that Dr. Green might not be prejudiced by the facts already secured by us, he was not told about them, being merely requested to examine the fundi of the dogs' eyes, before and after shock was induced, and to note carefully the size of the vessels. He took the size of the optic disc as his standard and compared the size of the vessels with it. In every instance he reported that the vessels showed a marked degree of contraction after the animal was in shock. The vessels contracted down to from one-third to one-half of their size before shock.

Two observations were particularly interesting: In one case the dog died immediately after an examination of the fundus which had disclosed marked contraction of the vessels, thereby demonstrating that vasoconstriction persisted up to the very point of *exitus lethalis.* Unfortunately, we neglected to examine any of the fundi after death in order to see if vascular relaxation occurred. The second observation of especial interest was a case in which the retinal vessels were contracted so tightly as to make them resemble mere strands. In this connection it is interesting to note that ophthalmic literature contains at least two reports[22] of sudden blindness occurring during shock, lasting from two to five hours, and then passing off without leaving any demonstrable eye changes or disturbances of vision. Roberts, who makes these reports, does not give the fundus findings during the state of shock, nor does he attempt to explain the cause of the blindness; but it seems fairly reasonable to assume that the occurrence of a sudden acute anemia of the retina, resulting from pronounced contraction of the retinal vessels, might cause transient blindness.

CONCLUSION

In conclusion it is important again to emphasize the fact that the experimental work detailed in this paper is in no sense of the word to be taken as an explanation of the causative factor or factors of shock. Just as Porter claims to show explicitly that in shock the vasomotor center is not exhausted and, therefore, implicitly that the peripheral vessels are not paralyzed, so we try to show explicitly that the peripheral vessels are contracted, and implicitly that not all the vasomotor centers can be exhausted. The complexity of the vasomotor apparatus with its multiplicity of centers, and the seemingly independent action of many of these centers, render it impossible to frame a satisfactory theory based on our results. This much may be said with assurance: If the work herein detailed stands the test of confirmation, then the doctrine that shock is due to vasomotor exhaustion must be revised.

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[22] Roberts, W. O.: Am. Pract. and News, 1907, p. 24.

Clinical Note

A TYPHOID BACILLUS CARRIER

HISTORY AND AUTOPSY

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Since the comparatively recent discovery of what may be termed latent typhoid infection and its bearing on the spread of the disease, as well as its pathologic and bacteriologic significance, additional examples of this condition have been reported repeatedly.

As yet, however, the number of postmortem examinations of bacillus carriers has not been large, and the present instance is cited, not only as an example of the possibilities of transmission of infection under certain circumstances, but as an additional confirmation of the generally accepted belief in the origin of the bacilli in such cases.

HISTORY OF A BACILLUS CARRIER

The individual in question was a colored man admitted as a patient to the New Jersey State Hospital at Trenton in 1902. He was at that time sixty-seven years old, and presented then, or subsequently, nothing beyond the gradual mental and physical failure incident to his age, and was able to perform such light work as was assigned him.

During July and August, 1907, the institution was visited by an epidemic of typhoid fever, due to the contamination of a spring from a leaking city sewer, over one hundred cases resulting, with the usual mortality.

The patient (C.C.) then seventy-two years of age, became ill early in August, and responded positively to the agglutination test on the 13th. The course of the disease was exceptionally mild; the temperature was at all times low, rarely above 100 F.; and there were few, if any, subjective or objective symptoms, so that, in spite of his age and comparative weakness, the patient was able to be about in a little over three weeks from the time of onset. Indeed, so mild was the disease that the diagnosis was made entirely on the Widal reaction, this test being made at this time on all patients showing any signs of ill health whatever. In the absence of an epidemic it is probable that the few symptoms observed would have given no indications of the condition.

He made an uneventful recovery, and very quickly regained his usual health..

During the fall and winter (1907), following the epidemic, bacteriologic examinations of the urine of all convalescent patients (including C.C.) were made at the hospital laboratory, three examinations each of fifty-two convalescents being performed. Digalski-Conradi agar medium was used for this purpose, and in no instance were suspicious organisms isolated.

All patients were at this time kept segregated after having had typhoid and hexamethylamin (urotropin) systematically administered over a period of months. Subsequent to the urine examinations, in the spring of 1908, the Research Laboratory of the New York Health Department, under the direction of Dr. W. H. Park, undertook the examination of the feces of the same individuals, samples being sent to New York for this purpose. Three or more examinations of specimens from each patient were made, and, as already reported by Dr. Park,[1] two bacillus carriers were discovered, one being the patient C. C. Four consecutive fecal examinations of this patient during March and April each showed typhoid bacilli in large numbers. He was at once isolated and rigid disinfection of all discharges carried out. No further cases occurred. It is here of interest to note what would have been the inevitable consequences, had not these individuals been recognized.

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[1] Park, William: Typhoid Bacilli Carriers, The Journal A. M. A., Sept. 19, 1908, li, 981.

As is now generally conceded, the opportunities and frequency of contact typhoid infection under ordinary circumstances are great, but in large institutions, particularly for the insane, these are enormously multiplied.

Where large numbers of patients are in close daily contact in dormitories, wards and dining rooms, many of whom from their mental condition are careless or filthy in their habits, the direct transference of infection, in spite of all ordinary precautions and watchfulness, is unavoidable. Nieter and Liefmann, in 1906, reported a series of typhoid outbreaks in an insane asylum due to this cause, and Friedel in the same year cites another instance in which sixty-three cases resulted in another similar institution. Liebtrau speaks of an attendant in a jail who caused four cases, but who had herself never been ill.

Following his isolation, the history of C. C. was uneventful, and nothing of note in his physical condition was observed up to his last illness, with the exception of a trifling and irregular diarrhea, alternating with mild constipation.

Although the gall bladder and small intestine were found involved at autopsy, no essential symptoms of these conditions were observed during life. C. C. continued in his usual condition, though gradually failing in strength from old age, up to within six weeks of his death when he developed an irregular temperature, accompanied by signs of thoracic disease, became progressively weak and emaciated, and died Oct. 16, 1908, one year and three months after having had the attack of typhoid.

AUTOPSY

The autopsy was performed three and a quarter hours after death. Nothing beyond a senile appearance and rather marked emaciation was noted externally. The brain was typical of senile atrophy, and close inspection of the pia failed to detect anything except the usual changes of this condition, though microscopically an interesting condition was discovered. The left seventh rib was found detached from the vertebra at the articular process, and the severed ends were surrounded by a small pocket of thick yellow pus.

The left pleura was enormously thickened, and the lung deeply engorged and firmly attached to the chest wall. The upper lobe of the right lung showed lobar consolidation, and the heart a rather severe grade of brown atrophy. The aorta and other large trunks were sclerotic and contained a moderate number of atheromata. The spleen was small, tough and fibrous, but macroscopically showed nothing further. The liver was small, mottled in appearance, uneven on the surface and thickly studded with minute grayish solid bodies and fasciculi taken at autopsy to be fibro-connective tissue.

On making a minute opening in the gall bladder for the purpose of taking cultures, a small amount of clear mucoid bile escaped; the rest of the bile, however, which completely filled the gall bladder, was dark yellowish brown, thick and partially inspissated. A dark greenish-black, smooth oval calculus, 1.5 by 0.5 cm., was present; and the mucosa was very dark and slightly thickened. The cystic, hepatic and common ducts were unobstructed.

There was a well-marked chronic interstitial nephritis, and one kidney contained a small sclerotic nodule at the junction of the cortex and medulla. The mucosa of the bladder was slightly injected, but otherwise negative.

In the intestine there were irregular areas in which the mucosa was mildly injected, and two small ulcers were found, each about 0.5 cm. in diameter. One was situated in the lower portion of the ileum, the other in the cecum. Both were circular, sharply circumscribed, involved the mucosa only, and showed complete absence of induration or surrounding reaction.

It was thought that, anatomically, we were dealing with a possible traumatic fracture of the seventh rib with secondary infection and involvement of the left pleura, a chronic senile leptomeningitis, fibroid spleen, and a rather marked chronic interstitial hepatitis.

On microscopic examination, however, the thickened pleura was seen to contain many characteristic giant cells, and the liver and spleen were studded with numerous and closely set minute miliary tubercles, while the pia was the seat of the earliest stage of tuberculous meningitis. In fact, there had been a rapid and general dissemination of acute miliary tuberculosis, probably arising from a necrotic rib.

Whether this was primarily a post-typhoid necrosis secondarily infected with tubercle bacilli remains in doubt, though from its apparent comparatively recent occurrence this was probably not the case.

BACTERIOLOGIC EXAMINATION

Cultures were taken on lactose litmus agar from the region of the intestinal ulcers, the liver and bile. The latter were made in definite decimal dilutions from 1 to 0.00001 c.c., using sterile water as a diluting fluid, and incubated at 37.5 C.

On the plates made from the intestinal ulcers many red colonies developed, chiefly of the colon group, but none showed any resemblance to typhoid organisms, either on the plates or by subcultivation.

In twenty-four hour observations of the bile plates no colonies whatever could be distinguished on those made from the undiluted bile, or on the dilutions up to 0.0001 c.c., although a very delicate film appeared to cover the surface of the medium, which was unaltered in color. On the 0.0001 plate innumerable minute blue points could be distinguished with a hand lens, while on the plate of highest dilution (0.00001) an enormous number of distinct delicate bluish colonies could be seen, all of which were identical in appearance. It was impossible to count the colonies accurately, but it was estimated that they numbered between 1,500 and 2,000.

The plate cultures made from the liver by smearing a small bit of excised tissue over the bottom of the plate before pouring the agar, showed identical colonies varying in numbers from 100 to 1,000 on each plate. About twenty of the colonies from the bile and liver were subcultivated and tested for agglutination with a known typhoid serum tested against a stock culture of typhoid bacilli. The reaction was prompt and vigorous in dilutions of 1 to 50. A number of stains were then selected and subjected to cultural tests the results of which corresponded in every instance to those of *Bacillus typhosus.*

In stating the probable number of typhoid bacilli present in the bile in this instance, only approximate figures can be given, since the enormous overgrowth even in the highest dilution, obviously places the numbers too low, but as a conservative estimate it is safe to say that there were at least 20,000,000 per c.c., basing the estimate on the number of colonies developing on the least crowded plate.

The numbers developing in the liver cultures were correspondingly large, although from the nature of the material it is impossible to give these in as definite a manner as with fluids such as bile.

That the bacilli are found in the liver when present in the gall bladder is shown by the case reported by Levi and Kayser, who at autopsy of a bacillus carrier found them in the wall of the gall bladder, the liver and inside of calculi. In this instance the autopsy was performed nineteen hours after death, and the findings suggest that the bacilli invade the liver, postmortem, through the bile ducts.

This is believed to be the case in the present instance, for although tubercle bacilli were readily demonstrated in sections of the liver fixed in alcohol, the most careful search failed to detect the presence of either colonies or isolated bacilli in any portion of the liver tissue examined.

In an autopsy cited by Nieter and Liefmann, in 1906, they found not only the gall bladder involved and containing the organisms, but also a chronic catarrh of the lower intestine and many typical old typhoid ulcerations. This patient had suffered from chronic dysentery during life.

In the present case the patient also showed a mild catarrhal condition of the intestine, and ulcerations were present, but in no way did either lesion resemble a long-standing or chronic condition, nor were the ulcers of a nature to suggest a typhoid origin; and from the appearance of the lesions, rather than the failure to cultivate typhoid bacilli from them, they are regarded as unconnected with the infection of the gall bladder or the presence of the bacilli in the stools.

SUMMARY

The points of interest in the present case are:

The race and age of the individual (73 years at time of death).

The extreme mildness of the primary disease.

The constant presence of the organisms in the stools and their absence in the urine, following the attack.

The apparent failure of progressive and, toward the last, severe senile changes, together with an intense and widely disseminated tuberculous process to influence the course of the chronic typhoid infection.

The enormous numbers of the organisms found in the gall bladder and liver at autopsy.

The futility of hexamethylamin as a treatment for typhoid infection of the gall bladder.

And, finally, the extreme value of fecal examination of post-typhoid subjects in institutions where control is possible and the practice of rigid isolation and disinfection when carriers are discovered.

I am indebted to Drs. Sandy and Taylor of the State Hospital, under whose care the patient was, for the clinical facts, and to Dr. W. H. Park for the reports of the fecal examinations.

Therapeutics

ASTHMA

(*Continued from Vol. LI, page 2160*)

The best treatment of the paroxysm of asthma must be decided by a careful study of each individual patient. There is no one best treatment for the asthmatic attack. The drug that most frequently is successful in rendering the patient comfortable and shortening the paroxysm is, of course, morphin, but before the physician begins the treatment of the asthmatic attacks with morphin he should have exhausted his other resources, as he is not sure that he can cure the asthma, even if he removes the reflex cause, and such patients readily acquire the morphin habit. If a given patient is incurable under the surroundings and conditions in which he must live and no other drug will relieve his suffering, he doubtless has the right to receive morphin, even if he does form the habit.

In endeavoring to abort or shorten the attacks we may have recourse to the narcotics, which relieve the paroxysm by inhibiting the reflexes and dulling the receptive centers. Such drugs are morphin, bromids, chloral, and chloroform by inhalation.

Lobelia is depressant both to the circulation and to the nervous system, and can only be of value in sufficient dose to cause actual depression. It acts similarly to chloral and bromids, and probably no better.

Grindelia robusta depresses the circulation and depresses the nervous system, and is a narcotic. It also dilates the pupils. Consequently the action is not very dissimilar to chloral. It has often been used in bronchitis and asthma and in whooping cough to relax or prevent spasm. It has no advantage over chloral or bromids.

We may use drugs that dull the peripheral nerves and prevent their susceptibility to the irritation from which they are suffering and thus abort the paroxysm. Such drugs are mostly of the atropin group, as belladonna, stramonium and hyoscyamus. The effective action is atropin action, and doubtless atropin, and perhaps scopolamin (hyoscin) will do all the good that the crude drugs can do, although inhalation of the fumes from burning stramonium leaves has been used with success for centuries.

We may consider the treatment with such drugs as cause muscular relaxation by prostration. Such are emetics, and nicotin with patients who are not used to its action.

The next group of drugs whose action we consider in the treatment of asthmatic attacks are vasodilators. These drugs not only dilate the peripheral blood vessels and therefore relieve congestion in the mucous membranes of the respiratory tract, but also are preventers of muscular spasm. Such are, of course, the nitrites in the form of amyl nitrite, sodium nitrite, and nitroglycerin. The iodids will also cause lowered blood pressure, but are hardly of value during the attack.

Many times quite the reverse of this dilating, relaxing treatment is indicated in an asthma paroxysm. The vasoconstrictors are indicated, and if used in these instances will abort the attack. The best are suprarenal solutions sprayed on the mucous membranes of the nostrils or throat, or into the larynx, or a suprarenal or adrenalin tablet may be dissolved and absorbed in the mouth. The action is of course immediate, and sometimes so is the relief. For the nostrils adrenalin spray solutions of from 1 to 10,000 to 1 to 5,000 (diluting with a mild alkaline solution) may be used. In the throat and larynx a strength of 1 to 3,000 may be used. Digitalis is sometimes of advantage in these attacks even if there is no cardiac lesion or cardiac debility. Intramuscular injection of an aseptic preparation of ergot is also sometimes efficient treatment in stopping the paroxysm.

Citrated caffein, or strong coffee, or strong decoctions of tea are of benefit during the asthmatic attack in some individuals. The favorable action of caffein must be due to the cardiac stimulation and possibly to stimulation of the respiratory center.

Strychnin given hypodermatically has been much recommended for the asthmatic attack. While it generally fails, it sometimes does a great deal of good to patients who have bad heart action. A combination of strychnin, morphin, and atropin given hypodermatically sometimes seems to act better than when the strychnin is omitted. Arsenate of strychnin in doses of perhaps 1/40 of a grain three times a day has been recommended in chronic asthma. This drug is very active and may cause unpleasant symptoms.

Almost from ancient times paroxysms of asthma have been treated by the inhalations of fumes from burning medicinal substances. For this purpose the medicated substance may be in the form of cigarettes, powder, cones, or papers. Sometimes the fumes of these burning powders are directly inhaled, or the patient's bedroom is allowed to become filled with the fumes. Sometimes the attack is relieved by the inhalation of steam, or the vapor of boiling water in the room of the patient adds some relief. Sometimes liquid medicaments are added to boiling water in various apparatus for inhalation. Most popular, however, and most frequently used are the powders or papers, or pastils that are burned near the patient's face and inhaled directly.

Probably nearly all the powders or papers ordered by physicians for inhalation for asthma and almost all of the patented preparations and nostrums contain niter (saltpeter) and stramonium, or belladonna, or other atropin-containing drug. The action of the niter, i. e., potassium nitrate, fumes is to cause relaxation both of the blood vessels and of the bronchi. Papers are saturated with solutions of potassium nitrate, and when dry may be rolled in the form of a cigarette and smoked, or may be burned in any other form, and the fumes are beneficial to some patients. The addition of potassium nitrate to other medicinal powders causes them to burn more readily and give off their fumes.

Stramonium (leaves) is the most frequent form in which the alkaloid atropin is administered by inhalation. The action of the atropin thus locally applied is to dull the irritability of the peripheral nerves in the nose, throat and larger bronchial tubes, and thus by relieving irritation tends to relieve spasm. At the same time the atropin acts as a circulatory stimulant.

Various combinations of drugs are used for inhalation for asthmatics, many of which are nostrums (but have been analyzed) and have more or less efficiency in relieving the attack, because of the potent drugs often recklessly employed. The asthma nostrum vendor is looking mainly for immediate results, and he cares little what the danger to the patient may be or how strong a dose he gives; consequently, he orders used sufficient amounts of the drugs to cut short the asthmatic attack. Therefore, the prescription which a physician is willing to write may not be so successful in a certain case as the nostrum temporarily may be.

A French asthma cigarette contains the following ingredients.

Belladonna leaves	5½ parts
Hyoscyamus leaves	2¾ parts
Stramonium leaves	2¾ parts
Phellandrium aquaticum	1 part
Extract of opium	⅛ part
Cherry laurel water	A sufficiency.

—(Yeo).

The dried leaves are cut small, mixed well, and moistened with the opium which has been dissolved in the cherry laurel water. A small amount of potassium nitrate is added in order that the cigarettes may burn readily.

Some patented preparations contain lobelia, and something similar to Himrod's cure is as follows:

"Powdered lobelia.
Powdered black tea,
Powdered stramonium leaves, each one ounce.

On this is poured two ounces of a saturated solution of potassium nitrate, which is thoroughly mixed and allowed to dry" (Yeo). Portions of this are then burned and the patient inhales the fumes. Certainly a great deal of cardiac depression may take place from the use of such strongly medicated inhalants.

Arsenical cigarettes also have been used by asthmatics, sometimes beneficially. Yeo says that "these are made by dissolving 15 grains of arsenite of potash in half an ounce of distilled water and saturating unsized paper with it. This is afterward dried, cut up into twenty pieces, each of which is rolled up into a cigarette. The smoke from the cigarette must be drawn into the bronchial tubes by a slow inspiration." It certainly is not obvious how arsenic can shorten an asthmatic attack. The administration of arsenic in small doses for some time may prevent the development of asthma, and chronic bronchitis is sometimes benefited by the prolonged use of arsenic.

Oxygen inhalations have sometimes been used by asthmatics, and with relief. This, however, is not very dissimilar to breathing the outside air, and will, of course, partly relieve the oxygen starvation. A patient who must go to the window and gasp for breath should, perhaps, have an oxygen tank in his room to use when he needs it.

It has been suggested (E. L. Smith, *Medical Record*, June 29, 1907) that some of the good effects of the inhalation of niter and stramonium are due to the vasoconstriction that the irritation of the fumes causes in the asthmatogenic areas, these being mostly in the nostrils.

There are various combinations of potassium nitrate, powdered stramonium, belladonna, and hyoscyamus leaves with aromatics, and anise seems to be the preferred spice.

The following is an example:

℞.	gm.		
Potassii nitratis	15		
Pulveris anisi	15	or	āā, ℥ss
Pulveris stramonii	30		℥i

M. et fac pulverem.

Sig.: Ignite a thimbleful of the powder and inhale as directed.

Many inhalants for asthma contain cocain, but these are probably mostly solutions for nebulizing.

Tucker's remedy was analyzed and modified by Einhorn and Schafer (*Münch. Med. Wochschr.*, 1907, Nos. 27-28). The following is their formula:

℞.	gm.			
Cocainæ nitratis	1			gr. xv
Atropinæ nitratis		50	or	gr. viiss
Glycerini	30			fl.℥i
Aquæ	60			fl.ʒii

M. et sig.: To be used in a nebulizer.

The spray from such a solution is certainly active, and it would seem unsafe to use it in large quantities. The best method would probably be to spray the nostrils or perhaps throat for a moment or two and then wait fifteen minutes and spray again, and perhaps again repeat if necessary. The immediate success of such treatment is, of course, entirely due to the cocain, and were it successful would demonstrate areas in either the nostrils or the throat that were the irritant or exciting cause of the asthma. Any patient who had frequent attacks of asthma and used this treatment is in danger of developing the cocain habit.

Cocain certainly entered into the constituency of many of the nostrums for the cure of hay fever and asthma, but not as many now as formerly, since most states compel the label to declare that cocain is present. Patients having learned to be more or less fearful of cocain do not buy the nostrums so readily, unless they have already acquired the habit. Consequently cocain has been taken out of many of the patented medicines.

If we were to sum up the best treatment for the paroxysm of asthma we must say morphin and atropin hypodermatically, the administration of nitroglycerin by the mouth, adrenalin or other suprarenal sprays into the nostrils or throat, or tablets containing suprarenal dissolved in the mouth, fumigations with potassium nitrate and stramonium, and cocain applications and sprays, if must be.

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[*For other information see second page following reading matter*]

SATURDAY, JANUARY 2, 1909

DEATHS OF PHYSICIANS IN 1908

During 1908 the deaths of 2,261 physicians in the United States and Canada were noted in The Journal, the equivalent of an annual death rate per thousand of 17.39, based on an estimate of 130,000 practitioners. This rate does not differ materially from those of the previous six years, which were, respectively: 1907, 16.1; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The age at death varied from 21 to 102 years, the average being 59 years, 6 months and 25 days. The number of years of practice of the decedents varied from the first year of practice to the seventy-sixth, the average being 30 years and 5 months. About 14 per cent. of those who died were members of the American Medical Association. Chief among the death causes were heart disease, violence, pneumonia and cerebral hemorrhage, in the order noted.

Causes of Death.—During the past year 335 deaths were assigned to general diseases; 269 to diseases of the nervous system; 288 to diseases of the circulatory system; 201 to diseases of the respiratory system; 79 to diseases of the digestive system; 109 to diseases of the genitourinary system, and 175 to violence. Among the chief assigned death causes were heart disease, 222; pneumonia, 172; cerebral hemorrhage, 171; accidents, 129; nephritis, 107; senile debility, 79; tuberculosis, 67; malignant disease, 51; typhoid fever, 37; suicide, 34; septicemia, 33; angina pectoris, 36; appendicitis, 25; diabetes, 23; influenza, 15; homicide, 12; gastritis, 11; tetanus, 4, and glanders, 1.

Of the 175 deaths from violence, 126 were due to accident, 34 to suicide and 12 to homicide. Of the accidents, falls caused 22 deaths; poison, 17, and gunshot wounds and railway accidents, each, 12; 10 were drowned; 9 died from burns; 8 from runaways, and 7 from automobile casualties. Of the 34 suicides, 20 were due to gunshot wounds; 6 to poison; 3 to cutting instruments; 2 to asphyxiation, and one each to drowning, fall and strangulation. All of the 12 homicides were due to gunshot wounds, and 4 of these occurred in duels or as the result of feuds.

Ages.—Of the practitioners who died, 87 were between the ages of 21 and 30; 255 between 31 and 40; 310 between 41 and 50; 386 between 51 and 60; 450 between 61 and 70; 405 between 71 and 80; 175 between 81 and 90; 14 between 91 and 100, and 2 exceeded the century mark. The greatest number of deaths occurred at the age of 66, when 53 were reported, and 58 and 68, at each of which ages 50 deaths were reported.

Years of Practice.—During the first decade of practice, 259 died; during the second, 408; during the third, 467; during the fourth, 429; during the fifth, 345; during the sixth, 254; during the seventh, 54. Three practitioners exceeded 70 years of practice, one attaining 76 years.

Military Service.—During 1908, 353 practitioners died who had seen service in the Civil War, 99 of whom had served in the army of the Confederate states; 15 died who had served in the Spanish-American War; 9 in foreign wars, and 3 in the Mexican War. There were 25 deaths of past or present members of the Medical Corps of the Army; 13 of the Medical Department of the Navy; 11 of the Public Health and Marine-Hospital Service, and one death in the newly established Medical Reserve Corps. The deaths of 15 National Guard surgeons are reported, 5 of whom had attained the rank of surgeon-general.

Medical Positions.—During the year medical colleges lost 109 professors and instructors; hospitals, 250 members of staffs; counties and cities, 122 health officers, and boards of education and school boards, 71 members. There were 44 deaths of coroners, 81 of pension examiners, 93 of railway surgeons, and 26 of members of state boards of health or of medical examination. Of the physicians who died, 15 had served as state senators, 47 as members of the legislature, 24 as mayors, 10 as councilmen, 59 as justices of the peace or in civil offices, 29 as postmasters, and 37 as editors.

Among the more prominent dead of the year are:

Nicholas Senn, master surgeon, pathologist and teacher.

Richard Douglas, Nashville, distinguished surgeon, gynecologist and abdominal surgeon of the south.

Daniel Bennett St. John Roosa, New York City, ophthalmologist.

Thomas Edgar Schumpert, Shreveport, prominent surgeon of Louisiana.

James Coe Culbertson, Cincinnati, former editor of The Journal and prominent in educational work.

Frank Hugh Montgomery, Chicago, specialist on diseases of the skin and venereal diseases.

George Michael Edebohls, New York City, gynecologist and abdominal surgeon.

Charles Harrington, Boston, orator in state medicine, sanitarian, hygienist and administrator of the highest grade.

Frank Lemuel Adams, Oakland, Cal., formerly president of the state society.

Andrew J. McCosh, New York City, prominent general surgeon of the east.

THE ORIGIN OF THE BEAT OF THE HEART AND ITS CONDUCTION THROUGH THE HEART

It seems possible that the two hypotheses known respectively as the myogenic and the neurogenic theory of the rhythmicity of the heart beat may at last coexist on friendly terms. Recent work tends in this direction, as it seems to grant to the neurogenists the control of the heart, and possibly also the origin of the impulse which results in a beat, and to the myogenists the path of conduction of this impulse.

Based originally on the assumption that the conduction of an impulse passing from the atrium to the ventricle accounts for the difference in time between the atrial and ventricular systoles, the myogenic theory was substantiated in 1893 by the younger His.[1] His researches and Retzger's[2] more complete work later demonstrated the path of conduction of this impulse — a muscle bundle connecting the atrium and ventricle through the atrio-ventricular septum. The production of independent atrial and ventricular contractions by Gaskell[3] and by Wooldridge[4] as early as 1883 by constriction or destruction of the muscle at the atrio-ventricular junction had thrown light on the physiology of this path before its anatomic discovery, and His[5] in 1895 reproduced the same dissociation of atrial and ventricular contractions simply by destroying the muscle bundle described previously by himself. It remained, as is now well known, for Erlanger[6] to show that the syncopal attacks and slow pulse of the Adams-Stokes syndrome are due to a similar heart-block—to interruption of the function of this atrio-ventricular bundle of His.

Recent observations of Arthur Keith[7] of London have shown, in the junction between the great veins and the atrium of the heart, a bundle of muscle fibers which ramify about the atria and are lost in the septum. This is probably a path of conduction, and its existence is evidence in favor of the view that the venous portion of the heart forms the site of origin for the rhythmic impulses. The presence in it of many ganglion cells and nerve fibers suggests that it may be the connecting link between the muscular conduits and the nervous control.

It is interesting that just as Gaskell and Wooldridge drew attention to the physiology of an atrio-ventricular connection before its anatomic description, so this important discovery of Keith's is antedated by Hoffmann's[8] demonstration of the rhythmicity of contraction of the large veins and his suggestion that they are the probable seat of origin for the heart's action. Still others[9] have maintained that the venous sinus is the only area which influences the action of the whole heart.

If we add to these epoch-making advances the interesting results obtained by Loeb on ionic influences and the remarkable work of Howell and Duke[10] in showing the coincidence of vagus impulses and the liberation of potassium in the heart wall we begin to realize what a revolution our knowledge of the hitherto inexplicable phenomenon of the heart beat is undergoing, and what a new cardiac pathology is becoming conceivable, especially for the interpretation of the cardiac arrhythmias. The results thus far arrived at will stimulate further study. That the last word concerning the myogenic and neurogenic theories has not yet been said is to be seen from the work of Carlson[11] on the heart of certain lower forms; his studies lend important confirmation to the neurogenic doctrine. He finds that the heart of the limulus or king crab, when separated from the nervous ganglia, ceases to beat. He also finds in later work[12] that the automatic action of the limulus heart begins before there is any evidence of nerves supplying it.

THE CLINICAL ASSISTANT IN GENERAL PRACTICE

The loss of the personal element, as exemplified particularly in the system of preceptorship, on which we commented recently,[1] has been deplored as an unfortunate necessity in the changing methods of medical education. While there is a conscious effort on the part of the better schools to obviate this defect by subdivision of the classes, thus bringing about as far as possible an intimate association between teacher and pupil, a new institution which promises to be of even greater value, seems to be evolving from the very cause that brought about the collapse of the older system. The enormous broadening of the field of knowledge and activity which faces the conscientious physician of to-day is making it more and more difficult for one man unaided to do justice to a large number of patients, and thus an increasing number are finding it necessary to employ an assistant. This postcollegiate association of a younger with an older man is in a way taking the place of the older custom. At present this practice is restricted largely to the more progressive and better established physicians, but it could undoubtedly be much more widely utilized with advantage both to the younger man and to the older practitioners, as well as to the public. In his farewell address to the medical students of this country and Canada, Dr. Osler said:

"I wish the custom of taking junior men as partners and assistants would grow on this continent. It has become a necessity; and no man in large general practice can do his work efficiently without skilled help. How incalculably better for the seniors, how beneficial to the patients, how helpful in every way if each one of you, for the first five or ten years, was associated with an older practitioner, doing his night work, his laboratory work, his chores of all sorts!"

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[1] His, W., Jr.: Arb. a. d. med. Klin. zu Leipzig, 1893, p. 14.
[2] Retzger: Arch. f. u. Entwcklngsgesch., Anat. Abth., 1904, p. 1.
[3] Gaskell: Jour. Physiol., 1883, iv, 43.
[4] Wooldridge: Arch. f. Physiol., 1883, p. 552.
[5] His, W., Jr.: Centralbl. f. Physiol., 1895, ix, 469.
[6] Erlanger, J.: Jour. Exper. Med., 1906; Centralbl. f. Physiol., 1905, xix, 4; Am. Jour. Physiol., 1906, xv, 158.
[7] Gibson, G. A.: Johns Hopkins Hosp. Bull., 1908, xix.
[8] Hoffmann, A.: Med. Klinik, Berl., 1906, ii, 1113.
[9] McWilliams: Jour. Physiol., 1888, ix, 167. Adam: Arch. f. d. ges Physiol. (Pflüger's), 1906, cxi, 607.
[10] Howell, W. H., and Duke: Johns Hopkins Hosp. Bull., 1908, xix, 51.
[11] Carlson, A. J.: Am. Jour. Physiol., 1905-6, xx, 99-120. See also critical review by Vaquez, H.: Arch. d. mal. d. coeur., Paris, 1908, i, 574-581.
[12] Am. Jour. Physiol., February, 1908, xxi, 1.
[1] Dec. 12, 1908, ii, 2063.

The advantage to a busy physician of the services of a younger man to do this sort of work for him is equaled only by the value of such an experience to the assistant. Undoubtedly, each man would do better work under the eye of the other, and the breadth of view afforded by the comparison of ideas and experience, and by the leisure to digest and systematize the never-ending clinical observations, etc., would be found to add materially to the pleasure of the work and to the efficiency of the workers. Each patient would probably receive more thorough consideration. That the public is quick to appreciate thoroughness need hardly be said; and while there are many patients who can not afford to pay adequately for the time and labor involved, if they are accepted as patients, surely anything less than thoroughness is unfair—and poor "business" beside.

There are hosts of young men capable of filling the position of assistant who would be glad of a chance to do such work, especially those who have not obtained a hospital position after graduation. On the other hand, there are undoubtedly many older physicians who would find great relief in help of this kind, did they but realize it. Force of circumstances is bringing about an ever-widening realization of the necessity of such cooperation.

A "FASTING CURE" FOR SYPHILIS

A journal called *Eternal Progress,* devoted apparently to the advancement of the mental healing cult, gives in its May issue a remarkably striking instance of the snake that lies hidden in the rank herbage of quackery. A correspondent asks the following question: "Some years ago I contracted syphilis and, as I am about to marry, I would like to find a remedy. Would dieting for thirty days produce a cure?" It seems incredible that any sane person, having intelligence to write decent English, should be capable of delivering himself of such a terrible doctrine as is contained in the following answer: "The best remedy for any venereal or blood disease is fasting. A fourteen-day fast will cure most cases. Mild cases could be cured in a fast of eight or ten days,"—and much more, extolling the virtues of fasting as a cure-all. While we do not, of course, ascribe to the writer of the answer any criminal intent, there is a degree of culpable ignorance which amounts to criminality, and that point is surely passed in this pernicious advice. It is appalling to think of the children that may be born with envenomed constitutions should the inquirer act on such deadly advice. The indifference of ignorance is hard enough to combat; but what shall we say of this cruel betrayal of one who, conscious of his condition, has conscience enough to desire to prevent the transmission of his taint to his innocent wife and offspring? For the assertion is absolutely false in each of its three clauses.

PELLAGRA

In a late issue of the *New Orleans Medical and Surgical Journal* Dr. George H. Searcy[1] states that since he reported on pellagra to the Alabama State Medical Association last year he has visited nearly all the southern states and many of the southern state insane hospitals and is convinced that pellagra prevails in all parts of the south. Physicians tell him that it has only been within the last decade that they have observed any such disease, and he himself believes that it must be on the increase. So far as we are aware there have been no reports of it as yet from any of the northern states, even those where maize is extensively cultivated and used for food and where it might be looked for with as much *a priori* probability of finding it as farther south. There is opportunity here for interesting medical research which we feel sure will be utilized by individual physicians and by the state authorities as well as by the U. S. Public Health and Marine-Hospital Service. Pellagra and hookworm disease are evidently of more economic importance than was at first thought probable.

Medical News

ALABAMA

Health Week in Tuskegee.—Health Week was held in Tuskegee during the week beginning December 13. During the week the traveling exhibit of the National Association for the Study and Prevention of Tuberculosis was open, and a program of illustrated addresses and platform meetings and conferences was held under the direction of the advisory board, which included representative colored men and women from all parts of the county.

Personal.—Drs. John Douglass and J. Frank Hogan, Birmingham, have been elected members of the board of control of Hillman Hospital.——Dr. Edward K. Moon, city physician of Anniston, has resigned.——Dr. Douglas G. Campbell, Mobile, has been elected physician of Mobile County.——Dr. Harry T. Day, Montgomery, has been elected physician of Montgomery County.——Dr. V. H. Williams, Calera, has been elected health officer of Shelby County.

Society Meetings.—At the annual meeting of Mobile County Medical Society, held in Mobile, December 17, Dr. Percy J. Howard was elected president; Dr. William R. Jackson, vice-president; Dr. Stephen F. Hale, secretary; Dr. Seale Harris, treasurer; Dr. Charles A. Mohr, librarian; and Dr. Douglas G. Campbell, censor, all of Mobile.——Montgomery County Medical Society, at its annual meeting, held in Montgomery, December 12, elected Dr. James N. Baker, president; Dr. Wilbur A. Sellers, vice-president; Dr. Paul S. Mertins, secretary-treasurer; and Dr. Forney C. Stevenson, censor, all of Montgomery.

CALIFORNIA

Tag Day in San Francisco.—Receipts from "Tag Day" in San Francisco netted $28,101.52 to the fund for the Childrens' Hospital.

Personal.—Dr. Clarence S. Six, Stockton, has been elected health officer of San Joaquin county, vice Dr. J. Porterfield Hull, term expired.——Dr. George K. Herzog, San Francisco, will soon leave for study in Germany.

Want Anti-plague Work to Continue.—At a conference held December 10, in San Francisco, it was agreed that a formal request should be made to the Surgeon General of the P. H. and M.-H. Service, to continue for an indefinite period the supervision of the sanitary work in the bay section, the request being signed by the governor, the members of the State Board of Health, the mayor, the local board of health of San Francisco, and the hospital and health committee of the board of supervisors.

Elections.—At the annual meeting of the Southern California Medical Society, held in Santa Ana, December 2 and

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[1] December, 1908, lxi, 413.

3, the following officers were elected: President, Dr. Fred R. Burnham, San Diego; vice-presidents, Drs. Charles D. Ball, Santa Ana, and Joseph M. Holden, Long Beach, and secretary-treasurer, Dr. Joseph M. King, Los Angeles.—At the annual meeting of the Southern California Public Health Association, held in Santa Ana, December 1, Dr. Charles D. Ball, Santa Ana, was elected president; Dr. W. Harriman Jones, Long Beach, vice-president, and Dr. William W. Roblee, Riverside, secretary-treasurer.——At the annual meeting of Yolo County Society for Medical Improvement, held November 24, Dr. Thomas W. Gallion, Davisville, was reelected president; and Dr. Frances L. Newton, Woodland, secretary.——Butte County Medical Society, at its annual meeting, held in Chico, December 8, elected the following officers: President, Dr. Newton T. Enloe, Chico; vice-president, Dr. Lewis L. Thompson, Gridley; secretary-treasurer, Dr. Ella F. Gatchell, Chico; censors, Drs. Lewis O. Thompson, Gridley, and Perry F. Bullinger, Chico, and delegate to the state society, Dr. Dan H. Moulton, Chico.——At the annual meeting of San Bernardino County Medical Society, held in Redlands, December 9, the following officers were elected: Dr. William P. Burke, Highland, president; Drs. Hoell Tyler, and Thomas M. Blythe, Redlands, vice-presidents; Dr. Gayle G. Moseley, Redlands, secretary; Dr. William A. Taltavall, Redlands, treasurer, and Dr. D. Charles Strong, San Bernardino, delegate to the state society.

COLORADO

Postgraduate Club.—The Postgraduate Club of Denver and Gross Medical School has instituted a course of study as outlined by the American Medical Association.

Advises Against Skyscrapers.—The Denver County Medical Society has advised the city council against the erection of buildings more than eight stories in height on the ground that it would be especially insanitary to exclude more air and sunlight from the streets of a city which has so large a population of tuberculous persons.

Personal.—Dr. Edward C. Hill has been appointed chemist in charge of the state station of the United States Department of Agriculture recently opened in Denver.——Dr. Isaac B. Perkins has been elected a director and Dr. Eleanor M. Lawney, examiner of the Denver Hospital Saturday and Sunday Association. The association netted $4,600 as a result of its tag-day collection in November.

State Board Needs.—The secretary of the State Board of Health, in his biennial report, asks an appropriation of $50,000 for the next two years; the appointment of two sanitary inspectors to deliver lectures over the state on the prevention of disease; the establishment of a laboratory of hygiene in the capitol building, the appointment of two more food inspectors, an extra clerk, and the enactment by the next legislature of a law compelling physicians to report cases of tuberculosis to the board.

DISTRICT OF COLUMBIA

Personal.—Dr. J. J. Kinyoun has been appointed pathologist and Dr. Truman Abbe, radiologist on the staff of the Tuberculosis Hospital.——Dr. J. Ford Thompson has returned from abroad.

Abortionist Goes to Prison.—Edward Leon Thompson, known as "Dr. Leon," said to have been convicted recently of performing a criminal operation, was taken to the Federal prison at Atlanta, Ga., December 2, to serve out his sentence.

Antituberculosis Association Organized.—The Association for the Prevention of Tuberculosis in the District of Columbia was incorporated November 6, ex-Surgeon General George M. Sternberg, U. S. Army, being elected temporary president, and Brigadier General William H. Forwood, U. S. Army, retired, treasurer.

To Prevent Food Adulteration.—The legal officers of the Department of Agriculture have decided that the department has the right to punish hotel, restaurant and boarding-house keepers who supply adulterated food to consumers. The matter is to be taken up by the health department and measures will be instituted for the prosecution of the violators of the law. The crusade against insanitary restaurants has resulted in the arrest of 117 proprietors, all of whom have been fined or put under bonds.

ILLINOIS

Bids for Building Rejected.—All of the proposals for the erection of the new Cook County Infirmary buildings at Oak Forest were rejected December 11 by the special committee. The amount at the disposal of the members for the erection of the new infirmary buildings and the tuberculosis hospital on the county hospital grounds is $2,000,000, while the lowest bid received for the construction of the infirmary alone was $1,898,358.

State Institutions Under Quarantine.—The Illinois State School for the Deaf, Jacksonville, was put under quarantine by the city and state health authorities December 15, on account of an epidemic of scarlet fever, of which 110 cases are said to exist.——Quarantine has been established at the Illinois Eastern Hospital for the Insane, Hospital, as a result of the discovery of five cases of diphtheria in the institution, three among patients and two among nurses.

Personal.—Dr. James W. Pettit, president of the State Medical Society, addressed St. Clair County Medical Society at East St. Louis, December 10, on "Medical Organization."——Drs. James W. Pettit, Ottawa, and James A. Egan, Springfield, have been appointed by the governor as members of the States Commission to Investigate Occupational Diseases.——At the annual meeting of the Canton Physicians' Club, December 14, an ebony gold-headed cane was presented to Dr. James E. Sutton, the oldest practitioner of Canton, the presentation speech being made by the president of the club, Dr. W. E. Shallenberger.

Chicago

Communicable Diseases.—During the week ended December 26, 644 cases of communicable diseases were reported to the health department, or 100 less than for the preceding week.

Personal.—Dr. Archibald Church has resigned as editor of the *Chicago Medical Recorder*.——Dr. Juliet N. Stevens has returned from a trip to England and Scotland.——Dr. Anthony Biankini has had conferred on him by the Emperor of Austria the order of the Iron Crown, third class.——Dr. William A. Fisher, who has been very ill at his home, is reported to be convalescent.——Drs. Ludwig Hektoen, George W. Webster, and Alice Hamilton have been appointed members of the State Commission to Investigate Occupational Diseases.

Chicago's Health.—The death rate for the week ended December 26, reached the phenomenally low rate of 11.59 per 1,000 per annum. There were 98 fewer deaths than in the preceding week and 87 fewer than in the corresponding week of last year. As compared with last year, there were 34 fewer deaths from pneumonia, 18 fewer from nervous diseases, 12 fewer from bronchitis, 9 fewer from diphtheria, 5 fewer from nephritis, 4 fewer from influenza, 3 fewer from typhoid and whooping cough, and 2 fewer from scarlet fever. Among the chief death causes were pneumonia, 69; tuberculosis, 48; heart diseases, 40; violence (including suicide), 37; acute intestinal diseases, 33; nephritis, 31; and cancer, 29. Diphtheria and scarlet fever each caused 14 deaths; typhoid fever, 4; measles, 3, and whooping cough and influenza, each 2.

INDIANA

Personal.—Dr. William R. Davidson has associated himself with Drs. Edwin Walker and James Y. Welborn in the management of the Evansville Sanitarium.——Dr. William A. Justice, Greenfield, has been appointed physician of Hancock County.——Dr. Francis M. Ihrig, Goshen, has been reelected secretary of the board of health of Elkhart County.——Dr. James E. King, Richmond, has been re-elected secretary of the Wayne County Board of Health.——Dr. Oliver M. Davis, Marion, has been appointed health officer of Grant County.——Dr. Charles B. Kern, Lafayette, has been reappointed physician of Tippecanoe County.——Dr. Alexander G. Schlieker, East Chicago, has been appointed district surgeon for the C. L. S. & S. B. Railroad.——Dr. Marion Glenn, Vincennes, secretary of the Knox County Board of Health, has resigned.

NEBRASKA

Higher Requirements at State University.—The entrance requirements to the College of Medicine of the State University have been increased to two years of work in the liberal arts college or its equivalent.

Board Sustained.—In the case of J. T. Mathews, Omaha, charged with having performed an illegal operation, whose license to practice medicine was revoked by the State Board of Health, and who appealed to the supreme court, decision has been given in favor of the board and the revocation of Mathew's certificate has thus been made permanent. This is a notable victory for the medical profession as the decision will form a precedent from which appeal is not likely to be taken.

NEW YORK

Personal.—Dr. Pierce J. Candee, Buffalo, was painfully injured recently by a collision between his automobile and an electric car.——Dr. John G. Curtis, professor of physiology in the College of Physicians and Surgeons, New York City, since 1875, and Dr. T. Mitchell Prudden, professor of pathology since 1891, will retire June 20.

Smoke Nuisances.—Commissioner Eugene H. Porter of the State Health Department, after investigation, has reported to the governor that certain manufacturing plants near Bayonne, N. J., are a public nuisance, and that the smoke and fumes emitted from them are detrimental to health, destroy vegetation and retard the recovery of hospital patients in many parts of Staten Island.

Foot-and-Mouth Disease.—The Commissioner of the State Department of Agriculture states that, so far as known, every animal afflicted with foot-and-mouth disease has been killed and buried. The disease has existed in 49 localities in 5 counties of the state. The efforts of the department are now being directed to a thorough disinfection of all places where the disease is known to have existed.

Report of Tuberculosis Hospital.—The State Hospital for the Treatment of Incipient Tuberculosis, Raybrook, reports that 477 patients have been treated in the institution during the year. There are in the hospital at present 163 patients, of whom 80 are males. The cost to the state is $9.47 a week per capita. During the year only three patients died in the institution, and 301 were discharged, most of whom had been benefited and many of whom had been cured by the treatment.

Regulations Governing the Practice of Optometry.—The New York State Board of Examiners in Optometry has made public the rules which became effective January 1 governing the practice of optometry. No one may examine eyes for glasses without a certificate from this board. An investigation is now in progress to determine the qualifications of a large number of those who have applied for certificates. Dispensing opticians, who merely fill prescriptions for glasses, and storekeepers who sell glasses to customers on the latter's selection are not required to have certificates.

Dr. Trudeau Honored.—A dinner was given at one of the hotels in Saranac Lake, December 19, at which fifteen men were present, and at which Dr. Baldwin presented Dr. Trudeau with two volumes of reprints on the "Studies in Tuberculosis" by his pupils in commemoration of his sixtieth birthday, Oct. 5, 1908, sumptuously bound in crushed red levant decorated with the head of Æsculapius, pine trees and fleur de lys. Dr. Walter V. James, New York City, presented Dr. Trudeau with a number of letters from personal friends congratulating him on the occasion of his sixtieth birthday. This celebration had been postponed on account of the Congress on Tuberculosis, and for other causes.

New York City.

Want More Experienced Ambulance Surgeons.—Coroner Harburg has prepared a bill for introduction in the next legislature prohibiting a hospital interne with less than six months' experience from acting as ambulance surgeon. Coroner Harburg believes the passage of such a bill will lessen the number of mistaken diagnoses and the number of deaths.

Poison in Christmas Candy.—The owner of a candy store on the upper East Side on December 20, was convicted of selling impure candy. The inspector of the health department who appeared against the defendant said that he had bought some of the candy and that an analysis showed that it contained sulphurous acid and coal tar dye. The dealer was fined $25.

Herter Lectures.—Dr. J. B. Leathes of the Lister Institute, London, will deliver the six Herter Lectures on the subject of "The Metabolism of the Non-Nitrogenous Substances in the Animal Body" in the Carnegie Laboratory of the University and Bellevue Hospital Medical College, beginning January 4, at 4 p. m., and continue daily throughout the week. Those who are interested are invited to be present at the lectures.

New Beth Israel Hospital Planned.—The board of directors of the Beth Israel Hospital has directed the building committee to select a block on the East Side between Houston and Twenty-third streets as a site for new hospital buildings. The hospital association has real estate worth $50,000 and a building fund of $100,000 with promises of generous subscriptions for a large new institution, as the present one is entirely inadequate.

Cause of Cancer.—The investigation of the cause of cancer and its possible prevention and cure has been begun in the College of Physicians and Surgeons under the direction of a committee composed of Drs. Samuel W. Lambert, dean, William J. Gies, professor of physiologic chemistry; Dr. Philip H. Hiss, Jr., professor of bacteriology; Francis C. Wood, professor of clinical pathology; Gary N. Calkins, professor of protozoology, and Eugene H. Pool, instructor in surgery.

Sanitary School for Columbia.—Twelve experts in hygiene and sanitary science are at work on a plan for the establishment of a school of preventive medicine in connection with Columbia University. It is proposed to train men for the positions as health officers and sanitary inspectors, so that even small towns may be properly safeguarded against conditions that foster and breed disease. The medical members of the committee appointed by President Butler are Drs. Norman E. Ditman, Samuel W. Lambert, Philip H. Hiss and M. Allen Starr. The proposed school will seek to prevent tuberculosis, blindness and alcoholism. A careful study of meat and foodstuffs, dairies and the milk supply will be features of the course.

Brooklyn's War on Tuberculosis.—The Brooklyn Committee for the Prevention of Tuberculosis has been receiving applications from all parts of the country for literature, and, while physicians have been generous in their offers of free lectures, the demand has been so great that applications are refused almost daily. The committee is now furnishing more than one hundred diets and assigns a visiting nurse to patients who are confined to bed. There are 6,000 cases of tuberculosis registered in the borough and one dispensary, St. Peter's Hospital and the home for consumptives at Kingston avenue and St. John's place, are the only institutions where destitute consumptives are admitted. The committee has secured the right to use the backs of transfers in its campaign of education. The work of the committee is supported entirely by voluntary contribution.

Charity Organization Society Work.—The twenty-sixth annual report of the Charity Organization Society of New York City has just been made public. The report shows that the total number of cases in charge of the Districts and Investigation Bureau as 6,716 for the year 1906-1907, and 8,621 for the year 1907-1908, an increase of 28 per cent. Owing to the financial depression, the work of the society was very much increased in all departments, excepting that there were fewer consumptives requiring care in their homes; this was due to greater intelligence in regard to the disease and more accommodations in institutions for consumptives. The society disbursed more than $200,000 during the year and is only about $10,000 in arrears. In addition to the educational work of the society in regard to tuberculosis, it is working for further amendment of the tenement-house law, reforms in the children's courts and in criminal courts.

The Tuberculosis Exhibit.—On December 26, Italian Day, at the Tuberculosis Exhibit, Dr. Antonio Stella presided and there were addresses by Count Reybaudi Massiglia, Consul General of Italy, Hon. Prospero de Nobili, member of the Italian Parliament, and a number of other prominent Italians. On January 2 there is a mass meeting of street railway employés and on the following day a general meeting will be held under the auspices of the Committee on Congestion of Population. Nathan Straus in his address at the Tuberculosis Exhibit urged the enactment of a law against bringing other tuberculous cattle into the state. He said that, according to the reports of Prof. Veranus A. Moore, an exhaustive study of the records of actual tests of 626 dairy herds in the state showed that 386 herds, or 61.7 per cent., were infected with tuberculosis. He also thought we ought to have a law preventing the so-called "commercially pasteurized" milk from masquerading as pasteurized milk, for it was not thoroughly pasteurized, but merely warmed sufficiently to prevent souring.

Testing New Medical Law.—Under the new medical law, passed in 1907 and the first one instituted by the County Medical Society in the 102 years of its existence, six practitioners were put on trial on December 9 charged with various felonies and misdemeanors. Proceedings were brought by the society for the revocation of the licenses of these men. The physicians on trial in these disbarment proceedings are Dr. Moses Jackson, ex-coroner, said to have been found guilty of bribery; Drs. Edward E. Conrad and Francis Gray Blinn, both of whom were sentenced to from one to two years in State prison for attempted abortion; Dr. Frank J. Dudenhausen, found guilty of practising under an assumed name; Dr.

Robert Ormsby who had been fined for selling drugs for criminal purposes, and Dr. Rudolf Mielke who had been convicted of sending indecent literature through the mails. The committee will probably not make its findings known until next March. The accused may have their license revoked, their registrations annulled or may be suspended from practice. If their licenses should be revoked they may apply for renewal after a year. The society has other applications for revocation of licenses in preparation.

NORTH CAROLINA

Personal.—Dr. Paul P. Lane, Wilson, has been appointed resident physician at the James Walker Memorial Hospital, Wilmington.——Dr. Baxter S. Moore, Charlotte, who was operated on for appendicitis at St. Peter's Hospital, Charlotte, December 7, is doing well.——Dr. William H. Whitehead, Rocky Mount, formerly a member of the State Board of Health and State Board of Medical Examiners, has been obliged to retire from practice on account of ill health.——Dr. Samuel D. Booth, Oxford, is reported to be seriously ill at his home.

Decision Reversed on Appeal.—In the case of Dr. S. Westray Battle, Asheville, a member of the State Board of Health, cited to appear in the police court of Asheville to tell "what he knew about the illegal sale of liquor in the city of Asheville," and who, when he responded to the summons of the court, demanded the name of person or persons responsible for the summons, which information was refused him, whereupon Dr. Battle declined to be sworn, and was fined $25, the higher court has decided in favor of Dr. Battle. In his decision. the judge of the higher court stated, "the courts of this state will not allow any back-door or gumshoe methods."

LOUISIANA

Election.—At the annual meeting of Shreveport Medical Association, held December 2, Dr. I. M. Galloway was elected president; Dr. Joseph J. Frater, Shreveport, vice-president; Dr. Arthur A. Herold, Shreveport, secretary; and Dr. John A. Hendrick, Eastpoint, treasurer.

Physician Fined.—In the case of Dr. L. J. Breaux, Lafayette, charged with prescribing whisky and other intoxicating liquors on Sunday in violation of law, the defendant is said to have been found guilty and sentenced to pay a fine of $100 and to be imprisoned for thirty days. He immediately gave notice of appeal.

Memorial Dedicated.—The Delgado Memorial Building of the Charity Hospital, New Orleans, was formally dedicated December 19. Dr. Ernest S. Lewis presided over the ceremonies, and in his address reviewed the history of Charity Hospital with special reference to the munificence of Isaac Delgado and his deceased wife. Mayor Behrman paid an eloquent tribute to the munificence of Mr. Delgado. Dr. L. G. LeBeuf in his address, referred to the eminence of Dr. Lewis and Dr. Matas, and spoke with pride of the record of Charity Hospital. Dr. Rudolph Matas then read a eulogy on the life of Mr. and Mrs. Delgado, after which he delivered a brilliant address in which he commented on the blessings conferred on humanity in the legacy of the rich. He bore a message of thanks from Mr. Delgado to Charity Hospital, the corporation, and the members of the building committee for their untiring work and zeal, to the sisters, nurses, and attachés, for their interest in the institution, and to the architects for their courtesy. Dr. Matas further said that the man who gives as Mr. Delgado had given was both a statesman and philanthropist, and his deeds would live ages after his death, as a benefaction to mankind. The new building has cost approximately $200,000, is five stories in height, strictly fireproof, modern in equipment, and is to be devoted to surgical and gynecological cases.

PENNSYLVANIA

Philadelphia

Clinic Purchases Property.—The Philadelphia Clinic for Home Treatment of Chest and Throat Diseases has recently purchased the property 2114 Lombard street and has made application to the State Board of Charities for an appropriation to adapt the building for the clinic's work. Until these alterations are completed the clinics will continue to be held at 519 South Fifteenth street, Mondays, Wednesdays and Fridays, at 3 p. m. Dr. Frank Read is president of the board of trustees and Dr. Thomas J. Mays, medical director.

Health Report.—The total number of deaths reported to the Health Bureau for the week ended December 26, was 474, a decrease of 10 from the previous week and a decrease of 127 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 3; scarlet fever, 2; pertussis, 3; diphtheria, 13; consumption, 45; cancer, 21; apoplexy, 17; heart disease, 48; arteriosclerosis, 13; acute respiratory diseases, 94; enteritis, 13; nephritis, 48; congenital debility, 7; premature birth, 9; senility, 6; suicide, 2; accidents, 19. There were 164 cases of contagious disease reported, with 18 deaths, as compared with 208 cases and 24 deaths reported in the preceding week.

GENERAL NEWS AND COMMENT

Honors to Finlay.—The French government has conferred the decoration of the Legion of Honor on Carlos J. Finlay of Havana, Cuba, in token of appreciation for his discoveries in regard to the transmission of infection by mosquitoes. The presentation of the decoration was celebrated, at the same time as his seventy-fifth birthday, at a special meeting of local and national notables in the assembly hall of the Academy of Sciences, Havana. At the same time a decree of the provisional governor was read setting forth the importance to the Cuban people of the professional services of Dr. Finlay, especially in connection with the discovery of the means of transmitting yellow fever. This decree provides for the retirement of Dr. Finlay at his own request and because of his advanced age, from the position of chief sanitary officer, and for his appointment as honorary president of the National Board of Sanitation and Charities, which office is created for his life time and will terminate with his death. The salary of this position is to be $2,500 per year. The decree also provides for the publication by the government of a volume of selections from the writings of Dr. Finlay, not to exceed 500 pages nor 1,000 copies.

FOREIGN

Cajal Elected to the Spanish Senate.—Ramon y Cajal has been elected a senator to fill the vacancy left by the death of San Martin.

War Against Tuberculosis in Spain.—The Spanish government is transforming three old lazarettos into asylums for tuberculous children of the poor. Their location renders them peculiarly well adapted for sanatoria.

The Polyclinic in Buenos Aires.—The *Semana Medica*, November 19, contains an illustration of the souvenir plaque and parchment with numerous autographs presented to Dr. E. Cantoñ, dean of the faculty of medicine, when his efforts to found the polyclinic were crowned with success by an official decree establishing it and appropriating funds for its maintenance.

Retirement of Haeckel.—Prof. E. Haeckel retires this year from the chair of zoology at Jena in order to devote his entire time to completing the Phylogenetic Museum there which he founded and presented to the university at the recent celebration of its 350th anniversary. He has been professor of zoology at Jena since 1865, and is now 74. After a brief experience as general practitioner at Berlin, he turned his attention entirely to the natural sciences. Less than ten years ago he published an extensive work, "World Problems," reviewing the results of a lifetime of research and presenting his views on the problems of the universe.

Italian Congress for History of Medicine.—An Italian society to foster the study of the history of medicine and other sciences was organized last year, and it held its first congress at Faenza in October. A number of interesting data recently learned in regard to the physicians and anatomists of the fifteenth, sixteenth and seventeenth centuries were announced, among them being the discovery of the tomb of B. Eustachio, of Eustachian tube fame. The tomb is in the Church of the Twelve Apostles at Rome, and has hitherto been ascribed to the Buonarotti family and has been pointed out to visitors as the tomb of Michelangelo. A work by Morgagni was presented which showed his knowledge of valvular disease of the heart, also MS by Malpighi, and the report of the first case of syphilis—Morbus gallicus—observed in Italy, transcribed in a diary of the year 1400, with comments on the arrival of the French army under Charles VIII and its accompanying 1700 prostitutes. In these centuries Italy was distinguished by the absence of restrictions on postmortem work. The congress will meet at Venice in 1909 and at Rome the following year. The latter city has the only chair in Italy for study of the history of medicine.

Prizes Distributed by French Academy of Medicine.—As usual, a number of cash prizes were distributed at the annual meeting of the Paris Academy in December. This year forty-one prizes, amounting to about $14,000, were distributed, all but five going to French physicians. These exceptions were a prize of $200 to F. W. Pavy of London for his research on diabetes; $160 to Vladoff of Bulgaria for his work "Homicide in Mental Pathology"; $160 to Remlinger of Constantinople for his research on rabies, and a smaller prize to Lesage of Buenos Aires for experimental research on maté (Paraguay tea), and to Ioteyko of Brussels. No works were received in competition for four of the prizes, representing a total of over $1,000. The subjects thus ignored were: "Treatment of Mental Affections"; "Detachment of the Placenta During the Last Two Months of Pregnancy or in Labor"; "Melancholia," and "Diphtheria." Three prizes were not awarded, as no worthy articles had been presented on the "Relation Between Infectious Diseases and Neoplasms," on "Medical Statistics" and on "Hernia or Asthma." Again, the great Audiffred prize was offered for a sovereign remedy for prevention or cure of tuberculosis; this would insure an annual income of $4,800. Also the Guzman prize for effectual treatment of organic heart disease; this insures an income of $260. Needless to say these prizes are still open to competition. The prize for the best work on "Circulation of the Blood" was given to Parisot for his experimental research on "Arterial Pressure and the Ductless Glands." The surgery prize of $1,000 was awarded to Monprofit for his achievements in surgery of the stomach. The prize in obstetrics was given to Couvelaire for his work on "Hemorrhage in the Medulla and Cord Following Application of Forceps." The Journal referred to the principal prizes offered, open to international competition, in the issue for Jan. 14, 1905, p. 138, and our French exchanges of the latter part of December always contain the full details for the following two years.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 15, 1908.

Serious Condition of the London Milk Supply

The London County Council recently appointed a veterinary inspector for the purpose of inspecting the cows and farms outside London which supply milk to the metropolis. His first report is very serious. Samples of milk were taken at the various railways, and the examination of 92 of the 204 taken has been completed at the Lister Institute, with the result that 22 have been found tuberculous.

Expedition of the Liverpool School of Tropical Medicine to Jamaica

The twenty-first expedition of the Liverpool School of Tropical Medicine has left Bristol for Jamaica. It consists of Mr. R. Newstead and Dr. W. T. Prout, late principal medical officer of Sierra Leone. The expedition will be later joined by Dr. A. H. Hanley, late principal medical officer of Southern Nigeria. The objects of the expedition are both medical and entomologic. Dr. Prout and Dr. Hanley will investigate: 1, The prevalence of malaria in Jamaica; 2, the prevalence of filaria in Jamaica; 3, measure for the prevention of mosquito-borne diseases; 4, the so-called "vomiting sickness" of children. Mr. Newstead will investigate: 1, The bionomics of ticks and advise methods of control; 2, the scale insects which are threatening the citrus and coconut cultivation; 3, make a study of the biting insects and ticks of the island for the use of students of the Liverpool School of Tropical Medicine.

Health of the Navy

A very satisfactory report on the health of the navy in 1907 has just been issued. The total force dealt with amounts to 108,740 men, and the total number of cases of disease and injury was 75,351, which is in the ratio of 69.2 per cent., a decrease on 8.5 on the average of the last five years. The average loss of service per man from sickness was 10.46 days, a decrease of 1.29 on the average of the last five years. The decrease in the cases of Malta fever is remarkable and bears striking testimony to the decline of the disease since goat's milk was discovered to be the source of infection. The case ratio has fallen from an average of 3.47 in the last five years to 0.26. Yellow fever appeared in the fleet for the first time since 1904. Seven cases are reported from North America and the West Indies, of which three proved fatal. Malaria fever is on the decline; the case ratio has fallen from 0.67 per cent. to 0.341. This is partly due to the withdrawal of ships from malarial districts and partly to the use of mosquito curtains and quinin as a prophylactic. Nineteen deaths from suicide are reported—a slight increase on the average.

The Doctor and the Light Cure Institute

The difficulty of a doctor working in a professional manner in a commercial institution in the treatment of disease is shown by the case of Dr. A. E. Neale, who sued the Baritsu Light Cure institute for breach of agreement. In entering into the service of the institute every precaution was taken that his work should be carried on strictly ethical lines. His agreement was submitted to the British Medical Association which inserted certain stipulations. As medical superintendent of the institute the doctor was to have entire control of the treatment, he was to be responsible for the admission of patients and no advertisements were to be issued without his knowledge. In spite of this, during his absence on a holiday advertisements of the usual character undertaking to cure sciatica, lumbago, sprains, gout, rheumatism, neuralgia, eczema, falling of hair, etc., backed by testimonials were scattered broadcast. Evidence was given by Dr. Bateman, general secretary of the Medical Defence Union, that the advertisements were of such a character that if they had been issued with the physician's knowledge it would have led to his appearance before the general medical council, with the probability of the removal of his name from the register. Responsibility for their issue was admitted by Mr. Barton-Wright, managing director of the institute. He also admitted that his remuneration depended on the dividends earned and that finding the receipts falling off he had issued the pamphlet at his own expense. The defendants counterclaimed for alleged negligence and incompetence of the physician in the treatment of patients. The jury gave a verdict in Dr. Neale's favor, with $3,000 damages.

The Central Medical Council and Unqualified Practice

The freedom with which irregular practitioners of all sorts —quacks and nostrum vendors—are permitted to defraud the public has long constituted a scandal. As stated in previous letters, there are some signs that our authorities are waking up and will place some check on these frauds. In his presidential address to the General Medical Council (the body in Great Britain which is appointed by the government to regulate medical education and to exercise disciplinary powers over the profession), Sir Donald MacAllister reported that by means of the friendly assistance of the foreign and colonial offices the council had obtained a large mass of authoritative information respecting the laws regulating the practice of medicine and the restrictions imposed on unqualified practitioners throughout the empire and in foreign countries. This information, which has reached the council in various forms and in numerous languages, has been analyzed and digested by the registrar and his staff for the use of the committee for the prevention of unqualified practice. When this has served the committee's purposes it will be published. No publication of the kind in which the laws of the civilized world on the subject of unqualified practice are surveyed has hitherto been available.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 19, 1908.

Adulteration of Foodstuffs

Out of 1,755 analyses made by the municipal laboratory during October, 1,404 samples were of good quality, while 351 were adulterated or of bad quality. The adulterated or inferior foods make up 20 per cent. of the food consumed in Paris. Out of 505 samples of milk analyzed, 83, or 16.4 per cent., were adulterated. Out of 310 wines analyzed, 47, or 15.1 per cent., were adulterated. All these analyses were made on samples selected at random; they therefore represent the average. Analyses made after seizures make a much worse showing. During October, in consequence of 105 police seizures, 103 violations of the ordinances were declared.

Adulteration of Drugs

A few days ago it was legally decided that the law of 1905 in regard to adulteration of foodstuffs applied also to pharmacists. For having fraudulently substituted, in filling a prescription, a low-priced for a high-priced substance, a pharmacist was sentenced to a month in prison (*avec sursis*), a fine of 500 francs (about $100) and four insertions of the sentence in the papers. The decision declares that there is no reason why pharmacists should be exempted from the operation of the law on frauds. The syndicate of pharmacists, which was the civil party to the suit received 200 francs (about $40) as damages.

Another question is whether, under this law, the use of a non-toxic antiseptic or preservative substance, in quantities too minute to be harmful, constitutes adulteration. A sausage-maker and a manufacturer of chemical products were prosecuted recently at Saint-Nazaire, the one for having sold, the other for having used, borax for the preservation of meats. The butcher admitted having used a powder which the chemist had told him was a harmless preservative. The lower court acquitted the defendants, and the appellate court of Rennes has confirmed the decision, on the ground that the law of 1905 presupposes fraudulent intent, which was lacking in this instance.

A New Surgical Review

The number of specialized periodicals is constantly increasing. Thus, besides the *Revue de chirurgie,* now about to enter on its twenty-ninth year, which was long the only review devoted to general surgery, the *Archives générales de chirurgie,* was founded two years ago under the direction of Professors Lannelongue and Le Dentu, and the monthly *Journal de chirurgie,* in April, 1908. Still more recently has appeared the *Lyon chirurgical,* under the direction of almost all the distinguished surgeons of Lyons, which will present the works of the Lyons school. The first number contains original articles by Albertin on cold tubal abscesses, by Carrel on Crile's direct transfusion of blood, and by Cotte on the technic of subserous cholecystectomy, a critical review on traumatisms of the wrist, a report of the proceedings of the International Congress at Brussels, and numerous abstracts.

Personal News

Dr. Quénu, professor of operative medicine in the Paris Medical School, has been chosen, at his own request, professor of clinical surgery in the same school. Dr. Letulle, *agrégé* in the Paris Medical School and physician at the Boucicaut Hospital, has been elected a member of the Academy of Medicine to fill the place of Professor Cornil, who died last April.

Industrial Accident or Disease?

The distinction between industrial accidents and occupational disease is often very delicate. Our jurisprudence tends to enlarge the idea of industrial accidents, as is shown by a recent decision in the case of a workman in a factory of chemical products, who had to clean a large retort in which were caustic residues. From the beginning of his task, the workman felt a tingling in his throat and his eyes, which continued to grow worse, until at the end of several hours, he had swollen eyes and was experiencing severe pain. Was this an accident or a disease? The court decided that it was an accident, since accidents should include, not only falls and shocks and other injuries which are produced in a single instant, but lesions resulting from a cause operating over a considerable period of time. Thus the law in regard to industrial accidents is extended to apply to workmen who have their hands frozen in carrying ice, to those who contract a disease after a short time passed in a place which is too hot or too cold, or in the midst of poisonous gases.

BERLIN LETTER

(From Our Regular Correspondent.)

BERLIN, December 2, 1908.

Suits Against Insane Asylums

We physicians have daily opportunity to learn how hard it is to remove prejudice from the minds of the people. This is an experience not only in nations of a lower grade of civilization: that the peasants in Russia beat and kill the doctors in a cholera epidemic is not so much to be wondered at in consideration of the education of the Russian people. That similar crude ideas still hold their own in Germany and repeatedly manifest themselves is shown by the publication every now and then of statements regarding the incarceration and detention in insane asylums of really mentally sound individuals. A short time ago an affair of this kind came to trial in a city of Silesia. The editor of a Berlin paper rather addicted to printing sensational news, published a severe attack on the physicians in a Silesian asylum because they had received and for some weeks detained in their institution an alleged sane man, victim of a conspiracy. As usual, the trial demonstrated that the charges were completely unfounded, that the supposedly innocent victim, who naturally regarded himself as sane, was in fact insane, and that his admittance to the asylum had been quite proper. The result was that the editor was condemned to six weeks' imprisonment on account of slander. This penalty must be regarded as well deserved for it is a wanton thing to shake the confidence of the public in the insane asylums on insufficient information, and try to tarnish the reputation of physicians who are practicing their profession in a scientific manner. Unfortunately it is not to be expected that the outcome of this trial will hinder the repetition of such offenses. Probably the punishment of the editor will make his colleagues more cautious for a time, but sooner or later similar charges will appear again if any opportunity is given. And that, too, in spite of the fact that the conditions imposed by the authorities regarding the admission of insane people into public and private asylums are so strict that there is not the slightest possibility of the unjust imprisonment of patients and from time to time the asylums, both public and private, are visited by official commissions to investigate the condition of the institution itself as well as that of its patients.

Influenza in Prussia

According to the official statistics influenza carried off 5,512 persons in Prussia during 1907, twice as many as in 1906. The female sex was more affected in both years than the male. Persons over 60 years appear predominantly among the fatal cases. The largest number of deaths occur in the months from January to April and in December. The rural population furnishes a greater number of fatal cases than the cities, namely, 68 to 32 per cent., and among the occupations, the farmers show an unusually high mortality.

Suicide of School Children

The suicides of school children increasing year by year constitute an especially sad phenomenon in the hygiene of education. In the higher schools of Prussia, from 1880 to 1903, an average of fourteen pupils took their own lives annually; in 1907 the statistics show twenty, and in 1908, so far, twenty-three suicides among these pupils. Removal of the causes leading to some of these suicides among the older school children justifies the employment of school physicians even in the upper schools. So far school physicians have been officially installed only in the lower graded schools. Our neighboring community, Charlottenburg, has made a satisfactory beginning in this line by the appointment of medical inspectors for the high schools also. We may hope that this example will soon be followed by other cities.

Sanatorium and Educational Institution for Cripples in Berlin-Brandenburg

The association for the treatment and care of cripples for the province of Berlin opened an institution on December 1—a combination of clinic and school. The medical department is provided with all modern means of aid. It has at command an aseptic operating room, a room for medical mechanics, apparatus for massage and electrical treatment, an orthopedic work room, a department for hydrotherapy, etc. The pedagogic department is under the charge of an inspector of education and comprises three school classes and a subsidiary class, a class for the so-called Froebel's games, and three workrooms for shoemaking and tailoring. Those children who can not be placed in the school department, receive instruction in the sick ward itself. The industrial training of the boys comprises shoemaking, tailoring, office work, and orthopedics; that of the girls tailoring, art embroidery, housework and office work. The institute has at its disposal 358 beds, but is far from being adequate to the need as, in the district in which the association is active, there have been enumerated 6,617 cripples, 3,857 of whom require institutional care.

Cremation

The legal regulation of cremation in Prussia, which was not formerly permitted, seems to be assured according to the official announcements in the press. Objections are no longer raised by the imperial government to cremation, either from the criminal or the hygienic standpoint.

VIENNA LETTER

(From Our Regular Correspondent.)

VIENNA, Dec. 16, 1908.

Fruit Versus Flour

The remarkable weather of the last spring and summer has, according to the reports of the ministry of agriculture, caused an unusual fall in the consumption of wheat and other flour in this country, because the supply of fruit was so abundant that in many districts it completely took the place of bread. The lower classes especially profited by these conditions; apples, pears and plums actually formed the chief nourishment of many thousands of people. Even in the towns, an unheard-of amount of fruit was consumed. In medical circles the excellent state of the public health prevailing since August is attributed to this accidentally adopted vegetarian diet.

Reinfection with Syphilis

The general interest now taken in researches on syphilis justifies the recording of certain unusual instances of reinfection or superinfection with this disease. Experiments with monkeys have shown that it is possible to make syphilitic virus "take" again in monkeys previously infected with syphilis. Dr. Pollard's observations in a human case, recorded in a letter to the *Wiener klinische Wochenschrift*, is rather an unusual one. The observations are of much importance, since they were corroborated by findings of the *Spirochæta pallida*. The patient had suffered from typical syphilitic primary sore in 1905; had had several attacks of maculo-papulous exanthema, and had received treatment with inunctions and injections with mercury. Nevertheless, in the summer of 1908 he appeared again at the hospital with a typical primary sore on the penis and scleradenitis; there were positive findings of spirochete in the discharge. No secondary manifestations appeared during the time the patient was kept under observation (six weeks). All cases of reinfection reported hitherto, as well as all animal experiments, tend to prove that absence of secondary signs is the rule; the virus can not produce the lesions because the protective properties of the body are again active. The question whether the disease can ever be actually cured, or whether its effects can merely be sufficiently relieved by treatment to allow of a fresh infection has hitherto not been answered. The only thing which can be looked on as certain is that a complete immunization can not be confidently expected.

Pharmacology

MORE CONCERNS DECLARED FRAUDULENT

The Wilson Consumption Cure and the Soluble Sulphur Company Come Under Postoffice Ban

THE "REV. EDWARD A. WILSON" CONSUMPTION "CURE"

A fraud order has been issued by the postoffice authorities against a concern engaged in the "consumption cure" business under the name of Rev. Edward A. Wilson. The individual conducting the business was one C. A. Abbott of Brooklyn, the Rev. Mr. Wilson being a hypothetical personage whose name was used as an advertising "blind." Advertisements were published in newspapers, chiefly in those with a rural circulation, in which the Rev. Mr. Wilson informed the afflicted that "having been restored to health by simple means after suffering for several years with . . . consumption" he was "anxious to make known to fellow sufferers the means of cure." This he offered to do by sending free of charge to all applicants, "a copy of the prescription used, which they will find a cure for consumption, asthma, catarrh, bronchitis" and several other conditions.

Those who answered this advertisement received a large amount of printed matter purporting to come from the Rev. Mr. Wilson. In this the reverend gentleman explained how, when in charge of a church in Maine, he contracted tuberculosis and after trying various treatments, was finally cured by a famous Dr. Churchill of Paris, France. The prescription to which he owed his life he was giving away free in a spirit of thankfulness. But in view of the difficulty experienced in having many druggists fill the prescription, he had imported large quantities of the ingredients direct from Dr. Churchill himself, had had them compounded by a competent chemist, and was prepared to furnish a three weeks' supply of the same to any one who would send him $3.00, including six or twelve cents for postage. As the prescription contained as its essential ingredient "Extract of Blodgetti"—a drug whose existence was as immaterial as that of the Rev. Mr. Wilson—the difficulty in getting it filled was not overestimated.

Investigation showed that there was no "Rev. Wilson"; that the ingredients were not imported; that they were compounded by Abbott himself, who was not a chemist; that there was no "Extract of Blodgetti," and that the advertising "literature" was false and misleading in every respect. Hence the fraud order.

THE OHIO SOLUBLE SULPHUR COMPANY

The Ohio Soluble Sulphur Company of Greenville, Ohio, is another concern that has been suppressed as fraudulent by the postoffice authorities in spite of the efforts of the Physiologic Elements Co. of New York City, whose manager, H. M. Munsell, appeared in behalf of the Ohio company. The Ohio Soluble Sulphur Company also used an imaginary individual in its process of relieving the gullible sick of their money. "F. M. Hill, the world's greatest physiologic chemist" was the straw man in this case, and what Chemist Hill had not discovered in the realm of science—according to the advertisements—was too trivial to mention. But his greatest discovery was the process for making sulphur soluble, a discovery that "meant death to all malignant diseases" and "pure blood for every affected being in the land"—that is, providing such beings could pay $2.00 for a two-ounce bottle. Soluble Sulphur, it should be said, was not a drug or medicine, but a "physiologic element."

> "Whatever you may be suffering from, whatever your ills, whether the disease is of bacterial origin, like consumption, or of some chemical origin in the blood like rheumatism, Soluble Sulphur will cure you. There is no disputing this. It is a fact."

The number of morbid conditions in which Soluble Sulphur was indicated is simply marvelous. Space forbids us to list them; it would be easier to detail the pathologic conditions for which it is *not* recommended. Apparently, it is valueless in cases of housemaid's knee or soft corns—in all other morbid states, use it. The omission of these two afflictions, however, should possibly be taken as an oversight rather than as indicating any possible limitation to the therapeutic value of the remedy.

The Bureau of Chemistry, Department of Agriculture, analyzed this preparation and found that the amount of sulphur was less than one-half of 1 per cent.—to be exact, 0.42 per cent. Ninety-eight per cent. of the "remedy" was glycerin. In fact, the public was apparently paying $2.00 for two ounces of glycerin, in which was dissolved a minute amount of ichthyol. This, then, was the wonderful new preparation that was advertised to "positively cure" cancer, rheumatism, sore eyes, barber's itch, spinal meningitis, and other diseases too numerous to mention, and to "destroy blackheads, beautify the complexion, and make the hair soft and glossy."

Fake testimonials were used, of course, and these combined with the false claims and the exploitation of the hypothetical Chemist Hill were the means of the Ohio Soluble Sulphur Company's undoing. The business conducted by this concern was declared to be "a scheme and device for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises," and was therefore suppressed by the postoffice department.

Dewees' Emmenagogue Mixture—A Survival of Polypharmacy

To the Editor:—I want information regarding Dewees' Emmenagogue Mixture:

℞

Tincturæ Cantharidis	f. ʒi
Tincturæ Aloes	f. ℥ss
Tincturæ Ferri Chloridi	f. ʒiii
Tincturæ Guaiaci Ammoniatæ	f. ℥iss
Syrupi q. s. ad	℥vi

This seems to make a very unpleasant blackish mixture with apparent incompatibility between the iron and guaiac. My pharmacist does not seem to be able to do any better. Can the formula be put up without this reaction?

H. N. Whitelaw, M.D., Cliffs, Wash.

The above mixture is a survival of the polypharmacy introduced by the latter-day Paracelsan School. Evidently the celebrated Dewees, in formulating his prescriptions, did not take into consideration either compatibility or eligibility, as witness his well-known Carminative Asafetida Mixture or his Compound Tincture of Guaiac contained in the National Formulary. The emmenagogue mixture may be made fairly presentable by substituting the Tincture Ferric Citro-Chlorid,

N. F., the so-called "tasteless tincture of iron," for the Tincture of Ferric Chlorid, some honey and Fluidextract of Licorice for part of the syrup, to suspend the resinous constituents and to mask the taste of the aloes and guaiac.

The following modification is suggested:

MISTURA GUAIACI, ALOES, CANTHARIDIS ET FERRI.
(DEWEES' EMMENAGOGUE, MODIFIED.)

℞ c.c.
Mellis depurati .... fl. ℥i or 30

To this, contained in a vial, add gradually, previously mixed:

Tincturæ Aloes .... fl. ℥ss or 15
Tincturæ Guaiaci Ammoniatæ .... fl. ℥iss 45

Shake after each addition; to this add in the same manner, previously mixed:

Tincturæ Ferri Citro-chloridi .... fl. ʒiii or 12
Syrupi .... fl. ℥ii 60

Then add:

Tincturæ Cantharidis .... fl. ʒi or 4
Fluidextracti Glycyrrhizæ .... fl. ʒiv 15

Misce bene. Sig.: Shake well.

There is no reason why this combination could not be given in dosage form; that is, in pill or capsule, and the following is suggested:

PILULAE GUAIACI, ALOES, CANTHARIDIS ET FERRI (DEWEES).

℞ Gm.
Cantharidis, pulveris .... gr. iii 0|2
Aloes .... gr. xxiv or 1|5
Guaiaci .... ʒiiss 10|0
Pilularum Ferri Carbonatis .... ʒii 8|0

Mix and make into a mass. Divide into 100 pills. Put in gelatin capsules or coat with Cacao (see National Formulary, page 121).

Two of these pills are equivalent to about one fluidram of the liquid mixture. They will disintegrate chiefly in the intestinal tract by the alkaline reaction of the secretions and thus insure the most favorable therapeutic action with the least digestive disturbance.

Write-up Manufacture in Germany

The readiness with which some physicians respond to the dishonorable appeals of manufacturers of nostrums is well shown by some quotations from *Der reelle Geschäftsmann*, Cologne, a journal devoted to the exposure of business frauds. These quotations are given in the *Apotheker-Zeitung*, September 30. From this it appears that there was inserted in a reputable journal a short time ago the following notice.

> FOR PHYSICIAN. WANTED: Licensed physicians who are disposed to furnish favorable reports for advertising purposes of a newly introduced chemical preparation of epoch-making importance (germicide). Fee from 500 to 1,000 marks ($120 to $240).

In spite of the insult thus rendered to professional sentiment, a large number of offers from physicians were received in reply to this advertisement. Some were so cautious as to condition their recommendation on the utility of the article and to request the sending of a preliminary sample. But what shall be said of the conscientiousness of a physician and a specialist who writes: "I am not disinclined to give an opinion of your chemical preparation in the manner desired. Please send me further details regarding the scope of the report." Nothing is said of trying the remedy first; a favorable report is assured beforehand. The writer is concerned about the extent of the report because he would rather sell his convictions for 1,000 marks than for 500.

Another physician, the owner of a much-patronized dispensary in a large city, as well as the conductor of a private sanatorium, is still plainer. He is not forced to earn the "tainted" money. He is prepared to give the desired opinion and thinks it will be best for the manufacturer to furnish him the report already prepared, as the manufacturer is the best judge of what is needed. It is impossible to go further. A blank signature is the simplest way and the physician hands over his conscience done up in a brown paper parcel.

That the medical men who are willing thus to sacrifice their professional honor are not fair examples of the German medical profession goes without saying. This is shown when we learn other aspects of the character of those who thus offer their services.

In the first article, *Der reelle Geschäftsmann* scores physicians without mentioning names, but in a later issue it is more specific and gives the names of Thisguens, a notorious Cologne "specialist" in skin and venereal diseases, who has attracted attention by publishing in advertisements his recommendation of a secret remedy for rheumatism. He is also willing to supplement his income from his special practice by giving his favorable opinion of the "germicide" for the net fee of 500 to 1,000 marks.

Correspondence

The Quantitative Estimation of Albumin in Urine

St. Louis, Dec. 22, 1908.

To the Editor:—There is still lacking a practical and reliable method of determining the percentage of albumin in urine. The phosphotungstic method has been resurrected lately.

Edward H. Goodman and Suzanne Stern published in THE JOURNAL (July 4, 1908, li, 38) an article on "A New Method for the Quantitative Estimation of Albumin in Urine," describing the Tsuchiya modification of the phosphotungstic test. Henry R. Harrower refers to the same solution (THE JOURNAL, Oct. 31, 1908, li, 1511) under the name of "Goodman's reagent" (omitting the name of Suzanne Stern). In another paper (THE JOURNAL, Dec. 12, 1908, li, 2055) Goodman and Stern give due credit to Tsuchiya and his investigations. They describe at greater length a method similar to the Heller test as modified by Roberts and others (von Jaksch: "Klinische Diagnostik," 1901, p. 391).

I do not believe that their assertion is correct, that "the Esbach method has for a generation been firmly established in every laboratory." The majority of physicians have been taught and know that the Esbach method is not reliable and could be used only for comparing increase or decrease of albumin in urine.

The results as tabulated by the above-named authors do not impress the reader as very exact. Where the differences between titration after the Tsuchiya-Goodman-Stern method and their own gravimetric findings exceed 50 to 150 per cent. (for instance Nos. 6, 7, 13, 22, etc., of their table) the results might be called "startlingly" inexact.

It would seem that the authors have not consulted Neubauer and Vogel's "Analyse des Harns" thoroughly. There they will find on pages 255-256 that phosphotungstic in presence of mineral acids will precipitate not only albumin, albumoses and peptones, but also xanthin bases, uric acid, kreatinin, etc., diamins, etc., urine pigments, potassium and ammonia. Such facts render their method just as uncertain as most of the older ones. Almost all normal urines will give the precipitate after a short while. It is to be hoped that, in the future communication which Goodman and Stern promise, that source of error will be eliminated.

GEORGE RICHTER.

[Proof of the above was sent to Dr. Goodman, who replies as follows]:

The contention of Dr. Richter that the method of determining the quantity of albumin in urine, described by Miss Stern and me, is similar to Roberts' test, I do not believe requires any discussion, as I am unable to see in just what particular the two methods resemble each other.

Dr. Richter's second contention, that my assertion pertaining to the universal use of the Esbach method is incorrect, may be justifiable, as I admit "every laboratory" is rather sweeping. Certain it is, however, that every laboratory I have seen in Germany and in the United States depends on the Esbach albuminometer for the routine albumin estimation. The statement that the majority of physicians know that the Esbach method is not reliable, I regard as just as sweeping as my assertion that Dr. Richter criticizes, for I know of no laboratory, private or otherwise, in Philadelphia at least, which does not make determinations of albumin by means of the Esbach albuminometer, in the original or in some modified form. Reports are constantly being published in the German journals of cases in which the albumin has been estimated by the method, and in the domestic journals, when a method is specified, I have found the Esbach method used as a *sine qua non* of a urinary examination. I do not believe physicians wittingly subscribe to an error.

I have consulted Neubauer and Vogel's "*Analyse des Harns*" repeatedly and very thoroughly. As our method requires rarely more than 0.5 c.c. of urine, corresponding to 0.2 pro mille albumin, and in cases of pronounced albuminuria usually much less (0.05 c.c. urine corresponding to 2. pro mille albumin) it must be apparent that the amount of albumose, peptones, xanthin bases, uric acid, kreatinin and other substances precipitated by our solution, contained in 0.05 c.c. urine, must be very small. I do not know how sensitive to these substances Tsuchiya's solution of phosphotungstic acid is, and should be pleased to be enlightened on this point.

"Almost all normal urine will give a precipitate after a short while" is a statement which may or may not be true, and I should like further information as to just how long a "short while" is, I would inform my critic, however, that I have met with no "normal" urine that gives a precipitate in the few (10 to 30) seconds it takes me to make my test.

Nutmeg Poisoning.

Pukekohe, New Zealand, Oct. 26, 1908.

To the Editor:—The other day I had a patient who took at one dose, on an empty stomach, a freshly ground nutmeg, followed by a heavy meal. When I reached her five hours after the administration of the nutmeg, the woman was in a state of collapse. The pulse was 50 and very feeble. The respirations were between 30 and 40 and every second or third breath was a sigh. The skin and extremities were cold and the face flushed and mottled. The temperature was 95.

I gave 1/30 of a grain of strychnin sulphate hypodermically every three hours and 7½ grains ammonium carbonate with 20 minims each of spirits of ether and spirits of chloroform every four hours. I placed hot bottles all around the body and gave a cup of hot milk every half hour. The patient's pulse and temperature returned to normal in twenty-four hours. She then seemed fully recovered, has since improved, and now is as before the dose.

She took the nutmeg to check profuse and irregular menstruation. Once previously she had taken a much smaller dose for the same purpose with the desired result, and now having a worse attack, she took a larger dose, reasoning, no doubt, that if a little was good, much was better.

I can find nothing satisfactory about nutmeg poisoning in my books and wonder if there is any record of a similar case.

John S. Reekie, M.D., Ch.M.

Overrated Prospects for Physicians in Nevada

Fallon, Nev., Dec. 18, 1908.

To the Editor:—The literature sent out by the Reclamation Service on the Tucker-Carson Irrigation Project has induced nine physicians to come here and locate among a population of but few over 2,000, and not growing any.

Almost weekly, some eastern physician comes out at considerable expense and finds that here there are at least seven physicians more than the place needs. It is much the same all over Nevada, and this communication is written in the hope that it will save money for a class of professional men who have little to throw away.

John E. Worden.

Correction in Hemolysis Article

Cleveland, Ohio, Dec. 21, 1908.

To the Editor:—I desire to correct an error in my article on hemolysis, published in The Journal, Dec. 12, 1908, under the subdivision, "Setting Up the Test." The serum for the control test should be heated at 55 degrees C. for ten minutes before the corpuscles are added. The tubes should then be placed in the refrigerator with the heated tubes until all are of the same temperature. Should the corpuscles be heated, as wrongly stated in my previous description, they would be hemolyzed by the heat alone.

G. W. Crile.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HYDRARGYRUM SUCCINIMIDUM IN TUBERCULOSIS

Las Animas, Colo., Dec. 14, 1908.

To the Editor:—Permit me to reply to the letter by Dr. Henriksen, in The Journal, Dec. 12, 1908, on the above-named subject. Had Dr. Henriksen carefully read my article in the *U. S. Naval Bulletin* for April, 1908, he would have seen that I consider any salt of mercury which can be administered by intramuscular injection a strong antituberculous agent, and that I use the succinimid of mercury because from long experience and observation I believe it possesses qualities which render it more advantageous than other salts of mercury in the treatment of both tuberculosis and syphilis by hypodermic injection. Mercury given by mouth or by inunction is of little, if any, value in the treatment of tuberculous infection.

B. L. Wright, M.D.

Cleveland, Ohio, Dec. 11, 1908.

To the Editor:—In The Journal December 12, is a letter by H. K. Henriksen criticizing the recommendation of the use of hydrargyrum succinimidum, on the ground that it is a very rare salt, difficult to obtain, and little known. It seems to me that Dr. Henriksen is a little hasty in his conclusions. In 1903, when I was at Ehrmann's clinic, he recommended this salt as by far the best soluble form of mercury, on account of its easy solubility, the large dosage possible, its painlessness and its freedom from liability to cause abscesses. I have used it myself for nearly five years and so have many others who are familar with the treatment of syphilis. It can readily be obtained and its price is such as to preclude any undue advantage being taken by the manufacturers.

W. E. Sampliner, M.D.

DEATHS OF PHYSICIANS FROM ACCIDENTS AND SURGICAL OPERATIONS

To the Editor:—Perusal of the death list of The Journal indicates to me that more than 10 per cent. of all deaths among physicians result from accidents and surgical operations. Why is it? It would seem that such men should be nearly free from such conditions.

E. K. Abbott, M.D., Monterey, Calif.

Answer.—We agree that deaths of physicians from accidents and surgical operations seem frequent. Reduced to actual percentages, however, they are not so frequent as our correspondent suggests. Each year we give a summary of the deaths of physicians for the previous year. The summary for 1908 appears in the editorial department of this issue, page 52.

For the last three years violence, which includes homicide and suicide, has caused very nearly 7 per cent. of the deaths among physicians; namely, 6.75 per cent. in 1905, 6.98 per cent. in 1906, 7 per cent. in 1907 and 7.6 per cent. in 1908. Operations were assigned as the cause of death in 2.59 per cent. in 1905, in 0.93 per cent. in 1906, and in 0.66 per cent. in 1908.

The physician's calling is attended with considerable danger: he travels a great deal; he deals with violent persons, including criminals, the insane, and those who are delirious from disease. Health officers necessarily incur the enmity of the ignorant, who object to sanitary restrictions. In this connection is of interest the report of an address by Mr. Kipling and some comments thereon, which were quoted in The Journal, Nov. 14, 1908, page 1719.

LAWS AND LITERATURE ON TUBERCULOSIS

To the Editor:—Please refer me to the literature dealing with the legislation in various states against the spread of tuberculosis.

Watson S. Rankin, M.D., Wake Forest, N. C.

To the Editor:—Can you tell me where I can secure cards and pamphlets for distribution to tuberculosis patients giving hints as to proper care in the home?

Arthur Bowles, M.D., Eleva, Wis.

Answer.—Each of the above correspondents will find an answer to his question in "The Campaign Against Tuberculosis in the United States." This valuable and interesting book, reviewed Nov. 21, 1908, p. 1798, can be obtained for one dollar from the Charities Publication Society, 125 E. 22d St., New York City. The price is merely a nominal one since the expense is in part met by an endowment fund. The book contains a summary of the laws of each state and enumerates and describes all the antituberculosis sanitariums and societies of the United States. From some of the latter, one may secure advice and samples of antituberculosis literature, including cards and pamphlets.

HYPODERMIC INJECTIONS OF CALOMEL IN SYPHILIS

————, Dec. 12, 1908.

To the Editor:—Please give the details of the treatment of syphilis by injection of calomel.

K. L.

Answer.—The calomel should be suspended in water by means of mucilage of acacia, in oil, or in petrolatum or glycerin. The dose for a single injection should be from one to three grains, given once or twice weekly. The syringe should have a needle larger than the ordinary hypodermic needle. The injection should be made into the gluteal muscles, with strict aseptic precautions, and the needle should enter the muscle before the fluid is injected. The following formula is recommended for mercury salicylate. Calomel could be substituted for the mercury salicylate:

R.	gm. or c.c.		
Hydrargyri salicylatis (vel chloridi mitis)....	1	5	gr. xxiij
Adipis lanæ hydrosi........................	1		gr. xv
Olei olivæ	8		m.ccxviij

INROADS OF WORMS ON FAMILY PRACTICE

Berea, Ohio, Dec. 21, 1908.

To the Editor:—The item on worms in The Journal, December 19, is worthy of the attention of every family physician. The symptoms attributed by the laity to worms, such as grinding the teeth, picking the nose, starting up with loud screams when asleep, etc., are all reflex symptoms indicating intestinal irritation, caused, however, far more often by fermenting and undigested food than by worms. William M. Gregory.

STATE BOARD RECIPROCITY WITH GEORGIA

Boston, Dec. 18, 1908.

To the Editor:—Kindly state what states reciprocate with Georgia, and on what basis. R. L. Cleborne, M.D.

Answer.—Georgia reciprocates with Indiana on the basis of an examination only, and with Iowa, Kentucky, Maryland, Michigan, Nebraska, Nevada, Virginia, West Virginia and Wisconsin, on the basis either of a diploma or of an examination.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, Dec. 26, 1908:

Richardson, G. H., M. R. C., relieved from duty at the Presidio of San Francisco, and ordered to sail January 5 for duty in the Philippines Division.

Lamson, T., captain, relieved from duty at Fort Bliss, Texas, and ordered to Columbus Barracks, Ohio, for duty.

Field, P. C., captain, granted leave of absence for fourteen days.

Greenleaf, H. S., captain, granted sick leave of absence to Jan. 22, 1909.

La Garde, L. A., Appel, A. H., Ebert, R. G., Carter, E. C., lieutenant colonel, ordered to Fort Robinson, Nebr., for general court martial duty, Jan. 6, 1909.

Wren, R. J., M. R. C., granted an extension of one month to his sick leave of absence.

Leech, W. F., M. R. C., honorably discharged from the service of the United States.

Peck, L. B., M. R. C., granted leave of absence for ten days.

Hussey, S. W., dental surgeon, granted leave of absence for one month, twenty-three days.

Tignor, E. P., dental surgeon, left Fort McHenry, Md., for duty at Fort Monroe, Virginia.

Navy Changes

Changes in the Medical Corps, U. S. Navy and Marine Corps, for the week ending Dec. 26, 1908:

Mayers, G. M., P. A. surgeon, detached from the naval recruiting station, Baltimore, and ordered to the naval medical school hospital, Washington, D. C., for treatment and observation.

Brooks, F. H., asst.-surgeon, detached from the *Franklin* and ordered to the naval recruiting station, Baltimore.

Huffman, O. V., asst.-surgeon, ordered to the naval medical school hospital, Washington, D. C., for treatment and observation.

Thompson, F. W., acting asst.-surgeon, ordered to the naval hospital, New York.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 23, 1908:

Mead, F. W., surgeon, granted 2 days' leave of absence from Dec. 25, 1908.

Oakley, J. H., passed asst.-surgeon, granted 2 days' leave of absence from Dec. 18, 1908.

Cummings, Hugh S., passed asst.-surgeon, leave of absence for one month from Oct. 29, 1908, granted Sept. 2, 1908, amended to read 26 days from Oct. 29, 1908.

Billings, W. C., passed asst.-surgeon, granted 14 days' leave of absence from Dec. 25, 1908.

Korn, W. A., passed asst.-surgeon, granted 10 days' leave of absence from Dec. 24, 1908.

Creel, R. H., passed asst.surgeon, granted 7 days' leave of absence from Dec. 21, 1908, under paragraph 191 of service regulations.

Frost, W. H., asst.-surgeon, directed to report to Surgeon G. W. Stoner, chairman board of examiners Jan. 12, 1909, to determine his fitness for promotion to the grade of passed asst.-surgeon.

Mullan, E. H., asst.-surgeon, directed to report to Surgeon G. W. Stoner, chairman board of examiners Jan. 12, 1909, to determine his fitness for promotion to the grade of passed asst.-surgeon.

Kastle, Jos. H., chief division of chemistry, Hygienic Laboratory, granted 10 days' leave of absence from Dec. 15, 1908.

Blanchard, J. F., acting asst.-surgeon, granted 2 days' leave of absence from Dec. 17, 1908.

Bowers, Paul E., acting asst.-surgeon, granted 7 days' leave of absence from Dec. 17, 1908, under paragraph 210 of service regulations.

Whight, S. D., acting asst.-surgeon, granted 3 days' leave of absence from December 24, 1908, without pay.

Wakefield, H. C., acting asst.-surgeon, granted 6 days' leave of absence from Dec. 14, 1908, under paragraph 210 of service regulations.

Walkley, W. S., acting asst.-surgeon, granted 7 days' leave of absence from Dec. 23, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Dec. 25, 1908:

SMALLPOX—UNITED STATES

California: San Diego County Nov. 1-30, 11 cases; San Francisco Nov. 27-Dec. 3, 7 cases.

Indiana: Elkhart, Dec. 6-12, 1 case; Lafayette Dec. 8 14, 6 cases.

Kansas: Kansas City Dec. 13-19, 2 cases.

Texas: San Antonio Dec. 6-12, 1 case.

Utah: Salt Lake City Nov. 1-30, 36 cases.

Wisconsin: La Crosse Dec. 6-12, 2 cases; Milwaukee Dec. 22-28, 3 cases.

SMALLPOX—FOREIGN

Algeria: Algiers Nov. 1-30, 20 deaths.

Brazil: Bahia Nov. 7-14, 51 cases, 2 deaths; Pernambuco Oct. 16-31, 24 deaths; Rio de Janeiro Nov. 9-15, 311 cases, 141 deaths.

Canada: Kingston Nov. 23-29, 2 cases.

India: Bombay Nov. 16-24, 1 death.

Mexico: Veracruz Dec. 6-12, 1 case.

Peru: Lima Nov. 15-21, 1 case.

Russia: Moscow Nov. 22-28, 9 cases, 3 deaths.

Spain: Valencia Nov. 22-28, 3 cases.

Turkey: Constantinople Nov. 28-Dec. 6, 9 deaths.

CHOLERA

Japan: Fuoko ken Sept. 15-25, 49 cases, 22 deaths; Oita ken Jan. 1-Nov. 15, 7 cases, 4 deaths; Saga ken to Nov. 15, 2 cases; Tsushima Oct. 20-31, 70 cases.

Korea: General, Oct. 21-Nov. 15, 31 cases, 2 deaths.

Philippine Islands, Manila: Oct. 25-31, 45 cases, 23 deaths.

YELLOW FEVER

Mexico: Merida Nov. 29-Dec. 5, 3 cases; Veracruz, 4 cases, 3 deaths; Zumpich, Nov. 1-30, 2 cases.

PLAGUE

Brazil: Pernambuco Oct. 1-31, 3 deaths.

Chili: Iquique Nov. 1-6, 1 case.

China: Hong Kong Nov. 1-7, 1 case, 1 death.

Ecuador: Guayaquil Nov. 22-28, 2 deaths.

Peru: Lima Nov. 5-11, 5 cases, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, Jan. 4-5. Sec., Dr. Ancil Martin.

Arkansas: Little Rock, Jan. 12. Secretaries: Regular, Dr. F. T. Murphy, Brinkley; Homeopathic, Dr. P. C. Williams, Texarkana; Eclectic, Dr. A. J. Widener, Little Rock.

Colorado: Denver, Jan. 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.

District of Columbia: Washington, Jan. 12. Sec., Dr. George C. Ober, 210 B. St., S. E.

Illinois: Coliseum Annex, Chicago, Jan. 18-20. Sec., Dr. J. A. Egan, Springfield.

Minnesota: Old Capitol, St. Paul, Jan. 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Building.

New Mexico: Santa Fe, Jan. 11. Sec., Dr. J. A. Massie.

North Dakota: Grand Forks, Jan. 5-7. Sec., Dr. H. M. Wheeler.

Oklahoma: Chickasha, Jan. 12. Sec., Dr. Frank P. Davis, Enid.

Rhode Island: 313 State House, Providence, Jan. 7-8. Sec., Dr. Gardner T. Swarts.

South Dakota: Sioux Falls, Jan. 13-14. Sec., Dr. H. E. McNutt, Aberdeen.

Vermont: Montpelier, Jan. 12-14. Sec., Dr. W. Scott Nay, Underhill.

Washington: Spokane, Jan. 5-7. Sec., Dr. Kenneth Turner, Walker Bldg., Seattle.

Wisconsin: Milwaukee, Jan. 12-14. Sec., Dr. J. V. Stevens, Jefferson.

Reciprocity in Illinois

The Illinois State Board of Health now reciprocates under certain conditions, with the following state boards, in the case of licenses issued after examination: Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Nebraska, Nevada, New Jersey, North Dakota, Ohio, Tennessee, Texas, Utah, Vermont, West Virginia, Wisconsin and Wyoming.

Idaho October Report

Dr. W. F. Howard, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, Oct. 6-7, 1908. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 44, of whom 31 passed and 13 failed. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Colorado School of Med	(1897) 79.2; (1908)	86.3
Hahnemann Med. Coll., Chicago	(1904)	88.3
Chicago Homeopathic Med. Coll	(1904)	85.2
College of P. and S., Chicago	(1908)	77.6, 78.7
Northwestern Univ. Med. School	(1896) 75; (1898) 77.1; (1908)	84.7
Rush Med. Coll	(1905)	84.8
Keokuk Med. Coll., Coll. of P. and S	(1908)	82.5
Louisville Med. School	(1883)	76.4
Harvard Med. School	(1896)	80.6
University of Minnesota	(1904) 77.3; (1905)	77.1
Minneapolis Coll. of P. and S	(1908)	82.4, 83.7
Missouri Med. Coll	(1897)	77.7
St. Louis University	(1908)	78.3
Barnes Med. Coll	(1908)	78.4, 80.4
Creighton Med. Coll	(1907)	81.6, 83.1
Albany Med. Coll	(1907)	83
Cleveland Coll. of P. and S	(1907)	75
Jefferson Med. Coll	(1907)	83.9
Medico-Chirurgical College, Philadelphia	(1904)	79.7
University of Pennsylvania	(1908)	85.4
University of Toronto	(1907)	81.5
Trinity Med. Coll	(1904)	80.1
University of Christiania, Norway	(1905)	83.2
FAILED		
George Washington University	(1907)	71.2
Bennett Coll. of Ecl. Med. and Surgery	(1894)	63.8
College of P. and S., Chicago	(1885) 67; (1894)*	
Hahnemann Med. Coll., Chicago	(1903)	73.5
Barnes Med. Coll	(1904) 71; (1907) 72.6; (1908)	60.9
St. Louis University	(1908)	70.8
St. Louis College of P. and S	(1903)	40.9
Long Island Coll. Hosp	(1876)	66.5
Medical Coll. of Ohio	(1882)	72
Vanderbilt University	(1900)	67.2

* No grade given.

Maine November Report

Dr. William J. Maybury, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, Nov. 10-11, 1908. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 21, of whom 13 passed and 8 failed. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Baltimore Med. Coll	(1907) 83.8; (1908)	88.8, 89.3
Tufts Coll. Med. School	(1907) 84.4, 88.2; (1908)	80.2, 86.1
College of P. and S., Boston	(1906) 83.9; (1908)	75.2
Dartmouth Med. School	(1907)	88.2
Jefferson Med. School	(1908)	94.3
University of the South	(1905)	79.8
University of Vermont	(1908)	91.4
FAILED		
Medical School of Maine	(2, 1908)*	
Baltimore University	(1897)*	
Tufts Coll. Med. School	(1908)*	
College of P. and S., Boston	(2, 1908)* (1908)	67
Harvard Med. School	(1907)*	

* Made less than 60 per cent. in one branch.

Marriages

C. Z. W. Reiger, M.D., to Miss Ella Arbuckle, both of Philadelphia, December 16.

Clemens Rucker, M.D., to Miss Lorine Strahm, both of Sabetha, Kan., November 26.

Alvin G. Lueschen, M.D., to Miss Gertrude Elias, both of Columbus, Neb., November 24.

Jacob L. Sandoe, M.D., Cincinnati, to Miss Louise H. Laick, of Tarrytown, N. Y., December 15.

Parker Martin Cort, M.D., to Miss Helen Elizabeth Royce, both of Springfield, Mass., December 12.

H. Maxey Roberson, M.D., Kansas City, to Miss Buena Myers, of Pikeville, Tenn., November 11.

David Berner, M.D., Atlantic City, N. J., to Miss Melen McCarthy, of Massachusetts, December 12.

W. R. Callihan, M.D., Prestonsburg, Ky., to Miss Gertrude A. Nelson in New York City, December 11.

Edward Allen Locke, M.D., Boston, to Miss Elizabeth Gilmore Ferguson, of Washington, December 5.

James Edgar Paullin, M.D., Atlanta, to Miss Edna Louise Frederick of Marshallville, Ga., December 17.

Wallace Boyd Russell, M.D., Chicago, Ill., to Miss Elizabeth Hutchinson, of Dyer, Tenn., December 24.

Clifton R. Wallace, M.D., Leesburg, Va., to Miss Edith Lillian Willingham, at Washington, December 15.

P. E. James, M.D., to Miss Cecelia Marie Johnson, both of Kimballton, Iowa, at Elkhorn, Iowa, December 7.

William Charles Robert Turnbull, M.D., to Miss Eula Helen Glover, both of Langley, S. C., December 16.

Mihran K. Kassabian, M.D., Philadelphia, to Miss Verkin Giragosian, of Constantinople, Turkey, December 2.

Peregrine Wroth, Jr., M.D., Hagerstown, Md., to Miss Wye Townsend Lower, at Washington, D. C., December 18.

Deaths

Charles Graham Cannaday, M.D. St. Louis College of Physicians and Surgeons, 1889; a member of the American Medical Association; formerly president of the Roanoke (Va.) Academy of Medicine and the Medical Society of Virginia; founder and director of the Rebecca Sanitarium, Roanoke; died suddenly in that institution, December 17, from heart disease; aged 48. At a special meeting of the Roanoke Academy of Medicine, December 20, resolutions were adopted expressive of regret and sympathy at his death, and testifying to the brilliancy, fidelity, judgment and ability of its late member.

Richard Alexander Fullerton Penrose, M.D. University of Pennsylvania, Philadelphia, 1849; LL.D. Dickinson College, 1872; one of the founders of the American Gynecological Society; professor of obstetrics and diseases of women and children in the University of Pennsylvania, from 1863 to 1889; and emeritus professor thereafter; a founder of the Childrens' Hospital, the Hospital of the University of Pennsylvania, and the Gynecean Hospital; consulting surgeon to the Philadelphia Hospital; a member of many learned societies; died at his home in Philadelphia, December 26, from pneumonia, aged 81.

John M. Shepherd, M.D. New York University, New York City, 1890; formerly of Madison, Conn.; since 1902 a contract surgeon in the U. S. Army; and who was commissioned First Lieutenant in the Medical Reserve Corps in July last; a member of the Connecticut State Medical Society and the Association of Military Surgeons of the United States; formerly health officer of Madison, Conn.; and coroner of New Haven county; recently stationed at Fort Douglas, Utah; died in Holy Cross Hospital, Salt Lake City, December 11, after an operation for appendicitis, aged 44.

Joseph Fowler, M.D. University of Buffalo, N. Y., 1873; a member of the Medical Society of the State of New York and the Buffalo Academy of Medicine; for ten years a member of the medical staff of the Sisters of Charity Hospital, and for twenty-two years police surgeon of Buffalo; from 1881 to 1884, one of the coroners of Erie County; died at his home in Buffalo, December 17, aged 61.

Hugh W. Tate, M.D. Medical College of Virginia, Richmond, 1862; a member of the school board of Bolivar, Tenn., and surgeon of the Fifty-fourth North Carolina Infantry, C. S. A., during the Civil War; a member of the American Association of Railway Surgeons, and a beloved and honored practitioner; died at his home, December 15, aged 68.

Horace Grant Sigman, M.D. Colorado School of Medicine, Boulder, 1895; a member of the Colorado State Medical Society; health officer of Otero county for two terms; surgeon to the American Beet Sugar Company, Rocky Ford; died at his home in that city, December 16, from pneumonia, aged 38.

James Samuel Clark, M.D. College of Physicians and Surgeons, New York City, 1882; a member of the board of U. S. pension examining surgeons of Hampden County, Mass., and surgeon to Noble Hospital, Westfield; died at his home in that city, December 20, from pernicious anemia, aged 54.

Elias Buell Heady, M.D. Yale Medical School, New Haven, Conn., 1872; medical examiner for the coroner of New Haven County; and health officer of Milford, Conn.; died at his home, December 16, from the effects of injuries received in an automobile accident three years before, aged 62.

Samuel Gluck, M.D. University of Vienna, Austria, 1871; a member of the American Medical Association, and German Medical Society of New York; for a number of years on the staff of Mount Sinai Hospital; died at his home in New York City, December 17, from heart disease, aged 63.

John Hammond Burkhalter, M.D. New York University, New York City, 1890; a member of the South Carolina Medical Association, and proprietor of the Alma Sanitarium, Columbia, S. C.; died in that institution, December 18, from nephritis, aged 39.

Joseph Ferdinand Rioux, M.D. Laval University, Quebec, 1895; of Sherbrooke, Que.; died in the Hôtel Dieu, Levis, December 16, from the effects of stab-wounds, said to have been self-inflicted while temporarily insane.

James Faucette Atkinson, M.D. University of Georgia, Augusta, 1860; surgeon in the Confederate service during the Civil War; died suddenly at his home near Richburg, S. C., April 14, from heart disease, aged 73.

James D. Heathman (license N. C., 1899), of Mooresville, N. C.; a member of the Medical Society of the State of North Carolina; died in the Long Sanatorium, Charlotte, from hemorrhage, December 17, aged 35.

George W. Sanor, M.D. Western Reserve Medical College, Cleveland, about 1858; formerly a practitioner of Columbiana county, Ohio; died November 18, at the Massillon State Hospital, from paresis, aged 73.

James E. Gee, M.D. University of Michigan, Ann Arbor, 1873; died at his home in Denver, December 13, from the effects of strychnin, believed to have been taken with suicidal intent, aged 59.

William Lattimore Gilbert, M.D. Hahnemann Medical College, Philadelphia, 1885; a member of the Iowa State Medical Society; died suddenly in his office in Goodell, December 12, aged 44.

Francis Jacob Gish, M.D. Rush Medical College, Chicago, 1900; a member of the Colorado State Medical Society; died at his home in Olathe, September 17, from brain tumor, aged 32.

Augustus Henry Julius LePlongeon, a noted archeologist, for many years a practitioner of California and Peru; died at his home in Brooklyn, December 13, from heart disease, aged 83.

David L. Spaulding, M.D. Eclectic Medical College of the City of New York, 1875; was found dead in his house in Niverville, N. Y., from heart disease, December 22, aged 70.

Isaac K. Frazer (years of practice, Texas), a member of the State Medical Association of Texas, and a Confederate veteran; died at his home in Rusk, November 12, aged 71.

R. H. Johnson, M.D. Memphis (Tenn.) Hospital Medical College, 1904; a city physician of Savannah, Ga.; died at his home in Savannah, December 16, from acute gastritis.

Herman Fischer, M.D. Hahnemann Medical College, Chicago, 1880; formerly of Pomeroy, Iowa; died at his home in Corning, Cal., November 29, aged 72.

Orrin P. Smith, M.D. Starling Medical College, Columbus, Ohio, 1884; died suddenly from heart disease at his home in Lenora, Kan., December 14, aged 50.

George W. Doyle, M.D. Jefferson Medical College, Philadelphia, 1881; died at his home in Albany, Mo., December 16, from pneumonia, aged 56.

Henry LaHann, M.D. Albany (N. Y.) Medical College, 1878; died at his home in Burlington, Wis., December 16, from dropsy, aged 52.

Lines Krebs, M.D. Milwaukee College of Physicians and Surgeons, 1883; died at his home in Waukesha, Wis., in July, aged 63.

William H. Shaw (license, Ill.), died at his home in Roscoe, Ill., December 13, from dropsy, aged 83.

Charles Edward Beevor, M.D. University of London, 1881; M.R.C.P., London, 1882; F.R.C.P., London, 1888; one of the most notable investigators in the field of neurology in Great Britain; who read by invitation a paper on "The Coordination of Single Muscular Movements in the Central Nervous System" before the Section on Nervous and Mental Diseases of the American Medical Association at the Chicago session; died suddenly at his home in London, December 5, from atheromatous disease of the coronary arteries, aged 54. Soon after his graduation Dr. Beevor became resident medical officer at the National Hospital for the Paralyzed and Epileptic, London, and after the termination of this appointment, was made assistant physician to the hospital, and later physician. Although he devoted himself principally to neurology, he was interested in the entire field of medicine and was for several years physician to the Great Northern Central Hospital, London. Most of his original work was communicated to the Royal Society, but he was appointed Croonian lecturer to the Royal College of Physicians in 1903, and there communicated the results of his prolonged researches, clinical and experimental, on "Muscular Movements and Their Representation in the Central Nervous System." The same year he gave the Lettsomian lectures before the Medical Society of London, which dealt with the diagnosis and localization of cerebral tumors. His last scientific communication made to the Royal Society was on the "Distribution of Arteries Supplying the Human Brain." In addition to the society memberships already mentioned, he was a member of the Royal Society, the Ophthalmological and Physiological societies, a corresponding member of the Biologic Society of Paris, and was president of the London Neurological Society in 1907. On December 4, apparently in his usual health, he attended the annual dinner of the Royal Society of London, but died in the early hours of the next day.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Contract Practice and How It Works in One Town

A letter from a correspondent in a large western city gives such a graphic and instructive description of the workings of lodge practice, that it seems worthy of publication. In spite of all that has been said on this subject, many physicians do not yet realize the actual dangers connected with contract practice and the evils which unavoidably grow out of it. To those who have not yet carefully considered the matter, we commend the following, which has been changed only enough to make identification of the writer and of the city impossible, for obvious reasons:

"Here in ——— all miners pay $1.00 per month into the hospital. This is all right, but the members of the ——— lodge, for $1.00 a month dues, have a free doctor for themselves and family. They also receive $7.50 per week sick benefit and $100.00 for funeral expenses in case of death, all for $1.00 a month. The doctor gets fifty cents every three months for taking care of the member and his entire family. This lodge has about 1,500 members now and is taking in new members at the rate of thirty a month. Nine-tenths of these new members come right out and say, 'No man can afford not to belong to that lodge,' and that they are joining it solely for the benefits received through the free medical services. Now, a young doctor comes along and finds everybody provided with free medical services by contract except a few such people as cooks, waiters, barbers, bartenders, etc., every one of whom draws from $25.00 a week up in wages. So the young doctor figures that if a man who has been in practice for years can afford to do the lodge work for fifty cents every three months, he certainly can afford to take care of a cook, a waiter, a barber, or a bartender, as well as his family, for $4.00 a year. So he puts such a proposition before the union and they vote to accept it. Thus a bartender who gets $4.50 for every day he works, pays $4.00 a year for medical services for himself and his entire family. This covers everything except the wives and children of the miners. Now come along several doctors who must make a living some way. As every one in town already has one or more free doctors, the men who are not in lodge practice or who do not hold positions as physicians for any unions, get out little tickets and have men and women go from house to house on commission selling these tickets to the wives and children of the miners for twenty-five cents a month, the tickets being good for unlimited medical services on presentation, so there is practically not a person in ——— who has not from one to three free doctors whom he can call on. No one can blame the people for availing themselves of such opportunities, but where will it end? The conditions are certainly growing worse. No one here is making any money except advertising quacks. Can't something be done to stop this? I have talked with the physicians doing this class of work and they all say that if they were assured that no other doctor would take it up, they would quit, but they will not quit, only to have some one else take it at the same figure."

We have emphasized again and again the evils and dangers of lodge practice. It is not the fact that the contract exists, but it is the terms on which the contract is made which are objectionable. To the physician, such an arrangement is degrading and suicidal so far as professional self-respect and progress are concerned. To the patient it is unjust and dangerous, since professional services at $2.00 a year are not only of little value to him but are an actual menace. To the labor union, such a contract is a prostitution of its cardinal principles, i. e., a fair return for a fair amount of services. It would be difficult for a labor union man to reconcile the payment of a fixed pittance for an indefinite amount of work with the principles regarding his own compensation advocated by his union. The only party which seems to profit by the transaction is the fraternal order which assesses its members $1.00 per month and farms out the physicians' services to them at a cost of fifty cents a quarter. So long as there are physicians whose moral, mental and professional level is such that they are willing to become bond servants for the profit of exploiters of the profession, so long will there be men to take such positions, no matter at what compensation. Restrictive and prohibitive measures have succeeded in some localities and have failed in others. This economic question, like all such problems, will probably be settled only when the people realize that they get exactly what they pay for and that a doctor who only receives fifty cents quarterly is making a pretense at rendering services which are not worth even that absurd amount.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month—Fourth Weekly Meeting

DISEASES OF THE SCROTUM AND TESTICLES

Scrotum

Injuries and Wounds.

Cutaneous Affections.—Erythema intertrigo, eczema, pruritus, pediculosis, diagnosis and treatment of each.

Tumors.—Epithelioma, symptoms and treatment.

Testicles

Anomalies.—(1) Of development, (a) number (excess or deficiency), (b) size (excess or deficiency); (2) of migration, (a) undescended (in or out of normal course), (b) descended (inversion).

Contusions and Wounds.—Symptoms and treatment.

Epididymitis, Epididymo-orchitis, Orchitis: Etiology and symptoms of each.

Tubercular Disease.—Pathology, changes in epididymis, in testicle, primary and secondary lesions. Diagnosis.

Syphilitic Disease.—Pathology. Diagnosis.

Tumors.—(a) Carcinoma. Types, pathology, differential diagnosis. (b) Sarcoma. (c) Cystoma. (d) Enchondroma. (e) Lymphadenoma.

Hydrocele.—Pathologic varieties. Acute, chronic. Diagnosis, treatment of each.

Hydrocele of the Cord.—Pathologic and clinical varieties.

Hematocele.—Pathologic and clinical varieties. Diagnosis.

Varicocele.—Etiology, symptoms, treatment, palliative and radical.

Tuberculosis of Cord and Vesicles.—Diagnosis. Prognosis.

Vesiculitis.—Symptoms, treatment.

DISEASES OF THE PROSTATE

Prostatitis.—Acute; causes, predisposing and immediate. Treatment. Chronic, symptoms and diagnosis.

Tuberculosis.—Frequency, primary and secondary, age, pathology. Diagnosis and prognosis.

Enlargement.—Pathology: Changes: (1) In glandular, (2) in fibrous; involvement of one or more lobes, effect on urethra, bladder, ureters, kidneys. Coincident pathology from senility. Symptoms: (1) Frequent micturition, (2) delay in starting, (3) dribbling, (4) retention. Effects of infection. Treatment: Hygienic, medicinal, dilatation. Catheterism, indications, dangers, technic. Operative treatment: (1) Overdilatation of sphincter, (2) prostatotomy, (3) prostatectomy, (4) cystostomy, (5) castration or vasectomy.

Monthly Meeting

Treatment of Cystitis.

Physiologic and Therapeutic Action of Uurinary Antiseptics and Sedatives.

The Present Status of Prostatic Surgery; The Results of Prostatectomy.

Society Proceedings

COMING MEETING

Medical Society of State of New York, Albany, Jan. 26.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-first Annual Session, held in St. Louis, Dec. 15-17, 1908

The President, Dr. Frederick W. Parham, New Orleans, in the Chair.

The new officers elected were mentioned in The Journal, Dec. 26, 1908, page 2225.

Syphilitic Hyperplasia of Bone

Dr. C. E. Caldwell, Cincinnati: This condition is characterized by the deposition, without apparent coincident inflammatory symptoms, of a bony substance from the osteogenetic layer of the periosteum. When occurring in the long bones, particularly in the tibia, it results in overgrowth or a species of gigantism of the affected bone. Occurring in the metaphyses or epiphyseal ends of the long bones, through juxtaposition to a joint, it may be mistaken either for tuberculous epiphysitis, or, as in one case, may simulate closely in its clinical history and appearance a myeloma or giant-celled tumor of the epiphysis. In the Roentgen ray we have a satisfactory means of differential diagnosis, and we are usually rewarded with a picture which definitely classifies the condition.

The class of cases to which I refer have usually a remote and not always clearly defined history of syphilitic infection. The progress of the affection is so gradual and accompanied by such slight disturbance of the comfort of the patient that he does not usually present himself for treatment until the bony overgrowth is such as to attract his attention. Inasmuch as the patients who have come under my observation have not undergone operation, but have more or less promptly yielded to treatment with iodid of potassium in large doses, in a period varying from six weeks to three months, with local inunctions of mercurial ointment, there has been no opportunity for pathologico-histologic investigation. Inferentially, from the x-ray pictures, there is a formative osteitis of an extremely chronic form, which not inaptly may be compared to the chronic interstitial hyperplasia of internal viscera, and to the syphilitic hyperplasia of the coats of arteries resulting in obliterating endarteritis. It is not improbable that in this class of cases there may be nutritive changes in the periosteum which produce a condition not dissimilar to leontiasis or to Paget's disease. In one case affecting the lower end of the tibia the tumor was so circumscribed and had grown so large as to have deceived certain surgeons into the belief in its sarcomatous or myelomatous nature. In this case, a man, aged 34, in whom there were found no stigmata of syphilis, a history was elicited of a sore which had been contracted seventeen years before, although there was no history of secondary mischief. A diagnosis of syphiloma or formative osteoperiostitis was made and confirmed by the *x*-ray. Iodid of potassium in large doses cured the patient in three months.

DISCUSSION

DR. ARTHUR DEAN BEVAN, Chicago: We should be repeatedly reminded of the fact that there are syphilitic granulomas that produce tumor-like masses of the bones which are very apt to be mistaken for a sarcoma. Esmarch discusses the general subject of sarcoma and syphilitic lesions and the effect of antispecific treatment in connection with these lesions. A man was brought to me by a good practitioner with a diagnosis of sarcoma of the thigh; the clinical picture was definite, the patient, the father of four or five children, denying absolutely any history of syphilis. When informed that amputation at the hip joint was necessary, he was willing to submit to the operation. Fortunately, before doing this extensive operation, massive doses of iodid of potassium were employed for a few months, with entire disappearance of the tumor, and then the patient confessed to a syphilitic lesion long before he was married, with the statement that he had not said so before because he was so confident that there could be no connection between that initial lesion and the present condition. How does Dr. Caldwell differentiate between an ordinary gummatous lesion, which is so common, and a hyperplasia?

DR. C. E. CALDWELL: I made this diagnosis inferentially, but it is through clinical experience of a number of cases in which I have seen this peculiar condition of new bone under the periosteum without the involvement of the overlying skin when the bone is superficial. In ordinary gummatous periostitis of the more common type there is infiltration and thickening roundabout; and there is often discoloration of the skin. The clinical history is more acute than in the cases I have described. The disease went on for a number of years before the case was referred to me for diagnosis. The object of the paper is to call attention to the fact that these slow overgrowths of bone are likely to be syphilitic when a history of former infection can be elicited. In sarcoma there is a homogeneous breaking of the *x*-ray rather than that uncertain, indefinite, irregular outline found in these syphilitic lesions. If we pay more attention to these patients and examine them all with the *x*-ray fewer errors will be made.

Myoma and Myosarcoma of Stomach

DR. JAMES E. THOMPSON, Galveston, Texas, reported one case with the following symptoms: Marked hematemesis and melena; muscular cramps (tetany); no tumor palpable. Examination of gastric juice showed free hydrochloric acid, 40; no lactic acid. A partial gastrectomy was performed successfully. The tumor was found to spring from the anterior wall of the stomach and projected into the interior. Microscopically, it was a pure myoma. Dr. Thompson reviewed the literature, and found in all 62 cases of myoma and myosarcome; 19 were operated on, and 43 were found at autopsy, or in different pathologic museums. The histories of cases are too meager to build up a symptomatology.

DISCUSSION

DR. MAURICE H. RICHARDSON, Boston: While I have not had experience of this kind in stomach surgery, still I have been unable to tell the difference between a malignant tumor of the pylorus and a chronic ulcer. In these cases we can not always have at hand experts with the microscope, with freezing apparatus, sections made, etc., to assist us, and yet we must know on the spot what the diagnosis is. If we can not make a diagnosis we do not know the possibility of these growths. There are many cases in which it is impossible for the surgeon to make an accurate diagnosis at the time, yet he must decide at the time what he is going to do, how much he can determine by the sense of touch, by the sense of sight, and by the experience he has had. Every case of the kind reported widens a man's horizon and adds to his knowledge

DR. CHARLES H. MAYO, Rochester, Minn.: Benign tumors of the stomach are so rare in proportion to malignancy that they are seldom thought of; at the same time, there are a few of these cases in which the tumors have been found to be malignant at autopsy. I recall a case of adenoma of the stomach as large as a pear, with large pedicle, yet not eroded, and not bleeding, which was situated in the posterior wall, projecting into the stomach, and was removed by excision. I also recall three cases of muscular hypertrophy of the stomach that produced obstructive symptoms. These occurred at the pyloric end, and were similar to those that we know of as occurring in children with muscular hypertrophy, encircling the pyloric end of the stomach, producing starvation and death. These cases were in adults, and yet the condition was the same, requiring resection of the stomach as for pyloric tumors.

DR. GEORGE W. CRILE, Cleveland: I want to add a case of myoma of the stomach operated on by my associate, Dr. Lower. The case conformed to the one described by Dr. Thompson. I also want to add a case of adenomyoma in my own experience which was situated in the wall of the stomach. At the time of the operation it was supposed to be a sarcoma. The stomach wall was resected and the patient recovered.

DR. J. E. THOMPSON: I thought I was dealing with a malignant growth, and if I had only known it was a benign tumor a more simple operation would have sufficed, and I should not have removed such a large portion of the stomach.

Conclusions Based on Observations of Five Hundred Cases of Fracture of the Skull

DR. WALTER C. G. KIRCHNER, St. Louis: In treating this subject I give my impressions and conclusions based on experience and observation of several hundred cases of fracture of the skull. Linear fractures of the vault usually do not require operation unless they involve important nerves or sinuses. In depressed fractures the fragments causing depression should be elevated or removed. Experience has shown that in compound fractures, especially when there is injury to the dura or brain, drainage of the wound is usually desirable. Operation for fracture at the base is indicated when hemorrhage is extradural and when there are no signs of compression. The middle fossa is most frequently involved and drainage here can be easily instituted. The practice of examining hematomata by means of exploratory incision, when reasonable precautions are taken, is practically without danger, and often gives valuable information as an aid in diagnosis. The neurologic findings are of value in determining focal symptoms, but when complex brain disturbances exist, they may be unreliable as diagnostic aids and require special interpretation. Brain compression is a positive indication for operation, and as a rule the sooner compression is removed, the better the prognosis. At operation shock and hemorrhage are factors that should be carefully regarded, and operation should be done as speedily as possible. In doubtful cases, when it is probable that the symptoms are caused by brain compression, exploratory operations are indicated. The expectant treatment is to be advocated in those cases in which there are no symptoms of brain compression, in which the temperature and pulse remain nearly normal, and in which the reflexes are but little altered. Unconsciousness in itself is no index of the seriousness of the trouble. Operation is contraindicated in those cases in which the symptoms are the result of intrinsic destruction of brain tissue, when the temperature is high, when the pulse is rapid, and the blood pressure diminished. The importance of a longer period of rest in bed should be strongly emphasized, so that the danger of secondary complications might be avoided.

DISCUSSION

DR. JOHN D. S. DAVIS, Birmingham: I do not agree with Dr. Kirchner in regard to linear fracture I have never seen one that sooner or later did not give trouble as the result of pressure, and I think it is always better in such cases to explore and see whether or not there is any trouble.

DR. J. SHELTON HORSLEY, Richmond, Va: I do not see what we can accomplish by exploring a linear fracture when there are no symptoms, and when the fracture is not compound. If there is marked compression, or if there are focal symptoms indicative of brain trouble, operation should be done at once; but in a case of simple linear fracture without compression, without focal symptoms, we will do more damage than we can do good by attempting to remove some of the bone, leaving a larger raw surface, with more adhesions, and greater likelihood of subsequent trouble.

Dr. Maurice H. Richardson, Boston: I have found operations for acute epilepsy secondary to fracture of the skull so discouraging that I do not undertake them with any great hope of effecting a cure. When people have their heads smashed, more or less, I feel that we must take reasonable precautions to be sure we are not overlooking serious injuries of the skull, thinking perhaps they are trivial. I do not feel that I can add anything to the discussion except to mention the discouraging features of late results from trauma with presumably a certain amount of compression and perhaps a spicule of bone sticking through the dura mater.

Dr. G. W. Crile, Cleveland: I would suggest the use of hexamethylenamin in cases of fracture through the base of the skull, because if large enough doses of this drug be given it will be eliminated in the cerebrospinal fluid, and you may sterilize, it is claimed, wholly or partly the cerebrospinal fluid; therefore in fractures of the base of the skull this drug is of value. To accomplish this it is necessary to give about one hundred grains a day of the drug. This suggestion was made by McCallum of Baltimore. In cases of fracture of the skull I have also used a Bier bandage around the neck, and believe that it seems to be of benefit.

Dr. Miles F. Porter, Fort Wayne: Many of these secondary brain troubles can be averted by exploratory operation, such as Dr. Kirchner has advised in doubtful cases. Also by exploratory operations we can remove conditions which later on will lead to serious trouble, such as epilepsy. About 30 per cent. of children receiving cranial injuries at birth subsequently develop epilepsy, and it is probable that a much larger percentage of these injuries to the skull and brain in adults subsequently cause epilepsy. If these epilepsies are to be cured, if you will permit an Irish bull, you must cure them before they begin. After the epileptic habit is established, even though it be clearly of traumatic origin, these patients do not respond very well to surgical procedures; a large number are only cured temporarily. The lesson is this: If we expect to do good in these cases it must be done by early operation. We must seek to prevent the development of epilepsy rather than to cure it after it has once been established. I heartily favor the suggestion that in these cases, where there is doubt, this doubt may be expelled by an exploratory operation, which should be done just as we would explore, for instance, the abdominal cavity.

Dr. Le Grand Guerry, Columbia, S. C.: The use of hexamethylenamin has been mentioned by Dr. Crile; I think it was accidentally discovered by Dr. McCallum; that is, he recovered pure formaldehyd from a biliary fistula in a patient in the hospital, and afterward the pure formaldehyd was recovered from the cerebrospinal fluid after the use of hexamethylenamin. Dr. Cushing of Baltimore last year advocated decompression in the relief of these fractures of the base of the skull. I have had some experience with this operation and am favorably disposed toward it.

Dr. R. M. Cunningham, Birmingham, Ala.: I have seen 150 cases of fractures of the skull. They can be divided into four classes: First, those in which the patients are killed immediately or die within a few hours. They call for no comment. Second, those in which there are gross surgical lesions and pronounced neurologic symptoms. Third, those in which there are gross surgical lesions, with few or no neurologic symptoms. Fourth, those in which there are pronounced or slight neurologic symptoms, but no gross or surgical lesions. The first class of cases call for no comment because the patients are dead or will soon die. There should be no dispute over the second class, because when there is a lesion and symptoms operative procedure is called for. The third class, those in which there are gross pathologic lesions, and no or few neurologic symptoms, are common in fractures of the vault in which there is depression or comminution of bone, with or without symptoms; these should be operated on. Many of these cases can be operated on early without any shock or danger attending the procedure. When there is a linear fracture without depression and without symptoms, I usually determine the source of the injury. If the fracture is by direct violence, with a small implement, or was produced by a fall from a height on some obstacle, if there is the least indication of depression of the external table, and a linear fracture leading off, perhaps stellate, I operate, because there is a strong probability that the internal table is scaled off and is stuck into the dura. If it is from the vault, on a smooth surface, like the floor or the ground, or a blow with a large implement, and there is a crack in the skull without any visible depression of the external table, and without its radiation in a stellate direction, and without neurologic symptoms, I do not operate. A crack in the skull will heal with but little callus, and there is little danger of a tumor or endostosis growing from the surface of the brain. In my experience many of these patients go back to work with a crack in the skull.

Dr. Horace J. Whitacre, Cincinnati: It is my practice, no matter how slight the injury, to keep these patients away from business and from all mental work for a long period of time. I have kept schoolboys from going to school for six months, and business men away from their business for from six months to a year after injuries to the skull, even though they were apparently well and had recovered promptly.

Fractures of the Elbow Joint

Dr. Robert Carothers, Cincinnati: I have selected three points for consideration: First, the importance of a correct diagnosis; second, current apposition and maintenance of the fragments; and third, early passive motion. A diagnosis is based on the physical signs present and confirmed by x-ray plates made at right angles to each other of the injured elbow. It is the careful study of the case that counts, such as the cause of the accident, the age, comparison of the injured with the uninjured elbow, and then an elucidation of any and all the signs of fracture, and especially as applied to the location under consideration. After this evidence has been obtained, with a careful study of the x-ray plates, one is able to arrive at a diagnosis which is not only complete but likewise scientific. Since these injuries occur with such frequency in childhood, in reading an x-ray plate in such a case one must have in mind the ossifying centers in the immediate neighborhood of the elbow joint, and not be misled thereby. I can not lay enough stress on the x-ray examination of fractured elbow joints, for a diagnosis otherwise made is a guess at the best. The most frequent fractures are of the internal or external condyle, the lower end of the humerus, epiphyseal separation, Y-shaped or T-shaped fractures, fractures of the olecranon, and head or neck of the radius. In the case of a detached external condyle, apposition by manipulation and maintenance by adhesive plaster splints with traction and a plaster-of-Paris bandage for protection, the forearm being semi-flexed and pronated, is all that is to be advised in the majority of cases. In an epiphyseal separation, fracture of the lower end of the humerus, the line of fracture from above downward, and from behind forward, and the misplaced fragment being upward and backward, also in the T-shaped and Y-shaped fractures, apposition is best effected by first extension, then traction of the fragment, and, last, extreme flexion of the forearm. Maintenance is secured by a plaster-of-Paris splint, which will insure overflexion of the forearm. In the so-called chisel fractures of the head of the radius the repair is usually with so much callus and impairment to function of the joint that it is advisable, unless for some good reason contraindicated, to remove the broken fragment. In the fractures of the neck of the radius, the best results will be obtained by making apposition which ordinarily is easy by manipulation and maintaining the same with the forearm in a semiflexed position to overcome a possible displacement of the biceps.

(*To be continued*)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held Nov. 25, 1908

The President, Dr. A. M. Eaton, Philadelphia, in the Chair

SYMPOSIUM ON VACCINATION

The Rôle of the Bureau of Health in Public Vaccination

Dr. Alexander C. Abbott: When smallpox appears in a community the people are supplied with two weapons of defense: First, hospitals for the segregation of cases; second, vaccination. The former is of great convenience in lessening the number of foci in private houses and in placing patients under conditions where they can be properly cared for; but, compared to the value of vaccination in getting smallpox out of the community and preventing it from reappearing, it is nothing. There is no general compulsory vaccination law, but we have a good law which if conscientiously and discreetly administered will prevent serious outbreaks of smallpox.

The first rôle of the Bureau of Health is soberly and as a matter of course to pay particular attention to vaccination. Since July 1, 1903, there have been 324,816 persons vaccinated in the routine work of the Bureau of Health. This does not include vaccinations by physicians in hospitals, dispensaries, orphan asylums and every place where people congregate. Since Jan. 1, 1904, the Bureau of Health has paid out $19,110 for vaccine virus We estimate roughly that it costs the city about 27 cents for a single vaccination. In the epidemic of 1903, while we had no difficulty in persuading most employers of labor to require a certificate of successful vaccination from employés, I believe that to be a measure well worth bearing in mind. We had intelligent cooperation also from the hospitals in their agreeing to require a certificate of successful vaccination from all visitors. A point which we insisted on with only partial success was that since the state favored vaccination any institution receiving state aid should see that its inmates were vaccinated. That is a point which I think can be well taken. If among all people vaccinated there had been many serious results I think it likely we would have heard of them.

I have heard of one death, with the death certificate marked with vaccination as the primary or secondary cause, I do not remember which. Investigation showed that the child had septic pneumonia when it died; we learned that the man who signed the death certificate did not believe in vaccination. I think that half a dozen cases in which the mothers have brought their children to my office represent the maximum of bad arms we have heard of. In one case which looked particularly nasty we took off a filthy rag which the child had been wearing since the vaccination; the sore had become infected and was suppurating. The child was put into the hands of a competent person and rapidly recovered. This was the trouble with practically all cases of bad arms brought to the health office. At the opening of school dozens and dozens of children present to the inspector certificates of successful vaccination signed by perfectly competent and, so far as I know, perfectly honest physicians, but the most careful examination can show no evidence of a vaccination scar. I have about 500 such certificates in my office. Inquiry showed that in the majority of cases, while the wound was drying the certificate was written and the physician never saw the child again. Another interesting phase is that of the so-called immunes from vaccination. You would not, however, find many immunes if good virus were used. I believe that some vaccinations are done so carelessly that bad results only can be expected. The vaccination should be done with surgical care and with properly prepared virus.

Smallpox Before and Since the Discovery of Vaccination

Dr. Jay F. Schamberg: The date of the origin of smallpox has not been definitely established. Smallpox was as prevalent among the inhabitants of European countries in the eighteenth century as measles is at the present time. The distinguished mathematician, Daniel Bernouille, calculated that not less than 15,000,000 human beings died of smallpox in twenty-five years. When these and other figures are added to the deaths due to devastating epidemics in Asia, Africa and America, the estimate of Bernouille does not appear to be overstated. Vaccination has totally changed the age period of smallpox. It is exceedingly rare for a successfully vaccinated child under 5 years of age to die of smallpox, and such death is uncommon in a child under 10 years who is successfully vaccinated. The careful records of smallpox mortality kept in Sweden and England make it possible to prove by documentary evidence that a marvelous decrease in the deaths from smallpox occurred within a short period after the introduction of vaccination. In the twenty-eight years before vaccination in Sweden, there died each year from smallpox out of each 1,000,000 of population 2,050 persons; during the forty years following vaccination, out of each 1,000,000 of population the smallpox deaths annually averaged 158. Such figures might be multiplied by reference to the records of other countries. The opponents of vaccination declare that the decrease in smallpox is due to the discontinuance of inoculation. Unfortunately for this contention, the increase in the prevalence of smallpox during the eighteenth century can not be attributed to inoculation, for were this the case then the increase should have been apparent only after the introduction of inoculation; whereas, as a matter of fact, the increased prevalence was noted before that period. In Sweden, where inoculation was never practiced to any extent, the fall in smallpox after the introduction of vaccination was as marked as in any country. It has been, furthermore, alleged by the opponents of vaccination that the decline in smallpox was the result of improvement in sanitary conditions. While it may be conceded that such improvement tends to lessen the fatality of all infectious diseases, not excluding smallpox, it is totally inadequate to explain the striking and progressive decline in the prevalence and mortality from smallpox that followed the introduction of vaccination. Again, improved sanitation has caused a reduction of the general death rate of the country of only 9 per cent. Another noteworthy fact is that the decline in the death rate from smallpox has been limited entirely to persons below the age of 15. The percentage of mortality borne by children the subjects of measles, scarlet fever, and whooping cough does not differ materially from what it was a century ago. In order to exterminate smallpox we must have not only universal vaccination, but also its logical complement, universal revaccination. The only country of importance which has for any period carried out vaccination in this manner is Germany, and of all the important countries of the globe Germany is freest from smallpox. If there were in evidence no other statistical evidence of the efficacy of vaccination as a preventive measure against smallpox, the official figures of Germany since the enactment and provision for proper enforcement of the compulsory vaccination and revaccination act in 1874 would constitute adequate and convincing testimony.

So-Called Dangers of Vaccination

Dr. William M. Welch: My attention has been given to the vaccination process in many thousand persons without the observation of a single death. In a number of instances of alleged death from vaccination I have found that death was caused by some disease entirely independent of the vaccination or by some virulent poison introduced through carelessness. Jenner demonstrated in the most conclusive manner that vaccination was prophylactic against smallpox and unattended with danger before he ventured to publish it to the world. He wrote: "I placed it on a rock where I knew it would be immovable before I invited the public to look on it." Whenever his instructions have been carefully observed in regard to the method of vaccination, nothing but good results have followed. In spite of the fact that vaccination was shown to possess complete mastery over smallpox, there arose a band of antivaccinationists who persistently maintained that the agent had no merit whatsoever, even insisting that if the practice were continued it would eventually transform man into a hideous monster presenting some of the characteristics of both the human being and the bovine animal. Of all the supporters of Jenner, Waterhouse was the most worthy, but, despite his great care, vaccination not infrequently fell into the hands of practitioners who not only disregarded his precautions, but violated every rule laid down by Jenner, and vaccination was, therefore, threatened for a time with serious discredit.

Erysipelas is an infrequent complication in vaccinia. When pure virus is used, erysipelas is not liable to occur, except as the result of secondary infection. The alleged cases of leprosy are open to serious doubt. Whether or not it is possible to transmit tuberculosis through the agency of the bovine lymph is not yet determined. The danger, however, is not great, and may be obviated by having the vaccine virus taken from calves. Tetanus following vaccination is said to be unknown in France, Germany and other countries of continental Europe. Inquiry into a number of alleged cases in this country showed that the poison was not introduced simultaneously with the vaccination virus, but subsequently. I know of no case of tetanus after vaccination in which the tetanic symptoms appeared earlier than two weeks subsequent to vaccination. With the safeguards which at the present time surround the process of vaccination I feel perfectly safe in saying that if the individual be in normal condition, the operation conducted with surgical cleanliness and if the wound be guarded until the scab forms and falls off naturally, no dangerous consequences need be feared.

The Legal Aspects of Vaccination.

Mr. Hampton L. Carson: I shall confine myself strictly to the judicial aspects of the matter, leaving entirely out of view considerations of legislative discretion. The question is whether a statute of compulsory vaccination is within the constitutional power of the legislature, and whether it is an invasion of the personal liberty of the citizen. In Osler's "Practice of Medicine" it is stated substantially that a large unvaccinated population had grown up in Montreal in consequence of the prejudice against vaccination. One Pullman car conductor suffering from smallpox came from Chicago to Montreal, Feb. 28, 1885. Within the next ten months several thousand cases of smallpox occurred, and 3,184 persons died out of a population of 185,000; the number of cases of deformity, blindness, etc., resulting can not be estimated. A correspondent of mine asked whether it was not an invasion of the personal liberty of all the citizens of Montreal when one man was allowed to make thousands sick and deformed and kill 3,184 people simply because that one person was not vaccinated. The answer is plain. The Supreme Court of Pennsylvania has declared that compulsory vaccination "is not only justifiable, but a wise and beneficient exertion of the police power over the public health." Should a law be passed requiring general vaccination, no question can be successfully raised in the courts to challenge the authority of the statute.

Discussion on Smallpox.

Dr. W. W. Keen: In the case of the Pullman car conductor in Montreal, cited by Mr. Carson, I have no doubt that, when he developed smallpox, he was seized and incarcerated in a hospital until he was well or dead, and the question arises, Which of the two is the greater invasion of personal liberty, the infliction of the minor wound of vaccination or the seizure of a patient and the putting him into a hospital? The experience of the United States in its insular possessions illustrates graphically the value of vaccination. After the Americans took possession of Porto Rico, during the epidemic of smallpox, the government vaccinated over 800,000 persons, and in four months smallpox was abolished from the island. This was not due to a change in sanitation, but solely the result of vaccination. In the last annual report of the Chief of the Sanitary Department in the Philippines, the statement is made that in seven provinces of the islands there had been for a number of years an annual number of deaths of 6,000 from smallpox. That would mean 25,000 or 30,000 cases in all. In twelve months following the institution of vaccination in those seven districts there was not one death from the disease as against 6,000. Can there be a more magnificent illustration of the value of vaccination?

Dr. B. Franklin Royer: The fear of vaccination because of its untoward action is largely the result of vicious literature. I have never seen a death from vaccination even when the patient was already carrying the load of a serious disease.

Dr. M. Clayton Thrush: At the recent meeting of the antivaccinationists in this city I took down verbatim some statements used to seduce the people to accept their views. A prominent Philadelphian, a cultured literary man, said that the only people who could take smallpox were those whose bodies were filthy. Other statements made were that people died from vaccination because they were inoculated with poison; if men would only think for themselves they could not help condemning vaccination, for a race of real men and women could not exist so long as poison was put into their veins The lower birth rate in France was stated to be due to vaccination. The statement was made that the only thing that saved this country was immigration, the unvaccinated immigrant keeping up the birth rate. Boards of health were termed "boards of ill health." Vaccination was said to be advocated by medical men for what they got out of it. Lantern slides were exhibited showing cases of tuberculosis, syphilis and deformities of all kinds, and it was said that all were the direct result of vaccination.

Dr. Jay F. Schamberg: If there is one sound argument that antivaccinationists might urge, it is that vaccination is a procedure not absolutely unattended with risk; but neither is any other human procedure. The wound of vaccination, if maltreated, produces a bad result as would any other wound under bad treatment. I believe that most of the antivaccinationists are perfectly sincere in their convictions, but they close their minds to facts and logic, and I am not sure that they would be convinced by an actual demonstration of conditions. The great fault with which we physicians may be accused is that we have remained silent while a small but determined band of antivaccinationists spread literature among the people. Sensible people will accept the voice of the medical profession. Should there be legislative enactment in favor of the antivaccinationists, it is an absolute certainty that within two or four years laws would be enacted with increased vigor, much more widespread and positive in the requirement of vaccination. The first epidemic of smallpox would lead to this. We know that we can trust in the good sense of the American people.

Dr. William M. Welch: During the epidemic of smallpox in our city from 1901 to 1904, of the more than 4,000 smallpox patients admitted to the Municipal Hospital, there was not a single patient who had been successfully vaccinated within five years and only very few who had been successfully vaccinated within ten years. Among the many students who came to the Municipal Hospital to study smallpox one was unvaccinated. Within two weeks of the time he came to study the disease he entered as a smallpox patient. A large number of infants were born in the hospital of mothers suffering from a mild form of varioloid. They were vaccinated on the very day they were born and the vaccination took while they were nursing from the mother's breast; yet they were perfectly protected throughout. Another instance was that of a family in which two of the children had been vaccinated on reaching the school age. The parents were antivaccinationists, and with their four other children were unvaccinated. When the smallpox broke out they were stricken and entered the hospital The children who had been vaccinated came to the hospital with their parents. They slept with the other children, ate in the same room and had perfect health throughout the several weeks in the institution. In the after-care of the vaccination wound I do not like the use of the shield. The wound should be protected from the woolen underclothing by a perfectly clean piece of muslin, but the clothing must be loose so that the vaccine vesicle will not be disturbed. A wire screen is used sometimes with advantage to keep the clothing from the wound.

A resolution proposed by Dr. John B. Roberts was passed. to the effect that the committee of the state society on vaccination be requested to arrange for a conference between the committee and representatives of the transportation and manufacturing companies of Pennsylvania, having for its end a combined effort to prevent any change in the vaccination laws which would lessen the security against epidemics of smallpox.

Medicolegal

New Doctrine as to Liability of Charitable Corporations for Acts of Agents or Servants, with Classification of Typical Cases

The Supreme Court of New York, Appellate Division, Second Department, says that Kellogg vs. Church Charity Foundation of Long Island was an action against a charitable hospital corporation for damages for injuries to the plaintiff by being run into in the street by an ambulance of the defendant by the negligence of the driver. There was a dismissal of the case on the ground that charitable corporations are not liable for the negligence of their agents or servants, i. e., that the rule respondeat superior (the superior must answer) does not apply to such corporations. The judgment should be reversed.

The question presented has been dismissed in a large number of cases in this country. The opinions and decisions are not only conflicting, but those which reach the same result do not agree on any rule of exemption from lability, and many of them rest on stated reasons or grounds which may well be challenged as fallacious. This court is free from the constraint of authority, for the question has not been settled in New York State, if, indeed, in any state. There seem to be no such cases in England.

For a correct understanding it is necessary to classify the cases. When that is done the limits of the question will be perceived, and it will also appear that its discussion in most of the cases was irrelevant.

1. There are a considerable number of them, such as Corbett vs. St. Vincent's Industrial School, 177 N. Y. 16, and Benton vs. Boston City Hospital, 140 Mass. 13, which serve as examples of the whole class, in which non-liability rests on the ground that the charitable institution was acting as an agency of sovereignty, and as such shared with it its immunity from being sued, as the familiar rule is. These decisions are promiscuously cited as applicable or as makeweights in cases where such agency did not exist, but obviously have to be left out of consideration in so far as the point actually decided in them is concerned; and the expressions in the opinions outside of that are not binding.

2. In the great bulk of the cases the negligence sued for was that of physicians or surgeons, or of nurses and similar employés, to patients in such charitable institutions. It may well seem strange that lack of liability in such cases should be so invariably put on the ground that the defendant for being a charitable institution was not subject to the rule respondeat superior, which applies to the relation of master and servant in respect of torts (wrongful acts) to third persons by the servant; for such relation of master and servant does not exist as to third persons in the employment of physicians and surgeons, and the like (unless, to be sure, by contract). They are not servants, but in an independent employment; and with them must be classed, on the same principle, it would seem, their assistants, nurses and the like, in the things in which they necessarily act under their control and direction, instead of that of the employer.

3. We are now come, by process of elimination, to a precise test of whether, and, if so, in what cases, charitable institutions are exempt from the general rule respondeat superior in respect of the torts of their servants.

(a) In many of the cases much is made of the fact that such institutions derive no profit or benefit, on the question of whether such rule applies, or, indeed, whether they can be held liable for any torts. But that exemption from liability does not arise from that fact is manifest from the undoubted liability of other similar institutions which derive no profit or benefit.

(b) In many if not most of the cases a ground for the nonreliability for the torts (wrongful acts) of agents or servants of charitable institutions is that to pay damages for such torts would be a diversion of their funds from the trust purposes for which they are donated by the charitable, and thus a contravention of the trust, and that as such institutions have no other funds it would be futile to allow judgments to be taken against them in such cases. But the opinions of the judges in these same cases almost invariably except cases where the agent or servant was incompetent and there was negligence in his selection; failing to take note that it would be as much a diversion of the trust funds to pay damages for the tort of negligence in selection as for any other tort. If the rule exist it must necessarily apply to all torts and in all cases. The only support for the argument that it does exist is found in the remarks of judges in certain rather old English cases, which were repudiated in later cases, and never had a direct application to actions of tort against charitable corporations such as are now common. The position of such a corporation in respect of its torts would seem to be the same as that of an individual carrying on similar charitable work with donated funds or with his own funds. I (the writer of this opinion) do not understand that if my servant, sent out by me on an errand of mercy or charity, negligently runs over one in the street, I am not liable for his act.

4. In what cases, then, is such a person or corporation freed from the rule of respondeat superior? That rule exists only where the strict relation of master and servant exists out of which such rule grows, as we have already seen; it does not grow out of every case of one employing another. We must therefore come down to employés in respect of whom such relation of master and servant can exist, for it is useless to talk of the said rule in respect of employés who are not such servants—who are above their grade of service—as is the case of physicians and surgeons, and the like. This brings the question down to the ordinary run of servants, who are subject to the direction of the master at any moment in the manner and way of doing the work assigned to them, in general and in detail.

If a charitable institution is to be freed from the rule respondeat superior a ground therefor must be found in law. If, then, in order to find a ground, we again resort to classification of the cases that have come into the courts, or that may arise, and separate torts of such servants against beneficiaries or patients of the charitable trust or institution, from torts against outsiders, a ground for such exemption may be perceived in respect of the former, but not of the latter.

The law may imply an intention on the part of the donors of the charitable funds that such funds shall be used for the charitable purpose only, and then imply an acquiescence in this intention by all persons who accept the benefits of the charity, and in that way spell out a waiver by such persons of any responsibility of the institution for the negligence or torts of its servants. If the courts want to exempt such institutions, this may be a tenable, though some may think a rather ingenious or far-fetched ground on which to do it. But no such acquiescence or waiver can be attributed to an outsider; to a person run over in the highway by the ambulance of such an institution by the negligence of its driver, for instance.

5. It is probably manifest enough at this stage that there are tort cases against such institutions which do not come within the foregoing classifications and discussion at all. Cases where the duty owed is one specifically cast on the defendant by law, and therefore incapable of being evaded or escaped by being delegated to any servant. Liability in such cases does not rest on the rule respondeat superior, but on the narrower one that the duty is one for the defendant to perform itself, and into which the question of the negligence of servants does not enter. Of course if such institutions were to be held not liable for their torts or neglects in respect of duties which can not be delegated to servants, they would be held not liable for any torts of servants also for the reason of exemption, whatever it might be; but there is not any disposition to exonerate them from the former liability. For instance, the cases generally admit that they would be liable for negligence in the non-delegable duty of selecting competent servants or employés, of whatever grade or kind, as we have seen.

Current Medical Literature

Medical Record, New York

December 19

1 *Prognosis and Treatment of Deep Lesions of the Eye, Associted with Gout, Especially Secondary Acute Glaucoma. C. S. Bull, New York.
2 Local Anesthesia in Major Surgery, with Especial Reference to Abdominal Work. W. S. Schley, New York.
3 *Tuberculosis in Hospitals for the Insane. R. H. Hutchings, Ogdensburg, N. Y.
4 Etiologic Indications in the Treatment of Pneumonia. H. B. Knapp, Wiconisco, Pa.
5 Diagnostic Points in the Recognition of Perforated Gastric and Duodenal Ulcers. B. T. Tilton, New York.
6 Hospital Notes Taken During a Visit to Scandinavia. J. B. Boucher, Hartford, Conn.
7 Lymph Propulsion and Exchange. G. N. Jack, Buffalo.
8 New Method for Administering Ether as an Anesthetic. A. L. Soresi, New York.

1. **Eye Lesions and Gout.**—Bull says that while the association of grave lesions of the retina and chorioid are by no means of common occurrence, they seem to be increasing in frequency and are very destructive of vision. Such lesions particularly call for the cooperation of the family physician and the ophthalmologist. The patients are markedly gouty, past middle age, and leaders of an ultrastrenuous life. The intraocular inflammation was never simultaneous with an acute arthritic attack but an intestinal attack always followed, in Bull's cases, and the urine showed marked excess of uric acid and high indican percentage, denoting faulty metabolism of fermentative intestinal origin. The uric acid acts not only as a toxic agent, but as a mechanical irritant. All the patients showed the well-known cardiovascular changes of chronic lithemia. Bull discusses the pathologic conditions, chief of which is increased blood pressure, which causes intraocular tension and consequent hemorrhages into the eye. The hemorrhages occur early in the disease, and are less likely to happen later when the vessels have become thickened by the disease. The great danger is the development of acute glaucoma, which is especially prone to occur in the hypermetropic or very astigmatic eye. The treatment and management of these patients varies with age, general condition, nature of lesion, and severity of type. Habits of life must be regulated—as much quiet as possible, moderation in eating and drinking, and curtailment of meat are necessary. Systematic exercise in the open air is called for. The moderate use of alcohol, if it is well diluted, need not be interdicted, for while alcohol dilates the peripheral blood vessels, it does not appreciably increase the blood pressure as tobacco does, which last must therefore be forbidden or reduced. Water should be taken frequently between meals. To reduce blood pressure, sodium nitrite, combined with a heart tonic, is useful. If the blood pressure is very high vasodilators must be administered slowly, and their effects on blood pressure, pulse rate, and sensations of the patient, carefully noted. Bull regards the last point as of even greater importance than the other two. Locally, pilocarpin in 0.5 per cent. or 1 per cent. solution should be used to draw the iris from the anterior chamber and to lower intraocular tension. Smoked glasses, not darker than tint No. 3, should be used. An iridectomy in an acutely inflamed eye requires general anesthesia, which in the general condition of the patient increases the danger. In 5 cases reported, iridectomy was avoided by the following methods: Under a strong solution of cocain a paracentesis of the cornea was done and the aqueous humor allowed to flow out, drop by drop, from the anterior chamber, thus lowering the tension very slowly and avoiding danger of intraocular hemorrhage. Two leeches were applied to the temple until they dropped. A solution of eserin sulphate, one grain, and of pilocarpin, four grains, was instilled every hour, until, under the combined influence of the paracentesis and the use of meiotics, the eye softened and the pain grew less. The eserin and pilocarpin are applied less frequently as the tension and pain subside, and hot applications to the eye are used, 20 drops of the fluid extract of jaborandi also being given internally three times a day.

3. Abstracted in THE JOURNAL, Nov. 28, 1908, p. 1897.

New York Medical Journal

December 19

9 *Treatment of Biliary Disease as Determined at Operation. H. Lilienthal, New York.
10 The Mistletoe. J. Knott, Dublin, Ireland.
11 Is Not the Tubercle Bacillus the Cause of Cancer? T. G. McConkey, San Francisco.
12 *The Anamnesis of Subjects of Exophthalmic Goiter. E. J. G. Beardsley, Philadelphia.
13 Hemorrhages into the Vitreous Body in the Adolescent. J. A. Gehrung, New York.
14 Lumbar Puncture in Otology. S. Oppenheimer, New York.
15 Scarlatinal Epidemic from Infected Milk Bottles. H. B. Wood, Philadelphia.
16 Effect of Mammalian Pituitary on Tetany After Parathyreoidectomy and on the Pupil. I. Ott and J. C. Scott, Easton, Pa.

9. **Biliary Disease.**—Lilienthal says that the surprises of abdominal section occur in one's early days of surgery. Later, the surgeon learns not to be surprised at any condition, however interesting or unusual, within the peritoneal cavity. A quiet and safe uncertainty replaces the beautiful confidence and accuracy of youth, and cool and instant acceptance of conditions the unexpected shock of an overturned diagnosis. It is better not to operate unless there is full permission to do everything necessary for the welfare of the patient. Even a normal gall bladder, in the absence of gastric, duodenal, or renal disease, had better be removed if the symptoms are grave enough to warrant operation, and exploration results otherwise negatively. Pericholecystitis with suppuration may render unwise the necessary dissection for the removal of the gall bladder, even though its walls are thickened and other conditions for cholecystectomy are present. Temporary relief with later radical intervention is the wiser course. While, in the presence of icterus, the operation should not be stopped until the bile flows, the mere appearance of bile may not mean that we have done all that should be done. It may be necessary here, however, to be satisfied with palliative measures, performing a radical operation later. When, however, there is a distended gall bladder with sepsis, with or without icterus, the gall bladder may be emptied or removed and the entire operation concluded without show of bile, provided the patient is too weak to permit of persistent dissection. In the aged and extremely feeble, as little should be done as will suffice to overcome the present emergency. Never, except in the presence of collapse, should the abdomen be closed without examining the pylorus and pancreas. As to technic. Lilienthal advises the use of but little gauze packing, even of the temporary variety. In disease of the common duct the organ is more easily reached and manipulated when the gall bladder has been removed and the cystic duct drawn up by traction sutures. Finally, he advises leaving the traction sutures in place as a precaution against hemorrhage.

12. Abstracted in THE JOURNAL, October 31, 1908, p. 1543.

Boston Medical and Surgical Journal

December 10

17 *Subcutaneous, Cutaneous and Conjunctival Use of Tuberculin in Diagnosis. Technic, Reliability. Results of Animal Experimentation. F. T. Lord, Boston.
18 *Transmission and Progress of Tuberculosis in Children Through Family Association. C. Floyd and H. I. Bowditch, Boston.
19 Chronic Intestinal Catarrh (to be continued). L. C. Miller, Worcester, Mass.
20 *Certain Evil Tendencies in Medicine and Surgery (concluded). M. H. Richardson, Boston.
21 *Hygienic Adjustable Bath Douche Hammock. G. L. Hagenburger.

December 17

22 Difficulties, Professional and Social, of the Early Recognition of Tuberculosis, and Suggestions as to the Remedy. E. O. Otis, Boston.
23 *Medical Inspection of Schools from the Standpoint of the Medical Inspector. J. T. Sullivan, T. J. Murphy and M. J. Cronin, Boston.
24 Epilepsy (to be continued). E. Flood, Boston.
25 Shall the Tuberculous Patient Be Treated in the Home Climate or Sent to Some Region with a More Equitable Climate, Where More Hours Can Be Spent in the Open Air with Less Discomfort? I. W. Brewers, Boston.
26 *The New Silver Salts as Compared with Silver Nitrate in Treatment of Ophthalmia of New-born Children. H. Derby, Boston.
27 Chronic Intestinal Catarrh (concluded). L. C. Miller, Worcester, Mass.

17. **Tuberculin.**—Lord's comparative investigation of the subcutaneous, cutaneous, and ocular tests with tuberculin, including the results of animal experimentation, lead him to conclude that reactions with any one of the three tests, when

properly performed, indicate tuberculosis somewhere in the body. It may not be where the clinical data lead us to suspect it, and reactions may occur in the presence of latent, inactive as well as active, foci. This must be constantly in mind in applying the results of the test to individual cases. In patients suspected of tuberculosis, a positive test is only one more factor to be considered in establishing the diagnosis, while a negative test is of much greater value and goes far toward disproving the tuberculous character of the disease in question. Of the three tests, von Pirquet's cutaneous method appears to be harmless and reliable. It is probably more delicate than the conjunctival and subcutaneous tests and hence more often responds to latent, inactive and unimportant foci. So far as can be judged, there need be no hesitation in its application.

18. **Transmission of Tuberculosis in Children.**—Floyd and Bowditch discuss the influences favoring infection in the child, modes of infection, incidence, other factors influencing infection, types of disease, symptoms and signs, and diagnosis and treatment. In regard to prophylaxis they consider as important for the protection of children, the following measures:

1. Early notification of all births.
2. Better inspection and control of the cities' milk supply.
3. Systematic school inspection.
4. Housing reform.
5. Segregation of advanced cases.
6. Required notification of the disease.
7. Provision for the care of pulmonary tuberculosis in children.
8. Education of all school children on matters of general hygiene. Nearly all these measures are being enforced in Massachusetts and, as the forces of sanitation and education advance, the solution of the problem of tuberculosis is nearer.

20. **Evil Tendencies in Medicine and Surgery.**—Richardson concludes his article and suggests as a remedy thorough and persistent preparation for the practice of surgery, 1, by careful preparatory study; 2, by abundant clinical experience; 3, by the cultivation of a calm, judicial temperament and the accurate weighing of evidence; 4, by the exercise on every possible occasion of "control" over diagnosis; 5, by the determination always to consider both sides of a question; and 6, by assiduous preparation for the mechanical and technical steps of operative procedure.

21. **Bath Douche Hammock.**—Hagenburger has satisfied himself by experimenting with litmus paper, gauze, etc., placed in the vagina, that in a douche administered in the ordinary position, the fluid does not remain long enough to remove foreign substances and vaginal secretions, or to confer the real benefit of hot water (plain or medicated). He has therefore invented a hammock which can be attached to any bathtub enabling the patient to lie with the hips elevated so that a douche can be effectively administered, the vagina being made to act as a reservoir, and all soiling and discomfort of clothing or bedding avoided. It can also be used for high rectal enemata.

23. **Medical Inspection of Schools.**—Sullivan, Murphy, and Cronin describe the history of medical inspection of school children, which was first inaugurated in this country, in Boston, in 1894, the primary object being the detection of communicable diseases. They discuss the present working, and to remedy the inefficiency of the present system, make the following recommendations:

1. That the whole system of medical inspection, including physicians and nurses, be placed under the control of the board of health.
2. That a chief medical inspector be appointed, with deputies, if necessary, to have full authority over all, his function being to direct and control the work of the district inspectors and to see that each performs the duties required; also, through a supervising nurse, to direct the work of the nurses.
3. That the medical inspectors' powers be definitely determined and specifically set forth, and that a proper compensation be given.
4. That the nurse must be subordinate to the district medical inspectors and work only under their direction.
5. That a card system of records be devised, to be filled out by both physicians and nurses, one set to be kept at the schools and another set at the office of the chief medical inspector.
6. That the board of health and the school committee cooperate in bringing about such needed reforms.

The authors feel confident that a system carefully prepared along these lines would prove ideal.

26. **New Silver Salts.**—Derby believes that the good results obtained at the Massachusetts Eye and Ear Infirmary, where it was recently stated that silver nitrate had been replaced by the newer salts, are due to the systematic and thorough cleansing of the eye, rather than to the remedies. As a result of experiments, his own faith in silver nitrate is unshaken, and he believes that it is the only agent that should be trusted in cases outside a hospital.

Lancet-Clinic, Cincinnati

December 12

28 Disturbances of the Stomach in Pulmonary Phthisis. F. L. Rattermann, Cincinnati.
29 *Incidence of Gall-Bladder Trouble and Gastric Ulcer. Differential Diagnosis, with Report of Cases. J. A. Lichty, Pittsburg.
30 *Recent Developments in Psychiatry. R. Reed, Cincinnati.

29. Abstracted in The Journal, Nov. 21, 1908, p. 1805.

30. **Psychiatry.**—Reed summarizes the history of the development of psychiatry and believes that, as in the case of infectious diseases, the best part of its future lies in the realm of preventive medicine. He suggests: first, an improvement in our public school system, greater individualization. "We have plenty of common schools for common children; why can not we have in every city uncommon schools for uncommon children?" Sane instruction as to temperance in alcoholic stimulants should replace the exaggerated statements of many school physiologies, which by receiving the lie from the children's own personal observation in their own homes lead to a reaction of sentiment. Second, the profession should make common cause with the propaganda against venereal diseases. Third, the author regards the spreading of habits of scientific thought and the extreme commercialism of everything modern, by their narrowing of the field for frank and innocent expression of emotion, as fruitful causes of insanity. The repression of emotions and natural instincts results in a source of "mental autointoxication," while their temperate expression favors a "psychic catharsis"; hence mental cults and other things tending to produce introspection are fruitful causes of insanity. He pleads for the establishment in all large cities of a hospital and clinic for the care of the acutely insane and those suffering from psychoses in process of development.

Medical Fortnightly, St. Louis

December 10

31 The Toiling Children. B. Holmes, Chicago.
32 *Fused Kidney (Horseshoe Kidney). B. Robinson, Chicago.
33 *Treatment of Eczema. R. L. Sutton, Kansas City, Mo.

32. Abstracted in the Society Proceedings in The Journal, June 6, 1908, p. 1931, and published in the *Illinois Medical Journal*, December, 1908.

33. Published in *Boston Medical and Surgical Journal*, Sept. 3, 1908.

Virginia Medical Semi-Monthly, Richmond

December 11

34 *Some Insect-Borne Diseases. G. L. Collins, Fort Monroe, Va.
35 *Sterilization of Habitual Criminals. C. V. Carrington, Richmond, Va.
36 Causes and Treatment of Frequent Micturition and Dysuria. C. S. Venable, San Antonio, Texas.
37 *The Minin Light. M. W. Peyser, Richmond, Va.
38 *Physiologic Action of Electrical Currents—Brief for Their Intelligent Use in Therapeutics. W. H. Wallace, Brooklyn.
39 *Value of the *X*-Rays in Chest Diagnosis. A. L. Gray, Richmond, Va.
40 The *X*-Ray in Treatment of Skin Diseases. T. W. Murrell, Richmond, Va.

34, 37, 38, 39. Abstracted in The Journal, Nov. 7, 1908, pp. 1624, 1625.

35. **Sterilization of Criminals.**—Carrington urges the sterilization of habitual criminals, and reports two cases so treated by him in the Virginia State Penitentiary. The first was a colored man, sentenced to a long term for a particularly brutal murder. He was transferred to the Colored Insane Asylum, Petersburg, where he killed a fellow inmate and nearly killed an attendant. He was bandied to and fro between the asylum and the penitentiary, and was finally sterilized. He was very wild, strong and cunning, and a determined masturbator. To-day, six years after sterilization, "he is a slick, fat, docile prisoner, a trusty about the yard—cured by sterilization." The second case was that of a young degenerate, "a notoriously lusty, beastful sodomist and mas-

turbator," who is now a docile model prisoner. Carrington's method is to make a slight nick through the skin of the scrotum, near the pubis, and with a curved needle to take up the vas deferens and vessels and tie them all off. One catgut stitch closes the skin wound and a collodion dressing completes the operation.

Northwestern Lancet, Minneapolis

December 1

41 Surgical Aspects of Stomach and Duodenum. A. J. Oschner, Chicago.
42 *Gastric Ulcer. F. E. Walker, Hot Springs, S. Dak.
43 Early Treatment of Certain Injuries to the Eye. J. M. Robinson, Duluth, Minn.
44 Congenital Cyanosis, or "Blue Baby." O. A. Oredson, Duluth, Minn.

42. **Gastric Ulcer.**—Walker's experience during the past three years, in comparison with his previous operative experience and observation of that of others, leads him to conclude that better results are obtainable through absolute cell rest, rectal drainage, and dietetics, massage, baths and limited drug administration than from operation. Save in a few of the greatly aggravated cases of hemorrhage and those due to perforation, the treatment he now uses is as follows:

1. Rest. The patient is put to bed for from ten to twenty days. All food and drink, except sterilized water, are entirely withheld during this period. After the enforced fast period, the patient is given hard dry toast, well salted and thoroughly masticated, red beef, only the juice being swallowed, milk, soft eggs, custards and various broths. The diet is gradually increased, and at the same time the nutrient enemata are gradually withdrawn.

2. Drainage. As soon as the patient is placed in bed, calomel and sodium bicarbonate are given, gr. 1/40 (.0015) for 40 doses at intervals of 15 minutes. Every four hours, one dram of a saline laxative is administered in as much water as the patient can take, and is continued until the last dose of calomel is given. Twelve hours after the first dose of calomel the bowels are flushed with a large high normal saline enema, and this colon flushing is used every morning before any food is introduced into the rectum. Sixteen grams of castor oil are given the evening of the second day. No more cathartic is given per os.

3. Diet. Stomach diet after the enforced starvation has already been noted. Rectal diet:

	Gms.		
First day:			
Beef tea (strong)	128		2 oz.
Hydrochloric acid		60	10 m
Glycerite pepsin	8		ʒii
Second day:			
Milk, peptonized	96		℥iiiss
Claret	16		℥ss
Two eggs.			
Third day:			
Malted milk	96		℥iiiss
Cream peptonized	32		℥i

These enemata are given in rotation.

Strychnin, tincture of opium, spiritus frumenti, or other medicine is easily incorporated, as the condition from day to day requires. The method employed is to give the enemata through a No. 17 colon tube, inserted about six inches, at a very low pressure and occupying from 15 to 20 minutes. The enemata are given four times daily. Every morning the colon is flushed with a large enema of normal saline solution. Salt water sponge baths, at a temperature of 70 to 90 degrees are given night and morning, followed by gentle massage with oil. Every other day a thorough alcohol massage is administered. The teeth are thoroughly brushed several times daily, and the mouth is frequently washed with some mild antiseptic solution. Pain is controlled by packs, sinapisms, opium per rectum, or morphin hypodermically. Internally bismuth, milk of magnesia, lithium citrate, etc., are given by the mouth as required during the time in bed. Hemorrhage is treated by morphin and ice packs. Absolute mental and physical rest is imperative.

Philippine Journal of Science, Manila

September

45 *Health Conditions in the Philippines. W. S. Washburn, Manila.
46 *Prevention of Tropical Abscess of the Liver by Early Diagnosis and Treatment of the Presuppurative Stage of Amebic Hepatitis. L. Rogers, Calcutta, India.
47 *Filariasis and Elephantiasis in Southern Luzon. J. M. Phalen and H. J. Nichols, U. S. Army.
48 Distribution of *Filaria Nocturna* in the Philippine Islands. J. M. Phalen and H. J. Nichols, U. S. Army.
49 Palliative Treatment of Elephantiasis. A. Castellani, Colombo, Ceylon.
50 Further Filtration Experiments with Virus of Cattle Plague. E. H. Ruediger, Manila.
51 *Cases with Unusual Symptoms Caused by Contact with Some Unknown Variety of Jellyfish (Scyphozoa). E. H. H. Old, U. S. Navy.
52 *A Mosquito Which Breeds in Salt and Fresh Water. C. S. Banks, Manila.
53 Case of Infantile Beriberi with Autopsy Report. J. Albert, Manila.

45. **Health in the Philippines.**—Washburn protests against the "misleading articles" on the unhealthfulness of the Philippines, published by Dr. L. H. Fales, which appear to find their own refutation in the greatly reduced mortality rates. He considers the health of the 800 American teachers a fair indication of the general health of English-speaking civilians in the Philippines, and quotes the director of education as follows: "The statistics for the past year show an average of but six days' illness for each American teacher in the service. The general health of the force is excellent." With few exceptions the statistics of each succeeding year show a steady decrease throughout the islands of the inroads made by dangerous communicable diseases, of which tuberculosis, here as elsewhere, takes front rank. There appears to be greater abatement among civilians than among soldiers, of diseases due to intestinal parasites. Bubonic plague has disappeared from the islands, no cases having been reported for nearly two years. Since the completion of vaccination not a single death from smallpox has been reported in several provinces, where formerly thousands died annually. Out of 3,500,000 persons vaccinated, not one case of loss of life or limb and not one of serious infection has been reported. The working out of the leprosy problem has reached the stage, in the establishment of a leper colony, practically of assured final and complete solution. Contrary to the usual opinion, statistics seem to show a difference in health in favor of the white race as compared with the darker races. He publishes the simple health rules issued by the board of health on cards for general distribution, and refers to the great sanitary improvements contemplated, or under way, the establishment of hospitals and other institutions, etc., as pointing hopefully to the future sanitary conditions of the islands.

46. **Tropical Abscess of the Liver.**—An essentially similar paper by Rogers was published in the *Medical Press and Circular*, London, Oct. 28, 1908, and was abstracted in The Journal, Nov. 28, 1908, p. 1907.

47. **Elephantiasis.**—An essentially similar paper by Castellani appeared in the *British Medical Journal* Oct. 31, 1908.

51. **Jellyfish Stinging.**—Old reports nine cases, with one death, showing a regular symptom-complex following on the sting of a jellyfish. The complex included marked hysterical symptoms, with irritation of the mucous membrane of the nose, mouth, throat and eyes, incessant cough, restlessness, pain and nausea. Old believes that there is some absorbable substance present in the secretion of the fish, which is of a variety unknown to him. He thinks that some of the drownings may be explained in this way: Should the subject be far from shore or boat when stung, the sudden hysterical and depressant symptoms might overpower him, rendering him unable to reach his goal. In treatment Old uses alkaline solutions.

52. **A Salt Water Mosquito.**—Banks describes the *Myzomyia ludlowii* (Theob.), which in the Philippines breeds in both salt and fresh water. Altitude up to 1,500 meters has no appreciable effect on its development. There appears strong proof of its rôle as a transmitter of estivoautumnal malaria.

American Journal of Obstetrics, York, Pa.

November

54 *Solving the Problem of Obstetrics. E. G. Zinke, Cincinnati, Ohio.
55 *Arteriosclerosis of the Uterus. C. M. Rees, Charleston, S. C.
56 *Hysteria as the Surgeon Sees It. A. M. Vance, Louisville, Ky.
57 *Comparative Merits of Abdominal Cellotomy and Colpotomy in Treatment of Intrapelvic Abscess. W. S. Smith.

58 *Mobility of the Patient After Laparotomy. W. B. Chase, Brooklyn.
59 *Ectopic Gestation with Viable Child; Report of Three Cases. X. O. Werden, Pittsburg, Pa.
60 *Extrauterine Pregnancy with Report of Cases. H. E. Hayd, Buffalo.
61 *Ectopic Gestation. C. L. Bonifield, Cincinnati.
62 *Acute Pancreatitis. L. Frank, Louisville, Ky.
63 *Abscess of Gaertner's Canal. M. A. Tate, Cincinnati, Ohio.
64 *Present Status of Cesarean Section. C. C. Frederick, Buffalo.
65 *Development of the Human Ovum During the First Eight Weeks of Pregnancy. H. Schwarz, St. Louis.
66 *Intraligamentous Fibroids. J. F. Erdmann, New York.
67 *Uterine Fibromata Complicating Pregnancy. W. J. Gillette, Toledo, Ohio.
68 Myoma of the Cervix Uteri. F. Reder, St. Louis.
69 *Subdiaphragmatic Abscess. J. W. Keefe, Providence, R. I.
70 *Fevers of Intestinal Origin in Children. E. H. Bartley, Brooklyn.

54, 61 to 67, 69. Abstracted in THE JOURNAL, Oct. 24, 1908, pp. 1456, 1457, 1458.

55. Abstracted in THE JOURNAL, Oct. 3, 1908, p. 1174.

56 to 60. Abstracted in THE JOURNAL, Oct. 17, 1908, pp. 1354, 1355.

70. **Intestinal Fevers in Children.**—Bartley says, that bacterial infection is the cause of many cases that we have heretofore regarded as acute or chronic intestinal indigestion seems probable by the following:

1. The predominance of certain bacteria in the microscopic field which gives it a characteristic appearance.
2. The presence in culture made from the stools of a great number of certain kinds of organism.
3. The penetration of bacteria through the damaged mucosa and their presence in the blood and urine.
4. The contagiousness of these cases.
5. The appearance of such cases in epidemics, in hospitals and nurseries. The contagious nature of certain diarrheal diseases in babies is now well known. The contagion can be carried by flies, by soiled linen, by nurses' hands or by toys soiled by the discharges. In infant hospitals and nurseries these cases should be isolated and flies excluded from the room.

American Journal of Physiology, Boston

November

71 *Experiments on Absorption of Fat from an Isolated Loop of Small Intestine in Healthy Dogs. O. H. Plant, Galveston, Texas.
72 Hydrolysis of Fish Muscle. T. B. Osborne and F. W. Heyl, New Haven, Conn.
73 *Blood Pressure and High Altitudes. E. C. Schneider and C. A. Hedblom, Boulder, Colo.
74 *Acid Closure of the Cardia. W. B. Cannon, Boston.
75 Nature of the Couduction of Nerve Impulse. W. Sutherland.
76 *Comparative Study of the Vasomotor Reflexes. W. T. Porter and R. Richardson, Boston.

71. **Absorption of Fat.**—Plant experimented with fats, soaps and fatty acids as to their absorption from a loop of intestine. He reaches the following conclusions:

1. Bile salts greatly increase the absorption of fats from a mixture that contains free fatty acid or soap. They only slightly increase the absorption of neutral oil.
2. Solutions of soap, in the absence of other fat, are absorbed from a loop of intestine in greater percentage than emulsified fats; this is also true of fatty acid dissolved by bile salts.
3. Neutral oil can be absorbed without the action of either bile or pancreatic juice from a loop of intestine, when both these secretions are excluded. Under such conditions the neutral oil becomes markedly acid in reaction.
4. Taken as a whole, the results of these experiments favor the theory that fats are absorbed in solution rather than as emulsified fats.

73. **Blood Pressure.**—Schneider and Hedblom review the scanty literature on the influence of altitude on blood pressure and give their own observations. The pressure readings were taken with Erlanger's improved sphygmomanometer. The authors embody their results in the following conclusions:

1. A considerable elevation in altitude tends to lower systolic and diastolic blood pressure and to increase the rate of heart beat.
2. The fall in systolic pressure is slightly greater and more certain to occur than the fall in diastolic pressure.
3. A rise in diastolic pressure occurs in some individuals.
4. The influence of such factors as psychical states, eating, and exercise may obscure the influence of altitude on the blood pressure.
5. The fall in blood pressure and increase in heart beat are most marked in the early part of the residence at the higher altitude.
6. On a prolonged stay at high altitude the heart rate probably returns more nearly to the normal than the blood pressure.
7. High altitudes do not affect to the same degree the blood pressure of all individuals.
8. Small elevation in altitude does not appreciably influence the blood pressure.
9. Those individuals most affected by high altitude seem to sustain the greatest fall in systolic blood pressure and the greatest acceleration in the rate of heart beat.
10. The heat of the summer season probably accelerates the pulse rate.

74. **Closure of Cardia.**—Cannon finds that the cardia is kept closed by the presence of acid in the stomach, and that neutralization of the acid leads to regurgitations which cease when the stomach contents become normally acid.

76. **Vasomotor Reflexes.**—Porter and Richardson distinguish between fundamental and accessory functions in living tissues. The former are of ancient origin, and are in the main alike in all the higher animals, while the accessory functions vary widely in different species. They bring, in this paper, evidence that the blood pressure is to be classed with the fundamental phenomena. They find that the reflex rise of blood pressure on stimulation of the sciatic and the brachial nerves is quantitatively almost the same in the rabbit, cat, guinea-pig, rat and hen—animals differing greatly in structure. It is improbable that animals so diverse as those here stimulated would give quantitatively the same response were not the maintenance of blood pressure, like the maintenance of body heat, a fundamental phenomenon developed to the same high efficiency in many, perhaps in all, warm-blooded animals. The experiments afford good ground for concluding that the results of animal experiments on blood pressure, and on the vasomotor system generally, can be applied with confidence to human pathology and therapeutics.

American Medicine, New York City

November

77 *Temporal Bone; the Diseases to Which It Is Subject, Especially Otitis Media. F. E. Wallace, Pueblo, Colo.
78 Therapeutic Exercises. H. W. Frauenthal, New York.
79 Indicanuria. W. G. Morgan, Washington, D. C.
80 *The American Climate and the Northern European. A. O'Malley, Philadelphia.
81 Alcohol in the Tropics and American Schools of Tropical Medicine. C. E. Woodruff, U. S. Army.
82 Are We Being "Doctored" to Death? H. S. Baketel, New York.
83 A Fundal Condition Simulating Duplication of the Disc. J. W. Sherer, Kansas City, Mo.
84 Recent Literature on Dermatology and Syphilis. F. C. Knowles, Philadelphia.

77. **Therapeutic Exercises.**—Frauenthal insists that deep breathing, as a fine art, has to be taught. He urges the importance of adding breathing exercises to the therapeutic armamentarium, and concludes by emphasizing that the index to vital force is lung development, and in harmony with it go the development of the heart, and the more perfect conditions in the liver, kidneys, spleen, etc. He is opposed to muscle bulk and muscle building, also to violent exercise and heavy lifting, because their ultimate results to the individual are bad. Work should be done by the individual working alone, and not in classes.

80. **Climate and Europeans in America.**—O'Malley's observations show that the climate in the United States is very trying on people who come from northern Europe, and the excessive sunlight is the detrimental factor. The conclusion is that the people of northern European origin should in America avoid the sun glare as much as possible. Their vacations should be spent in woods, not in the light of the seashore, and they should sleep as long as possible to restore nervous strength. American physicians have long known that nervous patients do badly at the seashore, but they were not aware of the cause of this phenomenon. We should plant shade trees in all our cities, and remove enough of the pavement to let these trees grow. Many old families in New England towns owe not a little of their longevity to their shade trees. Our healthiest folk are in the northwest where there are most clouds. We must get away from the erroneous traditional opinion, brought here from cloudy northern Europe, that sunlight is good for us: in measure it is, in excess it is fatal.

Chicago Medical Recorder

November

85 *Lumbar Puncture and Blood Analysis in Diagnosis and Treatment of Meningocococcic and Tuberculous Meningitis. J. F. Hultgen, Chicago.
86 *Diagnostic Considerations in the Surgical Affections of the Spinal Cord. J. Grinker, Chicago.
87 Hematuria. C. J. Drueck, Chicago.
88 *Eyework for the General Practitioner. A. Weichelt, Barrington, Ill.
89 The Ear Polyp; Its Clinical and Pathologic Manifestations. L. J. Goldbach, Baltimore.
90 The Health Operation. C. H. Long, Chicago.
91 The Real Tuberculosis Question. J. Burke, Manitowoc, Wis.

85. **Lumbar Puncture.**—Hultgen discusses lumbar puncture in regard to meningococcic meningitis, and thinks that in every case in which meningeal symptoms are present, even to a minor degree, we should at once perform lumbar puncture. He states that he knows of no contraindications. He gives a tabular illustration of the information to be gained from lumbar puncture in normal conditions, meningococcic meningitis, and tuberculous meningitis, respectively. In cerebrospinal meningitis it seems reasonable to him to prescribe repeated lumbar puncture, for it removes at least some of the toxic infectious material, and simultaneously diminishes or removes cerebrospinal pressure. In tuberculous meningitis, theoretically at any rate, the prognosis need not be hopeless. Many of the patients die from mechanical effects, not from its toxic sequelæ. The time will come when, with the aid of early lumbar puncture, we shall be able to differentiate between hopeless and hopeful cases. Finally, he reports a case of lumbar puncture with recovery, which, in the absence of positive findings in the fluid and of a tuberculous history in the family, he prefers to regard as one of recovery from serous meningitis.

86. Abstracted in the Society Proceedings in The Journal, June 27, 1908, p. 2152, and published in the *Illinois Medical Journal*, October, 1908.

88. **Eye Work for the General Practitioner.**—Weichelt discusses various eye symptoms that are not sufficiently appreciated by the general practitioner. Aside from local disease or from being a part of a general condition, swelling and puffiness of the lids tell us of anemia, cerebral thrombosis or renal edema; they are often diagnostic of measles, appear in variola and erysipelas, and are the warning indicator in the administration of arsenic and iodid. A stye may show eyestrain, or digestive or genital disorders. Blepharitis may lead us to suspect anemia or a catarrhal or strumous diathesis. Duskiness of the lids and under the eyes is seen in pregnancy, sexual abuse, certain menstrual disorders, fatigue, etc. Winking spasm occurs in chorea, hysteria, or tic douloureux. Lagophthalmos may be due to hysteria, facial paralysis or exophthalmic goiter. We look for occulomotor disturbances in meningitis, skull fracture, or intracranial hemorrhage. The pearly appearance of the sclerotic often points to phthisis, anemia, nephritis or Addison's disease, while the significance of a yellow eyeball is familiar to all. Conjunctival congestion, not due to local disease, may be present in typhus fever, meningitis, facial paralysis, neuralgia of the fifth nerve, and sometimes after full doses of potassium iodid. Subconjunctival hemorrhage appears in epilepsy, fracture of the base of the skull, Bright's disease and organic heart lesions. We have all looked for the "fishy" or puckered conjunctiva of approaching dissolution. The cornea gives us the arcus senilis of arteriosclerosis, gout, atheroma, chronic nephritis or syphilis. Iritis may help us to clear up a doubt in rheumatic affections. Pupillary symptoms are too well understood to be especially mentioned. Every general practitioner should know enough of the afflictions belonging to the domain of the ophthalmologist to realize when reference to a specialist is necessary. He should be able to use the ophthalmoscope well enough to detect anything abnormal in the fundus. Refraction is a part of ophthalmology on which the country doctor in particular might encroach. With some postgraduate study, he is infinitely better qualified to fit glasses than are clerks, druggists, and so-called doctors of optometry, who have usurped a part of the doctor's rights and privileges —and fees—with little or no study.

Washington Medical Annals

November

92 Applied Electrophysiology in Electrotherapeutics. F. B. Bishop, Washington, D. C.
93 *The Medical Witness in Lunacy Cases. P. C. Hunt, Washington, D. C.
94 *Chronic Neuralgia; Its Causes and Cure. R. Reyburn, Washington, D. C.
95 Case of Epithelioma of Uterus. D. S. Lamb, Washington, D. C.
96 Differential Diagnosis of Functional from Organic Forms of Motor Disability. T. A. Williams, Washington, D. C.
97 Adipocere, Ninety-six Years After Death. D. S. Lamb, Washington, D. C.

93. **Medical Witness in Lunacy Cases.**—Hunt discusses the present conditions affecting the medical witness in inquisitions in lunacy, in criminal cases, and in testamentary cases. He makes the following suggestions in regard to inquisitions in lunacy: The present law should be so altered that a patient should be detained at the hospital for care and treatment; if the patient's mental condition is such that he is unable to advise counsel, or if he is suffering from an acute psychosis that would be aggravated by the court proceedings, he should not appear. Also, if temporary commitment were to be extended from the present thirty-day limit to ninety days, during which time legal proceedings could be instituted, and the matter brought to the attention of the court, much good could be accomplished. In criminal cases, in his opinion, a law should be framed providing that a commission, consisting of the attending physician to the United States Jail, the superintendent of the Government Hospital for the Insane, and one or more alienists, should be appointed by the Supreme Court of the District of Columbia (or state) to examine every case in which the defendant is under serious charges, and that a written report be made to the presiding justice concerning the defendant's mental condition. If the defendant objects to this examination it should take place after conviction and before the prisoner is sentenced. In examining an alleged insane person a medical witness should provide himself with writing materials and take down the person's statements in the person's own words and his presence, at the time the words are uttered. Not only is this the only way of insuring the accuracy of the report, but it gives the examiner the right, which otherwise he could not have, of consulting his notes in court. The things contained in this report should be facts, not inferences from facts. Hunt points out that in examining the testamentary capacity of a person the physician should insist on seeing him alone, and making sure that he is free from the influence of drink, drugs, etc. He cites an eminent English authority on wills for the assertion that no will has been upset where a reputable physician has witnessed it after examining the testator's state of mind, and an agent of repute has drawn it up, provided neither of them takes any benefit under its provisions. He advises physicians to make an intending testator go carefully over the particulars of what disposition of his estate he wishes made, without prompting, suggestion or leading question, twice, with a quarter of an hour's interval between the two statements; to ascertain, if possible, from him if he had intended before his illness to will his property as proposed, and for how long a time before; and to try to get independent testimony from others on this point. In examining persons it is desirable to be perfectly impartial, to make no suggestion as to the propriety of the act or the settlement to be made, and on no account to influence the testator as to the disposition of his property.

Regarding the "hypothetical question," Hunt says that it is valid and legal, and will probably continue to be used; but if the witness will insist on having all the obtainable facts on which this question is based placed before him, including the person, if possible, whose mental state is in question, and, by conscientiously endeavoring to sift the chaff from the wheat, will compel the hypothetical question to be built on the foundation of truth, the alienist's reputation and power for good in the community will be greatly enhanced, and he will gain the respect of the judge and the confidence of the jury.

94. **Neuralgia.**—Reyburn holds that chronic neuralgia is due to a purely physical cause, viz.: increased blood pressure, and that all the remedies which relieve neuralgia act either as the anodynes do, by benumbing the sensory filaments of the nerve or diminishing the force of the circulation, or by aiding the blood vessels to resist the pressure on them. In addition to the usual remedies he has given ergot in full doses and on theoretical grounds with excellent results. It is especially useful in the chronic neuralgia of overfed women in the higher walks of life, who take little or no exercise. A fluid dram three times a day, with forced exercise and diminished food supply, is very efficient.

Journal Michigan State Medical Society, Detroit

November

98 *Cyclodialysis Versus Iridodialysis. P. J. Livingstone, Detroit.
99 *Distinction Between Hysteria, Neurasthenia, Hypochondria and Simulation. C. D. Camp, Ann Arbor, Mich.
100 *Preliminary Report on the Use of the Tubercle Residue of V. C. Vaughan in Surgical Tuberculosis. J. W. Vaughan, Detroit.
101 Recent Progress in Medicine and Surgery. H. E. Randall, Lapeer.
102 Puerperal Septicemia, Septic Gall-Bladder, Ectopic Gestation and Syphilis. F. J. Tibbals, Detroit.

98. **Cyclodialysis.**—Livingstone discusses the source of pressure in the eye, namely, the secretion from the blood stream, and considers that its source lies chiefly if not wholly in the ciliary portion of the uveal tract. He describes the operation of cyclodialysis as reported by Heine, and considers that the real indications for cyclodialysis are found in those cases in which iridectomy is not only difficult but dangerous.

99, 100. Abstracted in The Journal, Aug. 29, 1908, pp. 784, 785.

Bulletin American Academy of Medicine, Eaton, Pa.

December

103 *Report of the Committee on Education of the General Public in Medical Matters. E. Jackson, Denver, Colo.
104 *Hygiene in Public Schools. H. C. Putnam, Providence.

103, 104. Abstracted in The Journal, July 25, 1908, pp. 339, 340.

Laryngoscope, St. Louis

November

105 Roentgen-Ray Examination of the Accessory Nasal Sinuses. E. W. Caldwell, New York.
106 *Surgical Principle Essential to the Cure of Frontal Sinus Empyema. J. F. Barnhill, Indianapolis.
107 Operative Treatment of Suppuration of the Frontal Sinuses. A. Jansen, Berlin, Germany.
108 Variations in the Anatomy of the Frontal Sinuses. J. P. Tunis, Philadelphia.
109 Two Unusual Frontal Sinus Cases. J. P. Brown, Toronto, Canada.
110 Relation of Pathologic Changes in the Accessory Nasal Cavities to Diseases of the Eye. C. R. Holmes, Cincinnati.
111 Neuroses of the Nose. C. P. Grayson, Philadelphia.
112 New Flap in the Radical Operation. G. A. Leland, Boston, Mass.
113 Case of Probable Persistent Angioneurotic Edema of the Larynx and Soft Palate. T. H. Halsted, Syracuse, N. Y.
114 Conservative Turbinectomy. J. A. Watson, Minneapolis, Minn.

106. Published in the *Annals of Rhinology, Otology and Laryngology*, September, 1908.

Progressive Medicine, Philadelphia

December

115 Diseases of the Digestive Tract and Allied Organs, the Liver and Pancreas. D. L. Edsall, Philadelphia.
116 Diseases of the Kidneys. J. R. Bradford, London, Eng.
117 Surgery of the Extremities, Tumors, Surgery of Joints, Shock, Anesthesia and Infections. J. C. Bloodgood, Baltimore.
118 Genitourinary Diseases. W. T. Belfield, Chicago.
119 Practical Therapeutic Referendum. H. R. Landis, Philadelphia.

Colorado Medicine, Denver

November

120 Technic of Bier's Hyperemia. H. M. Cohen, Denver, Colo.
121 Surgical Treatment of Chronic Constipation. H. Heath, Denver.
122 Somnoform. C. G. Parsons, Denver, Colo.
123 Faith. C. A. Hadsell, Cedaredge, Colo.

Northwest Medicine, Seattle, Wash.

November

124 Rational Treatment of Congenital Club Foot. J. C. Shapps, Butte, Mont.
125 Surgical Treatment of Paralytic Deformities with Plea for Their Prevention. E. A. Rich, Tacoma, Wash.
126 Head Injuries. W. H. Axtell, Bellingham, Wash.
127 International Congress on Tuberculosis. B. S. Paschall, Seattle, Wash.

Iowa Medical Journal, Des Moines

November

128 Supports of the Uterus. G. E. Decker, Davenport, Iowa.
129 Treatment of Retrodeviations of the Uterus. C. Wahrer, Fort Madison, Iowa.
130 Uterine Hemorrhage. B. S. Walker, Corydon.
131 Operative Conditions of the Menopause. E. E. Dorr, Des Moines.
132 Three Cases of Leukemia. W. L. Bierring, Iowa City.
133 Tuberculosis of the Joints and Its Modern Treatment. J. Rudis-Jicinsky, Cedar Rapids.

Alabama Medical Journal, Birmingham

November

134 Typhoid—Etiologic Factors. R. B. Harkness, Birmingham, Ala.
135 Adenoids in Young Adults. C. Fox, Birmingham, Ala.
136 Acute Gastric and Duodenal Dilatation Treated by Gastrojejunostomy, with Recovery. G. Torrance, Birmingham, Ala.
137 Medical Expert Testimony from a Judicial Standpoint. L. H. Lee, Montgomery, Ala.
138 Clinical Examination of Urine and Gastric Juice by the General Practitioner. C. F. R. Weiss, London, England.

Military Surgeon, Carlisle, Pa.

November

139 Relation of the Military and Naval Forces of the United States to Public Health. W. C. Rucker, Public Health and Marine-Hospital Service.
140 Work of the Board for the Study of Tropical Diseases in the Philippines. H. J. Nichols and J. M. Phalen, U. S. Army.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 5

1 *Use and Abuse of the Curette. G. E. Herman.
2 Pregnancy Complicated by Fibromyomata of the Uterus. F. W. N. Haultain.
3 Puerperal Eclampsia. J. Lytle.
4 *Physiology of the Fallopian Tube. J. T. Shirlaw.
5 Uterine Arteriosclerosis. J. Pearse.
6 Axis-Traction Forceps. J. R. Purdy.
7 *Some of the Effects of Excessive Smoking. J. D. Mann.
8 Case of Osteitis Deformans. S. White.
9 Case of Cancer of the Right Breast "Cured" by the Cardigan "Cancer Cures." J. L. Thomas.
10 Syphilis Communicated by Industrial Implements. S. Snell.

1. **The Curette.**—Herman says that there are three apparently widely accepted reasons for using the curette, namely: (1) Curetting merely because the patient is anesthetized for some other operation, the curetting being apparently supposed to be in some way beneficial to a healthy uterus. (2) Curetting a uterus which has been infected with pathogenic microbes, with the idea that it is possible to scrape away the whole of the infected tissue. (3) Curetting neurasthenic patients for pain, without excessive hemorrhage, the pain being supposed to be due to endometritis brought about by variations in the shape and size of the uterus, all these changes never having been shown to be more pathologic than variations in the size of the lobule of the ear. Curetting for such reasons as these seems to him so useless that it deserves to be described as an abuse. He emphasizes the fact that curette and curettage, Anglicized, means simply scraper and scraping, which is a true description of the purpose. The use of the scraper is to remove new growths, either as a treatment or for diagnosis. In any case of hemorrhage severe enough to weaken the patient, for which bimanual examination shows no adequate cause, the proper treatment is to dilate the cervix and explore with the finger the uterine cavity. If nothing is found, the endometrium may be scraped and the scrapings examined microscopically; but there is no justification for repeated scrapings. Particularly, repeated scrapings to relieve pain constitute an abuse of the curette. The use of the scraper is to detach something that is causing trouble, not to relieve pain.

4. **Physiology of the Fallopian Tube.**—Shirlaw emphasizes the following points: The probability is that when a pregnant ovum remains in the tube, this occurrence is due to one of two things or to a combination of the two; either there has been too little secretion, or there has been a diminution in the lashing movement of the cilia from a previous salpingitis.

7. **Excessive Smoking.**—Mann discusses the substances found in tobacco smoke, and concludes that nicotin is its sole potential poisonous constituent, inasmuch as the other poisonous bodies, including the pyridin bases, are equally present in the smoke from nicotin-free tobacco, the use of which by healthy non-smokers was found not to give rise to the circulatory disturbances caused by smoking ordinary tobacco. Nicotin may be absorbed through the unbroken skin. Mann particularly condemns the habit of holding the remains of a moist cigar or cigarette in the lips after it has gone out. He discusses the effects in two stages, the early stage of functional disorder and the later stage of organic disease. He concludes as follows: It is obvious that with all physiologically active substances the question of degree

is largely determinative of the results produced by an agency that is capable of affecting the health. Most men, if they choose to smoke, can do so within certain limits without injuring their health; some men can exceed such limits with apparent impunity. The extent of the limitation must be determined by each man for himself, and, if he is wise, he will keep well within the borderline and will hold to his resolution. Here lies the difficulty: the growth of a habit overrides discretion. The habit of excessive smoking is more insidious in its development than that of excessive drinking, for the results are much less obvious. An alcoholic may be appealed to by his friends or admonished by those in authority; this rarely happens to the adult smoker, unless he consults his doctor about "indigestion and palpitation" and admits that he smokes to excess; then probably the necessary warning will be given.

Lancet, London

December 5

11 Latent Persistence and the Reactivation of Pathogenic Bacteria in the Body. L. S. Dudgeon.
12 Treatment of Syphilis by Arylarsonates. F. J. Lambkin.
13 *The Common Cold: Its Pathology and Treatment. (Concluded.) R. W. Allen.
14 *Prophylaxis in Acidosis Following Anesthesia. F. H. Wallace and E. Gillespie.
15 Aneurism of the Anterior Cerebral Artery. A. S. MacNalty.
16 Bacterial Contamination of Milk; the Connection Between Flies and Epidemic Diarrhea. J. T. C. Nash.
17 Case of Traumatic Exophthalmos. D. Ranken.
18 Extension of a Pleural Effusion Toward the Sound Side in a Still-born Child. R. D. Keith and A. Keith.

13. **The Common Cold.**—Allen summarizes his articles, concluded in this issue, as follows: 1. It has been shown that there are at least five organisms capable of the production of an attack of acute nasal catarrh, viz.: (a) the *Bacillus influenzæ;* (b) the *Bacillus septus* [*septicus?*]; (c) Friedländer's bacillus; (d) *Micrococcus catarrhalis*, and (e) *Micrococcus paratetragenus.* 2. These may be present in the nasopharyngeal space in a certain percentage of cases which exhibit no pathologic features; increase of virulence and lowered resistance of the tissues may then light them up into activity. In other cases the infection is one from without. 3. Each organism produces its own type of cold, and a differential diagnosis of the organism is possible from a consideration of the clinical features; this is more difficult should the infection be a multiple one. 4. This differential diagnosis is of considerable value both in prognosis and in treatment. 5. Chronic nasal catarrh is probably always due to infection by the bacillus of Friedländer, unless the Eustachian tube and middle ear be involved by the *Micrococcus catarrhalis;* chronic tracheal catarrh to infection by the *Micrococcus catarrhalis* or *Micrococcus paratetragenus*, to which secondary infection by staphylococci, streptococci, pneumococci, and other pathogenic organisms may be superadded. 6. For infection, local defect of opsonin, and for cure, increase of opsonin, are probably necessary conditions. 7. By means of the injection of the corresponding bacterial vaccines an attack of acute cold due to any given organism or organisms can be considerably shortened and complications be probably prevented. 8. In a similar manner chronic infections may be cured. 9. By injections of the vaccines of the several organisms in appropriate doses and at appropriate intervals considerable, if not complete, immunity against future attacks of acute cold may be secured. In those who are very susceptible and fall victims to every epidemic that may occur, the best procedure probably is systematic immunization every four to six months against all the "cold" organisms, and special immunization against the particular organism or organisms which may be responsible for the appearance of subsequent epidemics against which protection is desired.

14. **Acidosis Following Anesthesia.**—Wallace and Gillespie conclude their paper as follows: 1. That so far as prophylaxis by drugs is concerned glucose has a much greater power in controlling the acetonuria than sodium bicarbonate. 2. That the secondary vomiting is in direct relation to the amount of acetone produced. 3. That anesthetics should be given by an open method. 4. That in all cases of vomiting lasting over 12 hours the stomach should be washed out with a solution of sodium bicarbonate, leaving some fluid in that organ.

Medical Press and Circular, London

November 25

20 Influence of Diathesis on Causation and Treatment of Diseases of the Eye. A. M. Ramsay.
21 Hygienic Principles and Mental Efficiency. T. S. Clouston.
22 Pulmonary Actinomycosis, Its Great Relative Frequency. N. Bridge.
23 *Heredity in Diseases of the Nervous System. Sir W. Gowers.

23. Published in the *Lancet*, Nov. 21, 1908, and *British Medical Journal*, Nov. 21, and abstracted in The Journal, Dec. 19, p. 2189.

Clinical Journal, London

November 25

24 Lead Poisoning. F. M. Sandwith.
25 Lenhartz Treatment of Gastric Ulcer. W. L. Brown.

Quarterly Journal of Medicine, London

October

26 Extensive Atheroma and Dilatation of the Pulmonary Arteries, without Marked Lesions, as a not Very Rare Cause of Fatal Cardiac Disease in Bengal. L. Rogers.
27 Complete Heart Block. A. M. Gossage.
28 *Rheumatic Myocarditis. C. Coombs.
29 Mongolism and Its Pathology; an Analysis of Eight Cases. W. B. Hill.
30 *Medical Aspects of Pyelitis in Pregnancy. E. Ward.
31 Polycythemia, Erythrocytosis and Erythremia. F. P. Weber.

28. **Rheumatic Myocarditis.**—Coombs summarizes his article as follows: Macroscopic Myocardial Changes.—(1) Dilatation of both ventricles is constant, and often of considerable degree. The auriculo-ventricular orifices share in the stretching. (2) Hypertrophy of both ventricles is usually present, and in many instances without any obvious mechanical cause. (3) The naked-eye appearance of the cardiac muscle is but little altered as a rule.

Histologic Changes: (1) The parenchymatous cells are the seat of a fatty change, which is most pronounced in the wall of the left ventricle, particularly in the papillary muscles and beneath the pericardium. No other important change has been constantly noted in the cells themselves. (2) In the stroma, nodules are formed consisting entirely of large cells, many of which are mutinucleate, and which seem to be fibroblastic in nature. In the formation of these nodules other cells play quite a subordinate part. They develop especially in the neighborhood of arteries and arterioles; the left ventricle is far more affected than the right, particularly near the root of the aorta and the mitral ring, and at the apex near the interventricular septum. Few nodules are found in the septum itself, and the same applies to the papillary muscles. (3) Foci of leucocytosis, chiefly polymorphonuclear, are also seen. These are pericapillary, and are found especially in the papillary muscles. (4) Various arterial inflammations occur, especially a nodular periarteritis. Aortitis is generally present. (5) In hearts which have passed through a stage of active carditis certain cicatricial lesions of the myocardium remain to mark the sites of previous nodules.

Interpretation of the Above Changes: (1) The nodules are inflammatory and probably represent a reaction of the connective tissues at the actual points of infection. They appear to be characteristic of rheumatic as opposed to other forms of carditis, and changes histologically similar are seen in rheumatic endocarditis and pericarditis and subcutaneous rheumatic nodes. Their close relation to the arteries is a further proof of the fact that in rheumatic carditis the heart is invaded by the coronary avenues. (2) The areas of leuchocytosis represent edema due to passive venous congestion. (3) Toxemia accounts for, no doubt, the greater part of the fatty metamorphosis; but it must be remembered that a similar change occurs as the result of chronic venous congestion and of hypertrophy, both of which are seen in most cases of rheumatic carditis. (4) Ventricular dilatation is to be ascribed to muscular atony under the influence of toxemia. It is greater in degree than the histologic changes would lead one to expect. The hypertrophy of the ventricles, occurring, as it does sometimes, without obvious cause, may also be referable to the "direct" action of some toxin. There is some evidence to support the view that the poison produces this effect by inducing myocardial overaction. The myocardial lesions occurring in rheumatic carditis are of so special a kind as to lend definite support to the conception of a specific rheumatic infection.

The Influence of the Foregoing Lesions on the Cardiac Functions: (1) The physical signs characterizing the rheumatic heart disease of childhood are in a majority of cases referable to the myocardial lesions, and not to those of the serous layers. This is substantiated by postmortem evidence. (2) Death during childhood from rheumatic carditis is, more often than not, directly due to myocarditis. (3) Some, at any rate, of the deaths, occurring in rheumatic heart disease during adolescence and early adult life are probably caused by the muscular lesions.

30. **Pyelitis in Pregnancy.**—Ward distinguishes "the pyelitis of pregnancy which has come to be so well recognized," which he terms encopyelitis, from pyelitis in pregnancy, viz.: "those cases in which pyelitis occurs in pregnancy owing to some previous disease which might well have caused it at some other time." He concludes that encopyelitis is commoner than is usually thought. Every practitioner in the course of a lifetime will meet with a few cases. More attention, therefore, should be paid to this disease in the medical schools. The disease is due to an infection of the kidney pelvis with organisms, usually *Bacillus coli communis*, and these organisms usually follow an ascending course. A similar infection can occur in women apart from pregnancy, and even in men. The prognosis, both immediate and remote, is worse than has been hitherto supposed. The treatment should be medicinal, by the internal administration of hexamethylentetramin, and if this does not succeed, labor should be induced without undue delay. Nephrotomy should never be performed until the obstetrical treatment has failed and the patient is still ill after the puerperium. Nephrectomy is only justifiable in rare cases as a cure for a persistent fistula or when the kidney is completely disorganized.

Practitioner, London

November

32 Home Treatment and Nursing of Pulmonary Tuberculosis in Dublin. Sir W. J. Thompson.
33 Infective or Ulcerative Endocarditis. N. Tirard.
34 *Adherent Pericardium. W. J. Fenton.
35 Account of the Theory and Employment of Bier's Method of Treatment by Passive Congestion in Case of Rheumatoid Arthritis, Tubercle Sepsis, and Various Other Conditions (continued). A. W. Wakefield.
36 Gastric Ulcer. L. H. L. Mackenzie.
37 Recent Work in Diseases of Children. G. F. Still.
38 The Stomach. F. C. Moore.
39 Medical Inspection of School Children. R. P. Williams.
40 Neoplasm of the Kidney Presenting Certain Unusual Features. R. Parnell and R. Gompertz.

34. **Adherent Pericardium.**—Fenton considers especially two types of adherent pericardium: (1) the form in which, while there is close adhesion within and obliteration of the pericardial sac, no appreciable clinical or pathologic results are produced, the lesions appearing to be entirely without effect; and (2) where adhesion is accompanied by marked cardiac hypertrophy and dilatation, serious embarrassment of the circulation, and early death of the patient.

Out of 150 cases of adherent pericardium in which the cause of death was specifically stated in the postmortem records to be the direct result of the heart lesion, 65 were found during the first three decades and 17 in the last four; while, where death had followed on causes unconnected with the heart, 13 only were found during the first three decades, and 55 in the last four. Thus, there is an almost precisely opposite state of affairs in cases found in the first three and last four decades, respectively.

Fenton concludes that (1) the two types of adherent pericardium are found at different periods of life. The first, or grave, form occurs under 30; the second form, which has little or no significance clinically, after that age. (2) A history of rheumatism is almost always associated with the former, while it is absent in the latter. (3) The former is accompanied by valvular, disease in by far the greater number of instances, while in older cases an opposite state of things is observed, but in a certain proportion of young cases valvular disease is absent, the clinical and pathologic results being apparently produced solely by the condition of the pericardium; in the older cases, conversely, a few show coincident valve disease. There are no physical signs or symptoms by which the presence of adherent pericardium can be recognized with certainty, but, taking into account all factors present, a correct diagnosis may be reached in a fair proportion of cases. The great difficulty occurs when the question is complicated by the existence of aortic regurgitation. Everything depends, then, on how much regurgitation there is. The whole question of diagnosis depends on the correlation of signs or symptoms and the relation of signs to one another. The most important thing is to remember the possibility of existence of adhesions, and they are suggested whenever serious symptoms of cardiac failure are found in a young patient, in whom the physical signs do not appear sufficient to account for their severity, or when excessive enlargement of the heart exists in the absence of aortic disease.

British Journal of Children's Diseases, London

November

41 *Deafness in Relation to School Medical Inspection. M. Yearsley.
42 Patent Ductus Arteriosus. J. E. H. Sawyer.
43 Non-Development of the Lower Extremities in Twins. F. V. Milward.
44 Supposed Maternal Impression. C. H. Melland.

41. **Deafness in School Children.**—Yearsley discusses the enormous importance of perfect hearing in the intellectual and moral development of children. He describes as follows the development of the relations existing between hearing, understanding and speech: In the language of a nation, certain articulate sounds become the symbolic representatives of certain definite ideas, learned by each child first as sounds, later as symbols. The sounds are first registered in the cortical center for hearing, and it is under the guidance of this center that the child trains the motor center to articulate the sounds, thus getting second images imprinted on the cortical motor center for speech. The motor reproduction of sound becomes so interesting that the child reproduces many sounds by echolalia, without attempting to understand them. Before echolalia is exhibited, however, the child obtains a number of word memories imprinted on the auditory center before he can articulate a single one of them, and these are even associated with their proper meanings. At this stage the education of the receptive center is ahead of that of the productive (motor) center. This short explanation will serve to demonstrate how much depends not only on the auditory receptive center, but on the integrity of the channels—the auditory receptive conductive apparatus—which carry the sound to the center. When there is any defect of hearing the development of speech suffers, and with it the mental development of the child. Yearsley discusses the various pathologic conditions that form the basis of inattention. Children with adenoids and nasopharyngeal catarrh are easily fatigued and their capacities vary with the state of the weather, dampness rendering them more defective. Teachers should understand that children who make little progress and are inattentive should be presented for medical examination before being set down as refractory. He enumerates the various tests for hearing, of which speech is the most important; the tests should be applied in the presence of the teacher. All pupils should be examined as regards their hearing in the first year of school life. This examination should consist of a preliminary inspection of all children, with testing of hearing acuity, by the school doctor, and a special examination by an otologist of those found wanting. Both examinations should be repeated for all children kept back in their classes, and in all who have, in the course of the year, suffered from any of the exanthemata or shown signs of ear disease. To make the results of practical value, the examinations should be made in the presence of the teacher, and every case should be followed up as regards the seeking of treatment. When a child is brought up for examination as dumb, the medical inspector must decide whether it is mentally defective or deaf. He should, therefore, satisfy himself as to (1) the condition of the hearing; (2) the child's play and general conduct; (3) its habits as regards cleanliness; (4) its affection and manageableness; (5) the condition of the ears, nose and throat. Yearsley then discusses extensively the education of the deaf child, and the question of its being taught in the ordinary classes, in special classes in the ordinary schools, or in special schools according to the degree of defect.

Journal of Tropical Medicine and Hygiene, London

November 2

45 Preliminary Note on a Protozoon in Yaws. A. Robertson.
46 Cholera Carriers. J. R. Forrest.
47 *Sutika: Puerperal Diarrhea of Bengal. F. Pearse.
48 *Engineers and Malaria. M. Watson.
49 The Avian Hemoprotozoa of the Genus Leucocytozoon (Danilewsky). L. W. Sambon.

November 16

50 Continued Fever of Non-Malarial Origin. T. Gann.
51 *Recent Advances in Science and Their Bearing on Medicine and Surgery. S. P. Manson.

47. This article appeared in the *Lancet*, Nov. 7, 1908.

48. **Engineers and Malaria.**—Watson says that engineers do not yet realize the enormous influence for good or evil which they possess. Many details of work may be of little consequence from an engineering point of view, but of vital importance to the public health in a tropical country. In order to avoid friction between engineers and medical officers, a certificate should be required from the former, when reporting the completion of their work, that as far as practicable no unnecessary pools have been created and drainage has not been interfered with. It will take years for the new ideas on malaria to take a place in the consideration of the engineer when designing or carrying out new works.

51. This article appeared in the *Lancet*, Oct. 3, 1908, and was abstracted in The Journal, October 31, page 1553.

Journal of Obstetrics and Gynecology of British Empire, London

November

52 Malignant Melanoma of the Vulva. E. Holland.
53 *Two Cases of Uterine Fibroid Showing Peritheliomatous Changes: Long Immunity from Recurrence After Operation. A. H. G. Doran and C. Lockyear.
54 Case of Perithelioma of the Endometrium. G. F. D. Smith.

53. This article appeared in the *British Medical Journal*, Nov. 21, 1908.

Annales de Gynécologie et d'Obstétrique, Paris

November, XXXV, No. 5, pp. 641-704.

55 *Operative Obstetrics in Dystocia Due to Pelvic Deformity. Pinard.
56 *Uterine Cancer Interfering with Delivery. (Cas de cancer utérin cause dystocie.) A. Herrgott.
57 Delivery with Stricture of the Vagina. (Rétrécissement du vagin.) S. Pozzi. Id. Hartmann. Id. Couvelaire.
58 *Conservative Cesarean Section. (Série de 14 opérations césariennes conservatrices.) J. Mouchotte.

55. **Management of Difficult Delivery Due to Deformed Pelvis**—Pinard urges never to use force when a woman is in labor, as the result is a wounded or killed infant, and he also proscribes without reserve all intervention for inducing abortion or premature delivery. Since 1890 he has performed symphyseotomy in 141 cases, the Porro operation in 22, and conservative Cesarean section in 30, more than half of the latter during the last two years. He has been growing bolder with the progress in surgical technic, and now believes that the field for conservative Cesarean section should be enlarged. He regards it as indicated in all cases of extreme deformity of the pelvis and the "limit" cases, but not until labor has commenced. This inclusion among the indications for conservative Cesarean section of the "limit" and "surprise" pelves he regards as great progress in obstetrics. Labor must be under way, and the cervix not fully dilated, with symptoms threatening mother or child or heralding approaching rupture. In his 30 cases, all the women and children left the hospital in good condition. Symptoms of infection, of course, contraindicate Cesarean section, but he protests against the assumption that a hospital environment is necessary, saying that every physician worthy of the name should be competent to do a Cesarean section. All physicians should know now how to realize asepsis anywhere, for the childbirth as well for an operation.

56. **Cancer Interfering With Delivery.**—Herrgott reports a case to illustrate his view that with a cancer interfering with delivery, the safety of the child should be the main preoccupation. The child in this case was delivered by Cesarean section, after which the uterus was removed, but there are indications of recurrence of the cancer at present, nine months later. The child is healthy.

58. **Conservative Cesarean Section.**—Mouchotte reports 14 cases and says that the technic is extremely simple, being merely "two incisions, two sutures." He drains under all circumstances, as, he says, it is always useful and often necessary.

Bulletin de l'Académie de Médecine, Paris

November 10, LXXII, No. 36. pp. 317-374.

59 *Diagnosis and Etiology of Aortic Aneurism. (Anévrisme de l'aorte.) E. Boinet.
60 *Prophylaxis of Contagious Diseases.

November 17, No. 37, pp. 379-404.

61 *Medical Treatment of Pelvic Affections. L. G. Richelot.

59. **The Larynx with Aneurism of the Aorta.**—The autopsy of the case illustrated showed that the changes in the larynx observed were the result of pressure from the aneurism in the arch of the aorta pushing the trachea toward the left and back. The larynx was unusually low and twisted to the left. The case also explains the mechanism of the retrograde venous reflux in the right external jugular. The aneurism compressed both recurrent laryngeal nerves and projected into the supraclavicular fossa, simulating a concomitant innominate aneurism. Both suprarenal capsules were much enlarged, but there was no arterial hypertension or arteriosclerosis. Influenza was the only infectious disease in the previous history.

60. Summarized in Paris Letter, page 1985.

61. Ditto.

Archiv für Kinderheilkunde, Stuttgart

XLIX, Nos. 1-2, pp. 1-160. Last indexed Oct. 24, p. 1469.

62 Study of Secretion of Gastric Juice and Saliva in Child with Artificial Esophagus. (Zur Kenntnis der Magensaftsecretion nebst einigen Bemerkungen über Speichelsecretion.) P. Sommerfeld.
63 Secretion of Gastric Juice in Infants. (Magensaftsecretion beim Säugling.) Engel.
64 Ultramicroscopic "Dust" in Milk: Lactoconia. B. Mautner.
65 Clinical Study of Paratyphoid and Mixed Infection with Measles. E. Stolkind.
66 Treatment of Pneumonia with Antipneumococcus Serum. (Behandlung der genuinen Pneumonie mit Römer-Pneumokokkenserum.) A. Monti.
67 *Causes for Lateral Curvature of the Spine. (Zur Entstehung der seitlichen Wirbelsäulenverkrümmungen.) G. Muskat.

67. **Causes for Lateral Curvature of the Spine.**—Muskat thinks that the influence of the school has been overestimated, and that the tendency to curvature is implanted in earlier life. Carrying an infant always on the same arm is one of the factors in its development. Another is the way in which older persons lead children by the hand in the street, drawing up one side of the child's body and twisting it out of shape. The older person's hand can not reach the upstretched hand of a little child, and the gap is bridged by dragging up the child's hand above its natural level. The left shoulder is pulled up in the air, the other shoulder depressed, with the result that a tendency to left scoliosis is implanted in the child's spine. Too long sitting without change in school and the carrying of school books are liable to aggravate existing scoliosis or develop it. The school-produced scoliosis is a left, convex, high dorsal scoliosis, while experience shows that this is comparatively rare. Left lateral scoliosis is far more common, and this is traceable to the period before the school age is reached.

Presse Médicale, Paris

November 25, XVI, No. 95, pp. 761-768.

68 *Hereditary Sudden Death. (Mort subite héréditaire.) A. Gilbert and A. Baudouin.

68. **Hereditary Sudden Death.**—Gilbert and Baudouin have encountered in the last few months six families in which there seems to be an inherited tendency to sudden death. Fourteen members of these families have died suddenly after a history of recurring syncopes. Only three were women, and the deaths occurred between the ages of 20 and 62. They believe that this diathesis is more common than is generally recognized, family interests impelling its concealment. In one case the patient had six long syncopes before the fatal one, twice as a child, twice in college, and once during his military service. These syncopes lasted sometimes for twenty minutes, and this peculiar gravity differentiates this type from a simple

swoon. Death occurs instantaneously, from arrest of the heart. Knowledge of this diathesis explains certain cases of sudden death. Treatment can be only by prophylactic hygiene, they say.

Berliner klinische Wochenschrift

November 16, XLV, No. 46, pp. 2053-2092.

69 Removal of Tumor in First Left Temporal Convolution. (Operativ entfernte Hirngeschwulst aus der Gegend der linken Insel und ersten Schläfenwindung.) H. Oppenheim and F. Krause.
70 *Enlargement of Heart and Liver as Early Sign of Pulmonary Tuberculosis. (Herz-Lebervergrösserung, ein Frühsymptom der Schwindsucht.) S. v. Unterberger.
71 Roentgen Treatment of Skin Affections. (Röntgenbehandlung der Hautkrankheiten.) A. Blaschko.
72 *Rubber Ball Treatment of Nasal Affections. (Neues Verfahren zur Behandlung von Nasenleiden.) Sprenger.
73 *Stimulation of Intestinal Peristalsis by Injection of Hormone Extracted from Stomach Mucosa. (Spezifische Anregung der Darmperistalpik durch intravenöse Injektion des "Peristaltik-Hormons.") G. Zuelzer, M. Dohrn A. Marxer.
74 Influence of Fats on Tryptic Digestion (Beeinflussung der tryptischen Verdauung durch Fettstoffe.) J. Neumann.

November 23, No. 47, pp. 2093-2128.

75 *Renal and Ureteral Changes in Prostatic Enlargement. (Entstehung von Veränderungen an Harnleitern und Nieren bei Prostatahypertrophie.) J. Tandler and O. Zuckerkandl.
76 The New Magnet Operating Room. J. Hirschberg.
77 *The Ophthalmodiaphanoscope and Its Application in Medicine. C. Hertzell.
78 *Experimental Influencing of Pregnancy. (Experimentelle Beeinflussung der Gravidität.) J. Hofbauer.
79 Cholera at Odessa, September, 1908. N. T. Gamaleia.
80 *Simple Method for Serodiagnosis of Syphilis. N. Tschernogubow.

70. Abstracted in THE JOURNAL, Oct. 10, 1908, page 1253.

72. **New Method of Treating Nasal Affections.**—Sprenger applies the general principles of resting an inflamed part and keeping further irritation away from it. The nasal mucosa is peculiarly exposed to thermic, mechanic and chemical irritation—its physiologic task is to arrest such irritating agents to prevent their further invasion of the air passages below. If the nasal mucosa becomes inflamed, a vicious circle results, constantly growing worse. Healing is possible only by removing all possibility of further irritation and giving the inflamed mucosa a chance to heal. This he accomplishes by the use of a ball of very soft rubber, about 12 mm. in diameter, pushed into the nostril to occlude the passage. He has the ball introduced alternately into the nostrils and left in place for half to three-quarters of an hour, several times a day. There is a small handle to the ball, and this is all that shows. The ball not only keeps away irritation and rests the mucosa, but it induces local hyperemia and a warmer temperature, and the patient experiences great relief, while healing rapidly proceeds.

73. **Therapeutic Utilization of Natural Hormone That Stimulates Peristalsis.**—Zuelzer states that he has succeeded in isolating the natural hormone from the stomach mucosa which provides the physiologic stimulus for intestinal peristalsis. It is found in the stomach mucosa only during the acme of digestion; the mucosa of the fasting stomach does not contain it. It is extracted with salt solution or diluted hydrochloric acid from the stomach mucosa and the albumin is removed with alcohol. This hormone, like all the others, acts by way of the blood. Injected into a rabbit's vein, energetic peristalsis, starting at the duodenum and running to the rectum, is at once set up. The action of the hormone is similar to that of physostigmin in some respects, but the latter is more of a tetanic contraction, and the contraction persists, while the hormone induces true peristaltic waves. The discovery of this peristaltic hormone also modifies some of the present conceptions in regard to constipation.

75. **New Explanation for Renal and Ureteral Changes in Prostatic Enlargement.**—Tandler has been impressed with the constant normal aspect of the mouths of the ureters in the bladder when there was serious disturbance from dilatation from the ureters and stagnation of urine in the kidneys. The dilatation of the ureter commences abruptly at the point where it is crossed by the vas deferens. The enlargement of the prostate changes the position of the vas, pulling it down until it compresses the ureter, which becomes dilated above. This is probably the explanation for the ureter colics, sometimes observed with enlarged prostate. The kidney functioning suffers, and gastrointestinal symptoms follow. The improvement in the kidney disturbances with enlarged prostate when the retention in the bladder is cured does not contradict the facts presented. As the bladder subsides when its contents are evacuated, the relation between the vas and the ureter is modified, and thus the ureter becomes more permeable. Severing the vas must have the same favorable influence on the outlet for the urine from the kidney, and this fact should be borne in mind in considering a palliative operation. Also in considering prostatectomy, stagnation of urine in the kidney, even without retention in the bladder, should be accepted as an indication for operation. It seems as if in such cases the removal of the prostate is more urgently required than in the cases of uncomplicated chronic retention in the bladder which hitherto has been the main motive for the operation.

77. **The Ophthalmodiaphanoscope.**—Hertzell illuminates the eye from the rear by introducing a powerful light into the back of the mouth. The patient wears a black mask, covering all but the eyes.

78. **Experimental Influencing of Pregnancy.**—Hofbauer reports experiments in which cholesterin, the physiologic opponent of lecithin, was fed to gravid animals. He gave the cholesterin added to the food. In every case there were destructive changes in the placenta, evidently the result of the action of the cholesterin on the lecithin which abounds in the placenta. The changes in the placenta resembled in every respect those observed in syphilitic placentæ. This suggests the possibility of a uniform explanation of the various facts observed in regard to the action of cholesterin—the "physiologic antipode of lecithin"—in syphilis and in cancer, the tissues in the latter being unusually rich in lecithin.

80. **Simple Method of Serodiagnosis of Syphilis.**—The simple technic described allows the serodiagnosis by the occurrence of hemolysis. An alcoholic extract of desiccated syphilitic liver tissue and one drop of blood are required.

Correspondenz-Blatt für Schweizer Aerzte, Basle

November 15, XXXVIII, No. 22, pp. 713-744.

81 *Tendency to Convulsions in Young Children: Spasmophilia. (Die idiopathischen Krämpfe des frühen Kindesalters.) E. Feer.

81. **Idiopathic Convulsions in Infancy.**—Feer approves of the term "spasmophilia" to designate the morbid condition characterized by galvanic and mechanical overexcitability of the peripheral nerves and by the tendency to certain tonic and clonic, local or general spasms. He describes some typical cases; in one the convulsions were accompanied by facial and auditory hallucinations. Many of the convulsions formerly ascribed to casual toxic or sympathetic causes are now known to be due to this spasmophilic diathesis. Children with this tendency often display an acute increase in galvanic excitability at the onset of a febrile infection, even when no convulsions are observed. Convulsions are especially liable in these children during influenza, whooping cough and tonsillitis. The so-called reflex convulsions nearly all belong to this spasmophilic condition, especially the convulsions from teething, which many doctors and mothers accept as a convenient and tranquilizing explanation for the disturbances. Feer has made a special study of these "teething" disturbances, but has never become convinced that dentition is capable alone of inducing any essential morbid symptoms. He has never encountered any cases of "convulsions from teething," but he has frequently found that the so-called dentition convulsions were the result of spasmophilia. He calls attention to the prevalence of the convulsions during the winter and early spring, when the children are kept housed in unventilated rooms. The same injurious influences which favor spasmophilia also favor rachitis. Both are rare in breast-fed children. Experiments in his clinic have shown that lime has nothing to do with the etiology of spasmophilia, but that there is some close connection between it and the parathyroid bodies. In his experience, the spasmophilia never passed into true epilepsy. If the child must be artificially fed, the amount of food should be reduced to the minimum; calomel and re-

striction to tea or water for a day or so, followed by gruel and phosphorus and cod liver oil, are the measures recommended, with artificial respiration in severe spasm of the glottis, chloroform and chloral. It is possible, he remarks, that implantation of fresh parathyroid bodies may yet prove useful in spasmophilia.

Deutsche medizinische Wochenschrift, Berlin

November 19, XXXIV, No. 47, pp. 2009-2056.

82 *Dilatation of Heart. (Herzdilatation.) E. Romberg.
83 *Importance of Cellulose in Diet of Diabetics. (Weitere Beobachtungen über die Bedeutung der Zellulose—Hemizellulose—für die Ernährung der Diabetiker.) A. Schmidt and H. Lohrisch.
84 *Special Form of Disturbance in Orientation and Its Occurrence in Mental Affections. (Eine besondere Form von Orientierungsstörung und deren Vorkommen bei Geisteskranken.) A. Pick.
85 *Justification and Technic for Therapeutic Abortion. (Berechtigung und die Methode der Unterbrechung der Schwangerschaft.) H. Fritsch.
86 Attempts at Non-operative Treatment of Carcinoma. (Ueber nicht operative Heilversuche beim Carcinom.) W. Zangemeister.
87 Improvement from Becoming Accustomed to Consequences of Accidents. (Gewöhnung an Unfallfolgen als Besserungstatsache.) G. Ledderhose.
88 Treatment of Acute Catarrh of the Middle Ear. (Behandlung des akuten Mittelohrkatarrhs.) H. Walb.
89 Etiology of Pertussis. (Aetiologie des Keuchhustens.) W. N. Klimanko.

82. **Incipient Dilatation of the Heart.**—Romberg declares that investigation of the total circulation and conditions elsewhere and the history of the case (chorea or rheumatism in the antecedents) will often enable an incipient organic heart affection to be diagnosed, even when percussion and orthodiagraphy give negative or dubious findings. It may be impossible otherwise to distinguish slight dilatation from enlargement of the heart from change of position or change in the percussion findings from unusually thick or much curving of the chest wall. He warns that, especially in the pathology of the heart, a single symptom is generally of little value for the diagnosis, as, for instance, when dyspnea on exertion with early fatigue suggests an incipient heart disease or a still latent cancer. Much obesity, affections of lungs or kidneys liable to impose extra work on the heart, disturbances from a thyroid affection, a peculiar thickness of the walls of blood vessels in the young, and, above all, sclerosis of the ascending aorta, testify to incipient heart disease and, in case of associated organic and functional disease, reveal what part of the syndrome is referable to each of these factors. It is thus possible to avoid the too frequent mistake of overlooking the comparatively insignificant organic affection in the more striking functional syndrome.

83. **Importance of Cellulose for Diet of Diabetics.**—Schmidt and Lohrisch announced last year that certain diabetics were able to tolerate cellulose and that they had found this fact useful in the dietetic treatment of such patients, as mentioned in The Journal at the time, Jan. 4, 1908, page 81. They gave the cellulose then in form of a desiccated vegetable preparation, but since have found that a preparation of agar-agar is better tolerated and supplies more nourishment in proportion. Patients unable to ingest 10 gm. of grape sugar or 20 gm. of starch without appreciable increase in the elimination of sugar were able to tolerate perfectly from 18 to 36 gm. of the hemicellulose supplied in a pulverized preparation of agar-agar. It can be mixed with a beverage or soup without impairing the taste. The healthy can assimilate as much as 60 gm. or even more a day, from 25 to nearly 75 per cent. being utilized, the proportion larger the smaller the amount ingested. Fully 72.5 per cent. was utilized by a patient with chronic constipation who took 240 gm. in three days—this experience confirming the author's previous announcements in respect to extremely thorough digestion of the food being the main factor in chronic constipation. The food is assimilated so completely that no waste is left to maintain the functioning of the intestines. Dissolved in cold water the preparation has prompt reducing power and deflects light slightly to the left, but forms no gas with yeast. After boiling, the tests show that the plane of polarized light is deflected to the right, and that the sugar formed is galactose. After complete hydrolysis with 2 per cent. hydrochloric acid, 67.8 per cent. of the dried residue is sugar, and almost exclusively galactose. The agar hemicellulose is thus galactan. Clinical research has shown that this is only gradually absorbed from the ingested preparation, and this slow, gradual assimilation is the principal reason, they think, for its toleration by the diabetic.

84. **Localization in Brain of Disturbance in Orientation.**—Pick has observed a case of a peculiar disturbance in orientation, the patient having the impression that his environment was turned around horizontally for about 180 degrees. He has further encountered this disturbance in two insane patients, and Kolb has recently reported a case with autopsy findings. All this evidence sustains the assumption of the localization of the primary lesion in the semicircular canals, and that localization of the process in the parietal lobe partially responsible for the symptom is possible if greater attention is paid to this disturbance and the details of more cases published.

85. **Interruption of Pregnancy.**—Fritsch delivered this address at the recent "Naturforscher Congress." He reviews the various conditions which justify interruption of a pregnancy, mentioning that he has been called in consultation five times in the last forty years for women already moribund from uncontrollable vomiting of pregnancy. The only reasonable advice then was to let the women die in peace, but he is confident that if the uterus had been emptied in time, these lives might have been saved. Tuberculosis is the only other indication he admits for interruption of a pregnancy, and in both these conditions he would not sanction it unless the patient were in a hospital where the physician could see for himself the failure of other suitable measures. In respect to tuberculosis, he states that he has had cases in his experience in which a tuberculous affection healed under fresh-air treatment during the pregnancy, and no recurrence has been observed in subsequent pregnancies. In such cases much depends on the financial condition of the patient. He adds that there is scarcely any other condition in which the physician must study and ponder as in a case of pregnancy plus tuberculosis. If the uterus is to be emptied, he warns that this should be done very slowly and cautiously in imitation of Nature's methods, and never outside of a hospital, both in the interests of the patient and for external reasons, adding that unskilful management of the abortion is more dangerous for the patient than to allow the pregnancy to run its normal course. He describes his simple technic, saying that the various steps can not be taken at arbitrary moments, but must follow the course of the natural processes and signs as they develop—another reason for institutional environment.

Medizinische Klinik, Berlin

November 8, IV, No. 45, pp. 1707-1746.

90 *Treatment of Abortion. (Abortbehandlung.) F. Engelmann.
91 *Investigation of Stomach and Intestines by Bismuth Method. (Untersuchung des Magens und Darmes mit der Wismuth-Methode.) Albers-Schönberg.
92 *Absolute and Relative Indications for Administration of Alcohol in Certain Nervous Conditions. (Alkoholanwendung bei einigen nervösen Zuständen.) H. Röder.
93 Is Coffee a Beverage or a Poison? (Genuss und Gift.) W. Sternberg.
94 Tonics. (Tonika.) W. N. Clemm.
95 Physicians in Politics. (Die Aerzte als Politiker.) L. Hirsch.

90. **Treatment of Abortion.**—Engelmann has been collecting data from 80 general practitioners in town and country in his vicinity at Dortmund, and finds that they all, as a rule, follow the technic which he advocates. Expectant tamponing of the vagina is practiced in many cases with good results. In other cases, especially during the first months of pregnancy, the curette is preferred, and almost invariably by those with the largest experience. He thinks that the estimate of 10 or 20 abortions in every 100 pregnancies is rather below the actual figures. The curette should never be small or sharp. To prevent recurrence of abortion, the first measure must be to postpone for a time the next pregnancy, and, in case of syphilis, specific treatment. In dubious cases the new serum test will give the clue to treatment. If the cause of the abortion was a trauma or if there are grounds for assuming that the uterus is unduly irritable, everything tending to induce a shaking up of the body should be avoided. Above all, strict repose at the dates corresponding to the menses

should be enforced. Only when the first critical months are over may a little more freedom be permitted. In case the skin is sensitive, all chilling should be avoided which might lead to harmful congestion in the interior, and the abdomen should be protected by suitable clothing, the food should be easy of digestion, and the bowels should be kept open. Some give sedatives for a long time; for this asafetida and viburnum are preferable.

91. **Roentgen Examination of the Digestive Tract.**—Schönberg gives an illustrated description of his technic for examination of the stomach and intestines and the deductions therefrom.

92. **Alcohol in Nervous Disturbances.**—Röder remarks that no one applies to a physician, as a rule, until home remedies have been exhausted, and that alcohol in some form is almost certain to have been among them. He protests against alcohol in any form in ptosis of the stomach or intestines, as this is not a local affection, but is associated with nervous and other disturbances. He has been surprised at the coincidence of enlargement of the thyroid and tendency to hernia with enteroptosis. The physical and nervous disturbances which forbid the use of alcohol in case of enteroptosis in many cases do not develop until the age of 25 to 28. Among his patients with concussion of the brain, not one had previously been warned by his physician to refrain from alcohol. On the contrary, nearly every one who had had slight concussion of the brain had been given alcohol by those assisting after the accident, including physicians. To his question: "Did it help you?" the answer was always in the negative. Any concussion of the brain contraindicates alcohol, and many physicians refuse to treat traumatic nervous affections unless the patients go to a hospital where abstention from alcohol will be enforced. Traumatic nervous affections tend to induce hysteria, and the necessity for abstention from alcohol in hysteria and neurasthenia and conditions of dread and compulsion can never be too often emphasized. The patient is chained to his crutch and soon is unable to do without it if alcohol is given to relieve him. A psychic trauma of any kind should contraindicate alcohol, as it is particularly liable to act abnormally in abnormal psychic conditions. He includes in this the period before and after an operation. He comments on the lack of attention paid to the fact that abstention from alcohol is an important factor in the warding off of the after-affections of gonorrhea and syphilis. The worst forms of tabes occur among those who take alcohol, and the lesser consumption of alcohol is one reason, he thinks, why women have the milder form. Among the injurious influences of syphilis must be counted, besides the virus, the emotional distress, the knowledge of the disease, the psychic depression and the necessity for secrecy, all of which render alcohol particularly injurious for syphilitics.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XIX, No. 3, pp. 381-552. Last indexed Nov. 7, p. 1649.

96 *Local Tuberculin Reactions in Surgical Affections, Especially in Children. (Ueber Ergebnisse der Konjunktival- und Subkutantuberkulinreaktionen an chirurgischen Kanken, speziell bei Kindern.) A. Wolff-Eisner and S. Brandenstein.
97 *Sarcoma of the Esophagus. (Zur Kenntnis des Oesophagussarkoms.) v. Hacker.
98 *The Mechanics of the Cerebrospinal Fluid and Their Application to Spinal Anesthesia. (Mechanik des Liquor cerebrospinalis und ihre Anwendung auf die Lumbalanästhesie.) Propping.
99 Endothelioma of Gasserian Ganglion. R. Giani.
100 *Typhoid Pyonephrosis. K. Meyer and C. Ahreiner.
101 *The Ocular Tuberculin Reaction, Its Alleged Dangers and Its Value in Surgery. (Konjunktivalreaktion mit Tuberkulin, ihre angeblichen Gefahren und ihr Wert für die Chirurgie.) H. Zoeppritz.
102 Hysteric Contractures and Their Relations to Organic Affections. (Die hysterischen Kontrakturen und ihre Beziehungen zu organisch bedingten Krankheitszuständen des Menschen.) M. Trappe.

96. **Local Tuberculin Reactions in Surgical Affections.**—Wolff-Eisner and Brandenstein found only two dubious responses in 200 children tested by the ocular or cutaneous technic or both. The results confirm the absolute harmlessness of the ocular test made with a 1 per cent. solution of a special tuberculin. They advise a combination of the ocular and cutaneous technics. The response is just as reliable in the surgical as in the internal cases. The torpid form of scrofula gave negative findings, but the active form always gave the reaction.

97. **Sarcoma of the Esophagus.**—A case is reported by von Hacker and the details of twenty cases from the literature are tabulated for comparison. The prognosis is less favorable than with carcinoma. Death occurred in from two and a half to twelve months after the first symptoms in twelve cases. Besides operative measures, arsenic should be given freely, he says, as for sarcoma in the pharynx, occasionally changing the preparation.

98. **Mechanics of Cerebrospinal Fluid.**—Propping has been studying the cerebrospinal fluid from the standpoint of mechanics and physics, and his research throws a little more light on spinal anesthesia. Even a fluid of much greater specific gravity rapidly diffuses through the cerebrospinal fluid when the patient is in the dorsal decubitus. Consequently he advises raising the head after the operation to oppose this diffusion as much as possible. In every case the probable diffusion of the injected fluid to the medulla oblongata must be reckoned with, but it is impossible to foretell how long it will take. He warns emphatically against doing any long operation with the pelvis raised after a solution of higher specific gravity than the cerebrospinal fluid has been injected into the spinal canal.

100. **Typhoid Pyonephrosis.**—Meyer and Ahreiner report a case in a girl of 16, a chronic bacillus carrier. She had passed through measles, scarlet fever, whooping cough, pneumonia, typhoid with left pyonephrosis and diphtheria, all before the age of 9. Trouble recurred in the left kidney, and it was removed after eight months of symptoms. The typhoid bacilli were voided exclusively in the urine, which became sterile after the nephrectomy.

101. **The Ocular Tuberculin Reaction; Its Alleged Dangers and Its Value for Surgery.**—Zoeppritz reports the findings in 123 cases of various bone, joint, glandular and genital affections in which the ocular tuberculin test gave constantly a positive response when the process was of a tuberculous nature. As constantly the response was negative when the process was of other etiology. He uses a 1 per cent. solution of Koch's "old" tuberculin, and states that his experience has amply demonstrated the harmlessness of this technic. A negative response can be accepted, he says, as positively excluding tuberculosis in all "closed" affections of the above categories. With the "open" cases the verdict is less conclusive.

Münchenerr medizinische Wochenschrift

November 10, LV, No. 45, pp. 2313-2368.

103 *The Ocular Tuberculin Reaction. (Bedeutung der Konjunktivalreaktion nach 4,000 klinischen Beobachtungen.) A. Wolff-Eisner.
104 *Pathology of Epilepsy. M. Kauffmann.
105 *Prophylaxis of Pulmonary Tuberculosis. P. Harrass.
106 Internal Administration of Tuberculin and Similar Preparations. (Interne Anwendung von Tuberkulin und tuberkulinähnlichen Präparaten.) A. Moeller.
107 Compound Fractures of the Skull. (Komplizierte Schädelfrakturen.) A. Schönwerth.
108 Radical Operation for Epigastric and Subumbilical Hernias of the Linea Alba by Transverse Incision of the Fascia and Separating the Muscles. F. Brüning.
109 Anesthetization of the Eye and Its Appendages. (Zur Methodik der Anästhesierung des Auges und seiner Adnexe.) Messmer.
110 Kefir in Chronic Digestive Disturbances of Infants. (Kefir als Säuglingsnahrung bei chronischen Verdauungsstörungen.) Tollens.
111 Necessity for Complete Correction of Myopia in Children. (Vollkorrektion der Kurzsichtigkeit im Kindesalter, eine erzieherische Notwendigkeit.) K. E. Weiss.

November 17, No. 46, pp. 2369-2416.

112 Choreoasthenic Dementia with Juvenile Nodular Hyperplasia of the Liver. G. Anton.
113 Treatment of Syphilis with Highly Concentrated Mercurial Preparations. (Verwendung hochprozentiger Quecksilbermischungen zur Syphilisbehandlung.) K. Zieler.
114 *General Anesthesia with Part of Circulation Shut Off. (Narkose bei künstlich verkleinertem Kreislauf.) zur Verth.
115 A Frequent Affection of Certain Bones in Children. (Eine häufige, bisher anscheinend unbekannte Erkrankung einzelner kindlicher Knochen.) G. F. Haenisch
116 Two Cases of Sutured Stab Wounds of Right Ventricle. (Stichverletzung der rechten Herzkammer. Herznaht.) M. Grasmann.
117 Rumination in Man. (Ruminatio humana.) Bruegel.
118 *Case of Raynaud's Disease. A. A. Lustig.
119 *Treatment of Megacolon. (Zur Kenntnis der Hirschsprungschen Krankheit.) Hellwig.

120 *Treatment of Appendicitis. H. Jaeger.
121 Abortive Pneumonia. Käppeli. Id. K. Rühl.
122 Exophthalmic Goiter in Connection with Tuberculous Affections. (Basedow im Anschluss an tuberkulöse Erkrankungen.) V. Hufnagel.

103. **The Real Significance of the Ocular Tuberculin Reaction.**—Wolff-Eisner has now an experience of 4,000 cases in which this test has been applied. Comparison of the course of the cases with the findings has demonstrated that a positive ocular reaction to tuberculin with his technic indicates an active tuberculous focus, while the subcutaneous and cutaneous methods give positive findings even with latent foci and hence are less instructive as a guide to treatment. The positive reaction to the ocular test in the apparently healthy threw discredit on the method at first, but time has revealed that these apparently healthy persons had some unsuspected active focus which later became evident. He discusses various features of the tuberculin reaction, especially the phenomena in certain cases in which the patients reacted with increasing fever to 1, 3 and 5 mg. of tuberculin subcutaneously, but, continuing with 7 and 9 mg., no further general reaction followed. Instead of this, there was intense flaring up of a preliminary cutaneous reaction (in one case simulating erysipelas, in another an immense furuncle). This paradoxic behavior he explains by assuming that there are two kinds of immunity to tuberculosis: immunity in respect to absorbable toxins and immunity to the tubercle bacilli. The latter immunity is a bacteriolytic property; the immunity to the toxins liberated by destruction of the bacilli is not an antitoxic property, but is due to the binding of the toxins by organic receptors which are found frequently in the connective tissue. The tuberculin goes to the points where the receptors are accumulated. These points are the disease foci or other points artificially made to behave like foci; that is, accumulating receptors. If the tuberculin is all bound by these receptors there will be only a local reaction, but if only partially or transiently bound there will be an attenuated or tardy focal and general reaction. He thinks that it is possible to create a nest of receptors in some neutral tissue, such as the connective tissue. These receptors will attract the tuberculin and localize the toxic action. He is convinced that it is possible to base on these facts a much more effectual and harmless tuberculin therapy and determine the indications. They differ with the different stages of the disease and the amount of production of lytic substances and of binding receptors. Knowledge of the binding conditions gives a new basis for Ehrlich's "experimental therapy."

104. **Pathology of Epilepsy.**—Kauffmann reports metabolic findings in epileptics which have convinced him that the disease is of toxemic origin in some cases. He believes that the brain and the skeleton are peculiarly sensitive to certain metabolic disturbances, and that epilepsy and rachitis should be referred to this origin. This suggests the possibility of more effectual treatment. The bromids have only a symptomatic action.

105. **Prophylaxis of Pulmonary Tuberculosis.**—Harrass declares that the local predisposition has been too much neglected hitherto, and that more can be done in developing the upper opening of the thorax and the respiratory muscles to ward off apical processes. Especially important in this line is the prevention and cure of scoliosis, particularly in families with a tendency to tuberculosis or rachitis. Medical students should be trained to recognize curvature of the spine in its incipiency, and physicians should be on the lookout in consultations, in family practice and in inspection of school children to recognize scoliosis and traces of rachitis, and then insist on measures to counteract the development of the phthisic thorax. He has found Kuhn's lung suction mask an important aid when gymnastic and respiratory exercises, sports, etc., are not sufficient alone.

114. **General Anesthesia with Part of Circulation Shut Off.**—This communication from Bier's clinic relates experiences with general anesthesia given after application of Esmarch's bandage to shut off the circulation in the legs. No attempt was made to have more than the usual amount of blood in the parts shut off, and no bandage was applied to the arms, on account of reports in the literature of injury of nerves after application of the Esmarch bandage to prevent hemorrhage during operations. The experiments on animals showed that a much smaller amount of the anesthetic sufficed for the general anesthesia and that the animals roused much quicker than the controls. The same technic applied in 100 cases in the clinic has failed to show any disadvantages or by-effects. One great advantage is that ether can be used instead of chloroform, robust men coming rapidly under the influence of ether by the drop method and requiring only a very small amount. When the bandage was removed from the legs the patients roused almost at once. In order to test the method, volunteers at the clinic had the bandage applied to all the four extremities. The pain was slight at first, but became unbearable after fifteen minutes. No appreciable changes in the pulse or blood pressure occurred. Verth regards the deadening of the sensibility of the patient before the operation by the scopolamin-morphin-ether technic as a great progress, and thinks that this artificial shutting off of part of the circulation will aid materially in reducing the dangers of general anesthesia. The most important advantage, however, is that after the operation the blood released from the legs rushes back and acts as a stimulant on the nerve centers, possibly from the influence of the carbon dioxid accumulated in it. Not the lack of oxygen, but the excess of the anesthetic, paralyzes the respiration center. The lacking carbon dioxid in the blood is supplied by the blood running from the legs after the bandages are cautiously removed.

118. **Raynaud's Disease.**—Lustig reports a severe case and discusses the treatment, which should aim to remove the cause by tonics, dieting, etc., and, especially in hysteria, psychotherapy. His patient showed polycythemia and diffuse arteriosclerosis. Considerable relief was obtained from venesection twice a year. It attenuated the phenomena observed and also the subjective disturbances.

119. **Hirschsprung's Disease.**—Hellwig reports a case in a young woman who had suffered from birth from obstinate constipation; sometimes intervals of two or four weeks elapsed between defecation. Serious ileus did not develop until the age of 21, when the anomaly in the intestine was remedied by an anastomosis between the transverse colon and the descending loop of the sigmoid flexure.

120. **Cupping in Treatment of Appendicitis.**—Jaeger, during the last year and a half, has treated six patients with appendicitis exclusively by stopping all food and applying from 16 to 20 dry cups to the right lower abdomen for about 23 minutes every 3 hours. The results have been so favorable that he urges general adoption of the measure as unable to do harm, while liable to give great relief. He advocates operative treatment, as a rule, using the cupping glasses only when surgical measures are contraindicated or while awaiting the surgeon.

Zeitschrift für klinische Medizin, Berlin

LXVI, Nos. 5-6, pp. 365-506. Last indexed Nov. 21, p. 1826.

123 Muscular Sense. (Zur Lehre vom Muskelsinn.) Goldscheider.
124 Laws of Sugar Elimination in Diabetes. (Gesetze der Zuckerausscheidung beim Diabetes mellitus.) S. Bernstein, C. Bolaffio and v. Westenrijk. Id. W. Falta.
125 Influence of Frenkel's Exercise Therapy on the Rapidity of Conduction in the Peripheral Centripetal Neuron in Tabes. (Einfluss der Frenkelschen Uebungstherapie auf die Leitungsgeschwindigkeit im peripheren zentripetalen Neuron bei Tabes dorsalis.) D. de Vries Reilingh.
126 Distribution of Nitrogen in Hypertrophied Myocardium. (Verteilung des Stickstoffes im hypertrophischen Herzmuskel.) J. Bence.
127 Perisigmoiditis and the Pelvic Forms of Appendicitis. (Ueber die Perisigmoiditiden und die Beckenformen der Appendizitis.) W. Obrastzow.
128 Relations of "Sound" Method of Determining the Maximal and Minimal Blood Pressure to Other Methods, and Interpretation of Findings. (Beziehungen der Tonmethode der Bestimmung des Maximal- und Minimal-Blutdrucks zu den übrigen Methoden und über die Bedeutung dieser Grössen.) N. van Westenrijk.
129 *European Chyluria. A. Magnus-Levy.

129. **Chyluria.**—Magnus-Levy states that the expulsion of the parasites is the first step, if any are present. The eggs of the *Tenia nana* and *Eustrongylus gigas* have been found in some of the European cases, of which 50 are on record. Among this number were 4 with diabetic symptoms, and he has en-

countered another of this kind. The chyluria is evidently an affection of the lymphatic system, and the functioning of various organs may become secondarily disturbed. In one case the chyluria had been observed for fifty-five years, but had never caused much derangement. The disturbances are generally due to coagulation of the urine in the urinary passages, and symptomatic measures to keep the urine fluid are indicated. Fat in the diet seems to have an influence in this respect.

Zentralblatt für Chirurgie, Leipsic

November 28, XXXV, No. 48, pp. 1417-1456.

130 Extension by Means of Rod Passed Through the Bone. (Extension am quer durchbohrten Knochen.) E. Becker.

Zentralblatt für Gynäkologie, Leipsic

November 21, XXXII, No. 47, pp. 1521-1544.

131 Cancer Statistics. (Zur Karzinomstatistik.) O. v. Herff.
132 Constant Leakage of Amniotic Fluid. (Hydrorrhea gravidarum amnialis.) R. v. Fellenberg.
133 *Allowing Patients to Get Up Early After Laparotomies. (Zum frühen Aufstehen nach Laparotomien.) C. Hartog.

November 28, No. 48, pp. 1545-1568.

134 Pubiotomy with Moderately Contracted Pelvis. (Pubotomie bei mässig verengtem Becken.) W. Sigwart.
135 Toxicology of the Placenta. P. Mathes.
136 Improved Support for the Legs. (Beinhalter.) K. Holzapfel.

133. **Allowing Patients to Get Up Early After a Laparotomy.**—Hartog states that he was the first to introduce this innovation into Germany, where it has excited much discussion, but he adds that he obtained the idea from an article in The Journal, by Ries, in 1899.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 8, XXIX, No. 134, pp. 1437-1452.

137 *Diagnostic Value of Roentgen Rays in Internal Medicine. (Valore diagnostico dei raggi Röntgen nella medicina interna.) V. Maragliano.
138 *Scapular Sound and Its Diagnostic Significance. (Rumore scapolare e del suo significato diagnostico.) E. Tedeschi.
139 Toxins of Helminths. (Ricerche cliniche sui veleni degli elminti intestinali, a proposito delle prove di Jefimov.) A. Borini.
140 Cutaneous and Ocular Tuberculin Reactions in Adults. (Sulla cutied oftalmo-reazione tubercolinica nell'adulto.) B. Nicola.
141 Indications for Picric Acid. L. Zanetti.

November 15, No. 137, pp. 1469-1484.

142 Precipitin Test for Latent Purulent Processes. (Diagnosi biologica di raccolte purulente latenti.) E. Tedeschi.
143 Favorable Results of Treatment with Suprarenal Extract of the First Case of Osteomalacia. (L'esito finale dei primo caso di osteomalacia tratato col metodo Bossi.) S. Rebaudi.
144 Coagulating Power of Blood and Elimination of Lime in Urine in Dementia Præcox. (Potere coagulante del sangue ed eliminazione del calcio per le orine nella demenza precoce.) A. Perugia.

137. **Roentgen Rays in Diagnosis of Internal Diseases.**—Maragliano concludes his remarks on this subject by deploring that the Roentgen technic as yet does not allow of its diagnostic application in the acute diseases. He trusts that the near future will witness the simplification of the apparatus and improvement in the technic so that in severe acute disease early Roentgen differentiation may be possible.

138. **Sound in the Scapula and Its Diagnostic Significance.**—The sound to which Tedeschi refers is elicited in the scapular region by moving the arm to and fro as the patient breathes deep. Applying the hand on the scapular region a sensation as of fremitus is perceived or a creaking sound is heard if the ear is applied to the region. The patients sometimes call the physician's attention to this region by complaining of spontaneous pain, and there is generally tenderness with the sound. He has encountered it in 58 patients; in 32 there were signs of incipient tuberculosis, while 17 were in an advanced stage of the disease, and 9 were anemic and weak, but no clinical signs of tuberculosis were evident. He accepts the scapular sound as evidence of a tuberculous process in the lungs, possibly still latent.

Policlinico, Rome

November, XV, Surgical Section, No. 11, pp. 473-520.

145 *Non-auditory Lesions of the Internal Ear. (Lesioni del labirinto non acustico dimostrate con ricerche sperimentali e cliniche.) A. Torretta. Commenced in No. 12.
146 Two Rare Cases of Sarcoma of the Spermatic Cord. (Sarcoma del funicolo.) M. Fasano.
147 *Causes Inducing Functional Disturbance in the Circulation and Respiration During Chloroform Anesthesia. (Su alcune cause di turbe funzionali cardio-respiratorie durante la cloroformizzazione.) A. Messeri.

145. **Experimental and Clinical Research on Lesions of the Semicircular Canals.**—Torretta's extensive monograph, commenced in the April number, is just concluded. Most of the experimental work was done on fowls, as they show most readily any disturbance in balance. The horizontal or superior semicircular canal or both were isolated and resected or merely cocainized or paraffin was injected into the internal ear, sparing the membranous labyrinth, to study the action of pressure, etc., on the semicircular canals. Also, in guinea-pigs, the fluid in the internal ear was evacuated and the effects studied. The clinical research included 100 cases of lesions of the non-auditory portion of the internal ear; several typical cases are reported in detail. The phenomena observed show that nystagmus, the various ocular reflexes and vertigo may be regarded as symptoms of irritation of the semicircular canals. Disturbances in balance are a symptom of loss of functioning, especially when the symptoms of irritation are lacking. Among the arguments in favor of the assumption that nystagmus is a symptom of irritation and not of loss of function is the fact that there is no nystagmus with complete destruction of the epithelium of the semicircular canals, while it accompanies the acute forms of middle-ear disease and the chronic forms in which the semicircular canals are not involved. Also that the nystagmus can be induced by artificial irritation of the labyrinth, and that it subsides and disappears as the otitis improves and heals. Also by the fact that physiologic nystagmus can be induced more readily in the young than in the aged and most readily in individuals with especially sensitive nervous system. This is probably due to hypersensitiveness of the nervous system in general and of the semicircular canals in particular. In one of his cases in which there was complete destruction from the effects of a firearm wound, it was impossible to elicit nystagmus or vertigo by any artificial stimuli. Nystagmus is an important symptom, further, as it can not be deceptively simulated. It is one of the early symptoms, and may have subsided before the patient comes under medical observation. When it appears late in the case it is generally a sign of some complication beyond the labyrinth. He reports a case of this kind; the labyrinth had been entirely destroyed by a purulent process, and the nystagmus was evidently due to the complicating meningitis. The principal characteristic of simple irritation of the semicircular canals is its transientness, but it is liable to persist indefinitely until the cause is removed.

147. **Reflexes During Chloroform Anesthesia.**—Messeri has been studying the behavior of the reflexes under chloroform, and he has become convinced that some of the functional heart and respiration disturbances are the result of reflex action from the field of operation. Certain regions are more liable than others to elicit such reflexes. Among them are the testicles, the spermatic cord, hernia, the peritoneum and all points where the mucous membrane joints the skin, as at the anus. The intensity of the reflex also varies with the nervous condition. In anemia, infections, intoxications, psychoneuroses, etc., the reflex excitability should be tested before an operation, he thinks, and chloroform should be used with exceptional care in the cases with hyperexcitability. He is confident that the chlorform is unable to abolish all reflex action, especially in the more distant regions. The danger from chloroform syncope is imminent throughout, but he thinks it is more liable toward the close of the anesthesia from the depression induced by the chloroform. His conclusions favor administration of morphin an hour or more before the operation on all extremely excitable patients, and for all operations in regions known to be particularly liable to induce reflex action. Deep chloroform anesthesia should be reserved for the stage of the operation in which it is indispensable, and for those operations which require relaxation of the muscles. Since he has preceded the chloroform with morphin, he has never had any mishaps from chloroform or ether. Very much smaller amounts are required when a sedative is given beforehand. He describes three cases in detail in which threatening syncope was observed under chloroform in operations on the inguinal region and epididymis.

Hospitalstidende, Copenhagen

September 16, LI, No. 38, pp. 1089-1112.

148 *Diagnosis of Motor and Secretory Functioning of the Stomach. (Diagnosen af Ventriklens Motilitet og Sekretion.) F. Svendsen. Commenced in No. 37.

September 23, No. 39, pp. 1113-1136.

149 Roentgen Diagnosis of Stones in Kidney and Ureter. (Om Diagnosen af Nyre- og Uretersten ved Hjælp af Röntgenstraaler.) P. K. Faber.

September 30, No. 40, pp. 1137-1160.

150 *Constitutional Causes of Hemorrhage from the Lungs. (Om konstitutionelle Aarsager til Lungeblødninger.) N. J. Strandgaard.

October 7, No. 41, pp. 1161-1184.

151 Nitrite Poisoning from Bismuth in Roentgen Work. (Tilfælde af Nitritforgiftning efter intern Anvendelse af subnitras bismuthicus ved Röntgenundersøgelse.) R. W. Kiær.

October 21, No. 43, pp. 1209-1232.

152 Glandular Fever. ("Drüsenfieber" Pfeiffer.) K. Schaffer.

148. **Diagnosis of Motor and Secretory Functioning of the Stomach.**—Svendsen presents here a detailed study of several dozen cases of various functional gastric disturbances, his aim being to show that it is possible even for the busy general practitioner to make a few simple functional tests which will allow him insight into the conditions in the particular case for effectual treatment. He tabulates for comparison the findings in 12 cases of motor insufficiency, 2 of simple gastroptosis, 5 of simple hypersecretion, 1 of the same plus hypermotility and several with motor insufficiency plus hypersecretion or of hypermotility alone. He uses three procedures: 1. Aspiration of the stomach content with a bulbed tube; 2, rinsing out the stomach with 300 c.c. of water, and, 3, rinsing out the stomach with the largest possible amount of water to remove every trace of solid content. These three procedures are done on the fasting stomach, again one hour after an Ewald-Boas test breakfast and again two and a half hours after the test breakfast. The second procedure is the application of the Mathieu method to determine the exact quantity of the stomach contents. After removal of a small amount of stomach content, 300 c.c. of water are poured through the tube and then withdrawn. The quantity of the original contents is equal to the number of c.c. of water poured in, multiplied by the acidity present after its addition, divided by the result of subtraction of the second acidity from the first, and adding the portion withdrawn on the first occasion. In Svendsen's tables the findings with each of the three procedures are tabulated in three columns, one showing the stomach content first aspirated, the second column the acidity, and the third the total amount, calculated according to the Strauss "sedimentation test." A high "sedimentation quotient" with normal or reduced total amount is encountered in cases of dilatation of the stomach, with or without gastritis, and in nervous dyspepsia—all distinguished by impairment of motor activity. He protests against the assumption that motor insufficiency is the result of imperfect development or lesser energy in the musculature of the stomach. It is manifested by an especially large amount of filtrate in a normal or unusually small amount of total content; this is partly the result of the reciprocal action between the contracting musculature in the pylorus and the expelling force of the stomach, and is partly dependent on the degree of acidity in the stomach. On the other hand, hypermotility is not the expression of unusual development or energy in the musculature of the stomach, but is a functional anomaly which causes the rapid emptying of the stomach, and is dependent likewise on the reciprocal action between the pyloric sphincter and the expelling forces of the stomach. The history of the case and application of the above procedures, with chemical and physical study of the stomach content, do not require expert skill. He regards a total content of 120 and up, with a high sedimentation quotient, as the type of motor insufficiency, while hypersecretion or excessive production of mucus accompanies the type with a total content of 120 or under, with a sedimentation quotient of 1/5 or less. When both types are combined both total stomach content and filtrate are unusually large. He accepts as the normal condition a stomach content of from 50 to 120 c.c. unfiltered, the filtrate not over 25 and the sedimentation quotient less than ¼ or 1/5, with a total acidity of from 40 to 60.

150. **Constitutional Causes for Hemoptysis.**—Strandgaard points out that not merely the stage of the disease, but also the build of the patient, whether his heart is of proper size for his height and weight, chronic alcoholism, habitually high blood pressure, and mixed infection should be considered in connection with the tendency to hemoptysis, as also the mode of life, etc.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The National Standard Dispensatory. Containing the National History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized in the Pharmacopeias of the United States, Great Britain and Germany, with many references to other foreign pharmacopeias. In Accordance with the Eighth Decennial Revision of the U. S. Pharmacopeia, by authorization of the Convention. By Hobart Amory Hare, B.Sc., M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia; Charles Caspari, Jr., Ph.G., Pharm.D., Professor of Theoretical and Applied Pharmacy in the Maryland College of Pharmacy, Baltimore; and Henry H. Rushby, M.D., Professor of Botany and Materia Medica in the College of Pharmacy of the City of New York; with valuable assistance from Edward Kremers, Ph.D., Daniel Base, Ph.D., and Joseph F. Geisler, Ph.C., 2nd Revised Edition. Cloth. Pp. 2050, with illustrations. Price, $6.00. Philadelphia: Lea & Febiger, 1909.

Modern Medicine. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England. Assisted by Thomas McCrea, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. Volume V, Diseases of the Alimentary Tract. Cloth. Pp. 903, with illustrations. Price, $6. Lea & Febiger, 1908.

Studien ueber die bei Peritonäalen Infektionen Appendikulären Ursprungs Vorkommenden Sauerstofftoleranten Sowie Obligat Anaëroben Bakterienformen mit besonderer Berücksichtigung ihrer Bedeutung für die Pathogenese derartiger Peritonitiden. Von Birger Runeberg, Assistenzarzt an der Chirurgischen Universitäts-Klinik zu Helsingfors. Paper. Pp. 303, with illustrations. Berlin: Verlag von S. Karger.

Ueber den Anatomischen bau des Conus und der Aderhautveränderungen im Myopischen Auge. Inaugural-Dissertation zur Erlangung der Doktorwürde einer Hohen medizinischen Fakultät zu Helsingfors. Vorgelegt von Emil Behse, Assistenzarzt an der Universitätsaugenklinik in Helsingfors, Finnland. Paper. Pp. 60, with illustrations. Leipzig: Wilhelm Engelmann, 1907.

The Systematic Relationships of the Coccaceae with a Discussion of the Principles of Bacterial Classification. By Charles Edward Amory Winslow, Assistant Professor of Biology at the Massachusetts Institute of Technology, and Anne Rogers Winslow. First Edition. Cloth. Pp. 300. Price, $2.50. New York: John Wiley & Sons, 1908.

Bakteriologiska Undersökningar af de Kvinliga Genital sekreten Under Förlossningen och Barnsängen med Särskild Hänsyn Till Frogan om den Puerperala Autoinfektionen. Af Valter Wegelius, Med. Lic. Paper. Pp. 226, with illustrations. Helsingfors, 1908.

Anatomische Veränderungen in vier Wegen Drucksteigerung Enukleierten augen mit Netzhauthämorrhagien. Von Anna Dahlstrom, Med. Lic. Paper. Pp. 148, with illustrations. Leipzig: Druck von Alexander Edelmann, 1908.

Essentials of Medicine. By Charles Phillips Emerson, M.D., Late Resident Physician, The Johns Hopkins Hospital. Cloth. Pp. 383, with illustrations. Price, $2. Philadelphia: J. B. Lippincott Co.

Synthèse et Constitution des Albuminoïdes. (Les Actualities Chimiques et Biologiques, No. 10) Par M.—Emm. Pozzi-Escot. Paper. Pp. 110. Price, 1.50 francs. Paris: Jules Rousset, 1909.

The Doctor in Art. A Volume of Twenty-five Reproductions of World-Famous Masterpieces. Edited by Charles Wells Moulton. Cloth. Buffalo: The Douglas Publishing Co.

Les Merveilles de L'Hypnotisme. Par Geraud Bonnet, Médecin Practicien à Oran. Paper. Pp. 281. Price, 3.50 francs. Paris: Jules Rousset, 1909.

Report of the Commission of Education for Year Ended June 30, 1907, Vol. 1. Cloth. Pp. 522. Washington: Government Printing Office, 1908.

American Society of Tropical Medicine. Papers read before the Society and Published Under Its Auspices. Vol. 3, 1907-1908. Paper.

Hints to Ships' Surgeons. By J. F. Elliott, L.R.C.S., L.R.C.P. Cloth. Pp. 64. Price, 2s. London: John Bale, Sons & Danielson, Ltd.

The Arkansas Doctor. A Photogravure. size, 22x28. Price, $3.00. Brooklyn, N. Y.: David Bruce Conklin, 578 Jefferson Ave.

Transactions of the Maine Medical Association, 1908. Vol. XVI. Part II. Paper. Pp. 444. Portland: Stephen Berry Co., 1908.

Use and Care of Microtome. Bausch & Lomb Optical Co., Rochester, N. Y. Paper. Pp. 32. For gratuitous distribution.

La Gymnastique Raisonnée. Par Eugène Paz. Paper. Pp. 256. Price, 2 francs. Paris: Jules Rousset, 1909.

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Address

THE GENERAL PRACTITIONER AND THE FUNCTIONAL NERVOUS DISEASES *

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The subject which I have selected for discussion this evening may appear vague, but I have in my mind a definite message. It may seem that I am arrogating to myself the privilege of speaking authoritatively on a subject which neither my years nor my experience justify. But before you pass judgment I ask you to take into consideration the motive, which is an earnest desire to inquire into the cause and significance of the wave of supernaturalism that is rolling over the country in the shape, particularly, of doctrines promulgated under the name of Christian Science and the Emmanuel movement by Quimby, Eddy, Worcester and their followers. This movement assails the potency of the physician adequately to combat disease, accuses him of ignorance and incompetency, and openly contends that if medicine desires to be reinstated in the esteem of the people and retain their confidence it must link hands and proceed shoulder to shoulder with supernaturalism. And this in the twentieth century, when the accomplishments of medicine are a towering, imperishable monument to the achievements of science in the hands of mortal man. The existence and the rapid growth of these cults, whose chief object is the cure or denial of disease, is patent to every one. It was never borne in on me so tellingly as it was last summer, when, wandering through New England where once my careless childhood strayed, I saw in dozens of hamlets and small towns the familiar Congregational churches replaced by temples reared to God and consecrated to Mrs. Eddy.

Are we physicians not responsible, in a measure, for the occurrence of this strange phenomenon? Have we kept our houses in order and our wares in such condition that they can be examined without fear on our part that they will be found below the standard demanded by modern conditions? Have we purified with the fires of self-criticism and self-examination the crucibles of thought in which we concoct our remedies?

FUNCTIONAL NERVOUS DISEASES

The so-called functional nervous diseases comprise the field in which these supernaturalists chiefly work, and it is for this reason that I have chosen these diseases for my subject.

The attitude of the general practitioner toward nervous diseases has been a strange one, in some respect inexplicable. My justification for presuming to speak on the subject is founded on many years' experience as a practitioner and intimacy with physicians as a teacher in a graduate school of medicine.

Nervous diseases are looked on as mysterious in their manifestations, incomprehensible in their display, unamenable to treatment, and therefore unworthy of profound effort at interpretation. A physician who would hesitate to admit that he was ignorant of the commoner diseases attacking any other system of the body does not hesitate to say with great frankness that he knows nothing whatsoever about diseases of the nervous system. Apparently he does not feel that such admission reflects disparagingly on his medical education.

The explanation of this attitude is a simple one. In the first place, it is a direct heritage. There is scarcely a physician who has been in practice twenty years who received any considerable instruction during his college days in neurology. He may have heard a few didactic lectures and attended an occasional clinic in which the commoner nervous diseases were demonstrated, but the majority sat under professors of medicine who had as little interest in nervous diseases and as little inclination to attempt the serious study of them as the students themselves displayed when they in turn became practitioners. Consciously or unconsciously, they acquired the idea that it was a mark of good form to slight nervous diseases. Moreover, the immediate results of such example was that when the young practitioner began to encounter nervous disorders he was at a loss how to begin the study and interpretation of them; in other words, how to attack them.

If a patient came complaining of symptoms referable to the kidneys, to the respiratory organs, to the pancreas, to the ductless glands, the physician recalled a method of investigation and a plan of attack which he had been taught and when he put these into operation he found frequently that he was led to a correct interpretation of the symptoms for which he was consulted. But it was not so with disorder of the nervous system.

The practitioner heard the patient's history and statement of his complaints, and then he found himself unable to conduct the examination in a way that would reveal the location and nature of the disease. This statement of affairs was true, not only for organic nervous diseases, but for functional nervous diseases. Gradually the commoner organic nervous diseases were found to be readily recognized in the majority of instances by the application of empiric knowledge or rules of thumb; it then became truer for the functional diseases than for the organic. For instance, the diagnosis of tabes was readily made when the Argyll-Robertson pupil, absent knee-jerks and Romberg symptoms were present. Likewise, when a patient who, previously having had syphilis, showed slight spasticity of the legs, exaggerated knee-jerks, the Babinski sign, and trifling disturbance of sensibility, the physician did not hesitate to make the diagnosis of syphilitic spinal paralysis, or of syringomyelia when with muscular atrophy there was associated sensory disturbance, characterized particularly by dissociation of sensibility. Happily, physicians of the present generation have received instruction to such purpose that the commoner organic nervous diseases are usually recognized. The conviction that they are less amenable to treatment than other forms of chronic diseases is, however, still very widely held, and neurologists are often taunted with their inability to cure chronic diseases of the nervous system. But when such diseases are compared with other visceral diseases of comparable severity and chronicity we find that many of them are as susceptible to treatment as many diseases of the kidneys, pancreas and liver.

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* An Address to the Rensselaer County Medical Society, Troy, N. Y., Dec. 9, 1908.

It is particularly the functional nervous diseases and the attitude of the general practitioner toward them that I wish to discuss.

FUNCTIONAL OR ORGANIC?

I shall not stop to consider the possibility that the diseases which we now call functional, some or all, may not one day be found to be dependent on definite organic alteration; that some of them will be seems very likely. There are diseases in which no characteristic anatomic alterations are found after death, and yet we believe these to be organic diseases. Among these are paralysis agitans, grave myasthenia and hyperthyroidism. There are other nervous diseases, commonly spoken of as diseases of degeneracy or deviation, such as tic, hysteria, idiopathic epilepsy and psychasthenia, possibly migraine, which are not likely to be found associated with anatomic alteration. The very fact that the individual who is a victim to one of these diseases is, for long periods, free from any indication of disease is the chief reason for assuming that they are not dependent on organic change. Although a person may have an organic disease and at times be free from symptoms, such disease can not last for a long time without causing symptoms.

If we ask ourselves earnestly and soberly what we understand by tic, hysteria, epilepsy, psychasthenia and migraine, what answer is obtained? A few will be able to explain the modern conception of these diseases from the biologic and psychologic points of view, but the average physician will be able merely to describe or to define the leading clinical features of each one of them. Yet if you ask that same physician to tell what he understands by diabetes he will probably say that he interprets it as a profound disorder of metabolism, in which sugar is manufactured not only from carbohydrates, but from proteids, possibly from fats, whose chief manifestations are polyuria, glycosuria and disordered nutrition. He is likely to tell of the important rôle played by the pancreas in the metabolism of carbohydrates: of diabetes produced by complete extirpation of the pancreas in animals which can be cured by grafting a piece of pancreatic tissue beneath the skin; and he makes the differential diagnosis between glycosuria and true diabetes with a great deal of positiveness. Yet diabetes is quite as mysterious a disease as hysteria and infinitely less susceptible to cure. There seems to be something about the functional nervous diseases which is decidedly repellent to many members of our guild.

THE REALITY OF NERVOUS DISEASES

I have spoken so far of only one feature of the physician's attitude toward functional nervous diseases, which is the admission that he does not know anything about them, that he does not know how to attack them in order to interpret them, and that he is ignorant of the modern teaching concerning their origin and nature. I wish now to refer to another feature of his attitude toward them—one that is almost entirely either hereditary or atavistic—and that is the belief, feeling or assumption that these diseases are not real, that they are more or less assumed, that they are manifestations of weakness of contumacy, that they are a sort of splotch on the scutcheon of health and of moral dignity, that they are evidences of stubborn perverseness which excite a mingling of sympathy and contempt, that they are the products of a disordered imagination. This is a distinct sequel of the view which looked on functional nervous diseases as manifestations of demoniacal possession, and it is probably very much less prevalent than it was even a generation ago. But it exists still, and it shows itself in the disinclination on the part of many of us seriously to study these disorders and to attempt to get at the foundation of the symptoms of the disease. In other words, it shows itself in the casual way in which neuroses of degeneracy are frequently treated.

REFLEX CAUSES

A third inclination on the part of the physician to attribute the occurrence of many of the nervous diseases under consideration to causes operating from a distance and through organs whose connection with the nervous system is very remote—so-called reflex causes. Fortunately, the uterus has lost its hold on the functional nervous diseases, and with it has gone the dominion of the clitoris, the prepuce and other portions of the genital apparatus, but every now and then we have to bow our heads in sorrow, if not in humiliation, while some one attempts again to scatter seeds of belief in the reflex theory of the causation of nervous diseases, even though the disease be locomotor ataxia and the source of the reflex impulse the urethra.

There can be no doubt that the manifestations of any of the functional nervous diseases of degeneracy may be brought about by the stress and exhaustion produced from any continuous strain or any frequently repeated series of disagreeable sensations. But these do not cause the disease; they cause manifestations of the disease. This is but a mirage in pathology, and the deceptiveness of appearance yields to appropriate investigation.

PSYCHOLOGY

The fourth reason for the practitioner's inadequacy to deal successfully with the functional neuroses is in a great measure due to the fact that psychology is for him a terra incognita. He has been and is still trained in utter ignorance of the essential facts and principles of psychology. Naturally he knows something about the mind, as does any layman, and he speaks of sensations, emotions, ideas, thoughts and feelings, using these expressions in significations that are common to all mankind; but when he comes to interpret the psychic symptoms of the neuroses he finds it necessary to make exact distinctions. For example, he probably believes there are five senses, sight, hearing, smell, taste and what is commonly called a sense of touch, or the skin sense; yet he does not know that this traditional classification is regarded as utterly lacking in significance by the modern psychologist. Consequently when he comes to examine the sensitive surface of the skin and finds that there are several recognizable different sensations, such as those of pain, touch, temperature, tickle sensation and pressure sensation, that one or the other of these may be absent while the others remain, the situation is beyond his comprehension. He stands with little more than mere astonishment before the discovery that a man may lose his ability to sense heat and yet retain his ability to sense cold. If he has studied physiology of the nervous system he knows that the pathways in the spinal cord for these different qualities of sensation are different; but without this knowledge anesthesia is most confusing.

THE MIND NOT A THING APART

The practitioner probably shares also the common belief of mankind that the mind is an entity apart from the body, and that certain mental states have no material basis. This is a view that at one time was quite generally held and which is difficult to down. I note that, in a clinical lecture on hysteria delivered in New York, a teacher of neurology, in describing pain which the patient complained of every morning on arising, and which prevented her from going to work, took the position that the pain, being hysterical, was purely mental and, therefore, had no cause resident in the brain of the patient. There is no pain or ache or vain imagination which has not some cause in the nervous system of the subject. The cause may be found in very different portions of the nervous anatomy. A toothache may have its cause in caries of the tooth; on the other hand, it may be due to some pressure on or disease of the superior maxillary nerve. Again, it may be the result of an intoxication which affects the cells of the Gasserian ganglia, or to disturbance of the cerebral centers that are responsible for the apprehension of pain sensations. The presence of pain, after it has once been established, is a symptom of some disordered function of the nervous system, though we may or may not find its site.

If students of medicine were given even an elementary course in the facts of psychology their attitude toward their patients and toward the psychic symptoms which they present would be quite different both in nervous and in many other diseases.

My experience has been that the chief obstacle to the satisfactory interpretation of nervous phenomena by the physician who has not had special training is that he is at a loss how to proceed with the examination of the patient. If the patient is a sufferer from functional nervous disorder which does not carry with it some distinctive diagnostic symptoms, such as headache in migraine, or the convulsion in epilepsy, the story of the symptoms is so complex and so indistinctive, one might say, that the physician finds difficulty often in getting what may be called a diagnostic perspective. Finding the patient lachrymose and emotional, he calls the disorder hysteria; if depressed and inert, he calls it neurasthenia; and even when he has made the diagnosis he does not feel any particular satisfaction. But when the same physician makes a diagnosis of tuberculosis, of hydrochlorhydria, of pyelitis, immediately there arises in his mind a course of conduct which, when put in operation, will be likely to bring his patient relief. If he does not feel sure of his diagnosis, there occur to him further procedures of which he may avail himself to make it absolutely certain. But with the functional neuroses such prospects do not present themselves. The physical examination is usually confined to a routine procedure of investigating the state of the urine, the condition of the heart and lungs and the state of the tendon-jerks, the so-called reflexes. It may be too much to expect that he should analyze the genesis of an obsession, or unearth an experience which a long time antedates the patient's disorder, but which, nevertheless, stands close to it in causal relationship. Still, a willingness to do this and a willingness to call to his aid the services of others who possess skill in that direction is necessary if we are to remove the obloquy that has become attached to our conduct of these diseases. It has been said that we prescribe medicines for the functional nervous diseases empirically, and principally bromids and strychnin. In no other branch of medicine does the practitioner feel justified in similar procedure. He considers a diagnosis to be an absolute necessity before any systematic treatment is begun, and even when the diagnosis is made he has clearly in his mind a definite picture of the morbid condition which the therapeutic measure proposed is intended to overcome. Does he have any such definite purpose when he essays to treat the functional nervous disease? I think it will be agreed that he does not.

THE EMMANUEL MOVEMENT

My chief reason for discussing the attitude of the physician toward the functional nervous diseases is to be found, however, in some occurrences of the past two years. Somewhat more than two years ago the rustle of psychotherapy was plainly heard in this country, but it is only recently that it has attained cyclonic proportions in the shape of the so-called Emmanuel movement. This is a revival of some of the emanistic doctrines of Neo-Platonism, fostered by the philosophy of F. H. W. Meyers and Hudson, with here and there the teachings of William James. It has developed under the auspices of the Emmanuel Church of Boston from the efforts of the Rev. Elwood Worcester. This divine claims to have received the germinal idea from Dr. S. Weir Mitchell and the impetus to start the movement in the hearty cooperation of the "leading neurologists of New England," but especially of Dr. James J. Putnam, professor of neurology in Harvard University. Both physicians have publicly repudiated the Emmanuel movement, its practice, pretensions and propaganda.

In reality the purpose of the movement is the revivication of that branch of the Christian Church of which the Rev. Elwood Worcester is a member and whose doctrines he professes to believe and has promised to disseminate. This church has fallen into a state of apathy, whose future along present lines of conduct seems bleak and sterile (quoted from Rev. E. Worcester's address to the Faculty Club of Columbia University, May, 1908): "The Christian character of the undertaking is guaranteed chiefly by the fact that it is absolutely disinterested." Volunteer contributions are solicited at each meeting so successfully that already the Boston clinic is in possession of a large fund which, it has been said by one of the founders, is to be used for the purchase of a property and for the construction of a spiritistic sanitarium in a salubrious locality that is at once soothing to the senses and stimulating to the soul. But the Christian character of the New York movement is not so disinterested, judged by the above-mentioned criterion. Its initiator there says, in a circular letter:

> "We are ready for the very rich, for the very poor, and for the majority that are neither the one nor the other. And

most people do not want free service. Their wishes are right and will be respected. Ours is no free clinic except to the very poor; save to them there will always be charges and offerings.

There is no likelihood that this language will be misunderstood. The leaders of this actively profess to base their advent into the practice of medicine on a scientific basis, and cite in support of their profession the fact that they have associated themselves with physicians. But, when the matter is looked into, it is found that in reality what they have done is to discuss with physicians the advisability and great desirability of uniting the efforts of the church and of the medical profession and of all other learned professions, so that the people of the earth shall learn to live hygienically and to think straight, in order that they may remain sound in body and sane in mind. There is no doubt where the medical profession stands in such a matter.

The Emmanuelites are attempting to associate with them physicians who will act as diagnostic tools and who, after making the diagnosis, will turn the patients over to them for treatment, the leaders of the movement, for some incomprehensible reason, assuming that they have an ability to cure disease which the physician has not or can not acquire. The only real motive that can be assigned for such attempt is that, having failed in the profession for which they were trained, a portion of the clergy now essay to try their luck in one for which they have no training, on the ground that Christ was a physician and that they are followers in his footsteps.

THE CHURCH AND HEALING

The church, for a large part of its history, was the most important social and political organization in the communities of Western Europe. It retains this position still in some countries, and is the fount of all knowledge, education and care of the deficient classes and the inspirer of social progress. Since the time of Descartes modern science has arisen and stripped away from the church many of these functions, because to be an expert in any one field has required exclusive attention. To-day the progress of medicine has brought us to a point where it is found that a certain community of interest must be developed. This is notably the case in the treatment of tuberculosis. The measures employed to place a community in the attitude of mind necessary to cope successfully with the ravages of this disease are economic, social, psychologic, moral and perhaps even religious. I am also of the opinion that this is the case with some nervous and mental disorders. These must be combated by educating and training the public, not by curing individual patients after the diseased condition has occurred. Consequently I look with favor and hope for much assistance from the development of social service in connection with dispensaries and hospitals for the treatment of these diseases.

The outcome of such cooperation would be that the church should resume, as it appears in some instances to be resuming, not only certain social functions, but also some care of the physical and moral lives of the peoples of their communions, in order that they may lead not merely a righteous and godly life, but also a hygienic one. This is a very different matter, however, from assuming the practice of medicine, which the Eddyites and the Worcesterites do.

I recently published a communication in the New York *Times* in which I attempted to show: 1, that physicians are more legitimately entitled to practice medicine than clergymen; 2, that the assumption of the function of the practitioner of medicine by the latter profession was arrogant and unjustified; 3, that Worcesterites had no corner on cheerfulness, hope, courage, faith and prayer; 4, that it was ungracious of them to scoff at their parent, Mrs. Eddy. Among the many letters which I have received since this communication appeared are a few which seem to indicate a suspicion in the minds of the writers that I am opposed to the church as an agency to combat disease. On the contrary, I am firmly of the conviction that it is our most potent adjuvant in the warfare against disease and that we should avail ourselves of this powerful agency to inculcate principles of right living and optimistic, elevated thinking, which are the antagonists of ill health. "I dress their wounds and God heals them," wrote Ambrose Paré over the portal of his operating-room; and no one, I think, of our profession has so far lost sight of his personal insignificance as ever to think otherwise.

In healing "God cures by the use of sunlight, healing and nourishing substances, water and air," says one who presumes to act as His spokesman in a book entitled "Religion and Medicine." No believer in God, I presume, denies the truth of this, for it is a part of the general admission that God is love and virtue and the source of all beneficence. What the atheist or the agnostic believes about this no one but himself knows, for he does not feel called on to shout from the housetops or from the vantage-place of the public press that which he believes but can not prove. Why do not the laborers in the Lord's vineyard who are so insistent on their disinterestedness aid those who are not so fortunate as to possess their intelligence and enlightenment to use these God-given and health-restoring agencies by precept and example rather than by attempting to explain their action by a nebulous philosophy that has little foundation and few adherents? If "the time is come when the church must enter into the personal lives of the people and make a freer use of the means modern science and the gospel of Christ places at her disposal if she is to continue to hold even her own," why not, I ask, teach well persons so how to live in the luminous light shed by these agencies that they will not fall into ill health? If the Rev. Dr. Worcester and his followers are so desirous of emulating Christ, they might begin by displaying a measure of that quality which was so essentially, next to His divinity, His most distinguished feature, namely, humility. They should display a willingness to work with the physician, not as the master but as the servant, as an unprofessional assistant strictly amenable to suggestions and to orders. That the physician should become a diagnostic tool in the hands of the clergyman is preposterous and absurd. That the clergy shall be allowed to practice medicine without qualification is absurd and illegal, and the safety of the people demands that they be protected from those who arrogate to themselves any such rights. Nearly 800 years ago the church and the practice of medicine were forcibly rent asunder by the first Lateran Council in the pontificate of Calixtus II; we are as unlikely to go back to it as we are to take up again researches in alchemy or to endeavor to find the philosopher's stone.

THE PHYSICIAN'S DUTY

The question is, what is our immediate duty in the matter as physicians? It is so to conduct ourselves in the study, interpretation and treatment of disease that these and other interlopers shall not be able to charge us with incompetency, inadequacy and inefficiency. That there is some justification for so charging us in our treatment of the functional nervous diseases I have admitted; and the foundation of the charge has been our neglect of the appropriate study of nervous diseases in the light of the developments of modern psychology. For years neurologists have been tireless in pointing out the influence of mind over matter, especially manifest in the treatment of functional nervous disease. In season and out of season they have called attention to the fact that the important element in the treatment of these diseases was the patient himself, and that little could be accomplished until his attitude toward his disease was one of hope, faith, courage and self-reliance. They have recognized that the moral element in the causation and the maintenance of many of these diseases was the important one, and they have striven, with the aid of philosophy, religion and suggestion, to counteract it. So far as I am able to determine, their message fell on insensitive ears, for it was not until the publication of the translation of a book entitled "The Psychic Treatment of Nervous Diseases," by Dr. Paul Dubois of Berne that the profession in this country seemed to give heed to it. Then they gave heed with frenzy. Soon there began to be heard in medical meetings, papers—by internists as a rule—which set forth the great therapeutic value of psychotherapy. A reference to the current medical literature of the past two years will give an idea of the hold which this subject has obtained on the general practitioner. Neurologists who had been attempting to disseminate information concerning the value of psychologic interpretation and spiritual treatment were at a loss to understand wherein the novelty of the matter lay. The enthusiasm seemed out of all proportion to its merits, which it may be said in passing, had been fairly well determined. Nearly every one of these writers presented the subject as if it were novel, and openly stated that if its therapeutic potentialities were known and utilized the results accomplished by the physician would be vastly different. Some writers hinted that there was a more or less well-formulated procedure which constituted the mode of utilization of psychotherapy. For instance, it has been my experience to attend a meeting of a society which is commonly supposed to represent the most advanced expression of medical knowledge and culture and to hear a man make the statement that practically all cases of constipation yielded to psychotherapy. The writer had cured himself and every one on whom he could lay thought. Still, when he came to describe his mode of procedure it was found that it differed in no way, so far as the average mind could discern, from that which is utilized by many of us when we essay to treat this common infirmity.

Much advance has recently been made in the interpretation of psychic manifestations, in the understanding of psychogenetic symptoms and the way in which disorder of function, mental and physical, is overcome by psychic procedure. No one familiar with the work of Freud of Vienna, of Jung of Zurich, and of many neurologists and psychologists at home and abroad can deny it. But in reality their contributions have been in the line of psychic interpretation, psychoanalysis and psychodiagnosis. If one were to discover a mode of procedure that would allow us to diagnosticate a lesion of the bundle of His he would not be likely to speak of it as a contribution to the therapeutics of paroxysmal tachycardia. Naturally he might deduce from such knowledge a procedure whose application would result in cure, and in a measure this is what has occurred in the wake of Freud's and Jung's interpretations. For instance, many of the psychic and emotional manifestations of the neuroses have their origin in experiences affecting the moral sensibilities early in life. These may be so many years anterior to the time of appearance of these symptoms that they are absolutely forgotten, or if not forgotten the relation of cause and effect entirely lost sight of. It would seem to require no argument to convince one that the way to overcome such symptoms would be to uncover the psychogenetic experience on which the disorder is dependent and to present the matter to the patient's mind in a logical way. Then, with a mature mind, properly oriented, he might review the sequence of events and then sit in judgment on them. This judgment should be aided by wise counsel emanating from one who has had wide experience with such matters, and who is versed in the laws of physiology and pathology, such as the physician.

THE PHYSICIAN'S ATTITUDE

What is our further duty as physicians, as citizens and as representatives of the culture in our branch of the humanities of the twentieth century? In my opinion it is so to state our position that we shall not be misunderstood and that our motives can not be misinterpreted. It has been hinted here and there that our livelihood is being encroached on and that our very existence is threatened. If such things could be, and from the attributed causes, I for one should hail it with delight. The public probates of physicians' wills are the best evidences that most physicians do not practice medicine for riches, and the few who do must be bitterly disappointed. My profession needs no champion. If now and then we have fallen on parlous times, and words of appreciation and approval are grateful, a pen capable of transcribing letters in ink that will not fade has appeared in the hand of an immortal like Robert Louis Stevenson.

It has been said that physicians misunderstand the Emmanuelites' position and misinterpret their teachings. There seem to be no facts furnished on which to base such charges. A recent anonymous defender of Rev. E. Worcester, writing in the New York *Times*, says that physicians accuse Dr. Worcester of holding that psychotherapy is a universal panacea. I do not recall having seen such accusation in the public print; but a measure that will cure 80 per cent. of all cases of alcoholism approaches more nearly a universal panacea than anything this world has ever seen! This writer also says that Dr. Worcester is accused of wishing to revert to the age when the functions of priest and doctor were united in one man. I do not presume to know what Dr. Worcester wishes, but I judge from his actions and his words; they indicate that he is reverting to the middle ages. This critic also says:

> "The chief reason why many sick persons hesitate before they send for a doctor is because doctors are too inhuman. They have lost their humanity in the laboratory. They look on a patient not as a poor, sick fellow-creature that they want to help, but as an interesting intellectual problem; an opportunity for a little original investigation.

Every one is entitled to his own opinion, unless his conduct based on such an opinion endangers life or makes its possessor a nuisance to others. When it does his family or friends put him into an asylum in order to safeguard him and them. It would be interesting to know in what laboratory doctors are dehumanized. I am not aware that the laboratory experience of any save an extremely small number of physicians is of such extent that it would bear much more than mere mention.

I purposely refrain from speaking of one feature of the Emmanuel movement which solicits careful investigation; that is the statements of Dr. Worcester, his disciples and fellow-practitioners regarding the frequency of functional nervous disease and the success that attends their treatment. If any one can believe that they cure 80 per cent. of cases of inebriety no word of mine will awaken him, for he is luxuriating in a glorious vision of the promised land, the millenium to come when this miserable world, freed from the fetters of alcohol, insanity, immorality, imbecility and illegitimacy, shall be no more.

But it seems incredulous that any opinion emanating from an individual who makes a statement so wholly devoid of fact as the one which I am about to quote should have the slightest weight with any one capable of reasoning. Bishop Fallows, who is the champion of the Emmanuel movement in Chicago, has recently written a book entitled "Health and Happiness," which contains the following paragraph:

> "The functional disorders of the nervous system are quite modern. They appeared some time in the last century and were never known before in the history of the human race. They are so comon now that the physicians designated as neurologists could not take care of one-tenth of 1 per cent. of these cases.

Now I submit that if one were to characterize briefly the mental or moral status of an individual who made such a statement he would be reduced to the use of brief words and very few of them. Every one who has even an elementary knowledge of the history of the middle ages knows of the ravages of the so-called functional nervous diseases in that period. Tome on tome of literature and statistics attest it. In fact, I could successfully defend the thesis that functional nervous disease is no more common now that it was 300 years ago.

PSYCHOTHERAPY OF THE EMMANUELITES

As an example of the suggestion in psychotherapy, I may quote from a recent lecture of Dr. Worcester in New York, in which he told in glowing terms how insomnia and the alcoholic habit were overcome by suggestion. His suggestion for those who have insomnia was, "When you retire, think of the beautiful things of Nature. Imagine you are on the brink of a placid lake; then think of the soft moonlight as it falls on the peaceful water." Yes, indeed, if the baby suddenly cries while you are in the midst of such alluring thoughts, or your wife insists that you go down and put the furnace in shape for the night, keep in mind that the placidity of the lake has not been disturbed in the meanwhile and that the moonlight is just as soft as before your sweet dreams were rudely disturbed!

Fellow practitioners, let us have zeal of God, but let us have it according to knowledge.

37 West Fifty-Fourth Street.

Education of the Unfit.—Charles G. Kerley, in the *Archives of Pediatrics*, states that over-education of the unfit brings forth tastes, habits and desires of which the individual should know nothing, and is the cause of more thieving, gambling and all-around dishonesty than is well appreciated. When position and wealth and reasonable competency do not follow by legitimate means, others are readily seized on.

Original Articles

THE PRESENT RELATIONS OF PSYCHOTHERAPY

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The answer to the question whether the pathologist can ever draw a sharp line between organic disease and functional disturbance is yet far off. Newer methods are constantly narrowing the list of maladies of which the organic substratum has been hitherto unknown.

Every expenditure of nervous energy, every mental action, every emotion, is undoubtedly accompanied by a subtle change in a larger or smaller group of neurones, some breaking down of the complicated vital molecules into simpler ones more closely akin to the inorganic, more accessible to the microscope and the test-tube. Fatigued tissues can be recognized under the microscope, and when the balance between fatigue and repair is broken for too long a time permanent degeneration is manifest. It is more in accordance with our knowledge of tissue metamorphosis and of toxic action to assume that the material change is the primary one. The rapid action of many poisons upholds this view, which may fairly be expected to cover those poisons of internal origin.

The assumption of a general control of structure and action by thought, without knowing what thought is or where it has its origin, a well-rounded theory of the complete dependence of health and disease on the mental attitude, is a convenient generalization and opens up a picturesque pathway along which one may stroll at leisure with many diversions until he is brought face to face with some hard pathologic facts.

The hotbed culture of hybrid new thought is a rapid and easy process admitting of a theoretic perfection entirely unattainable as yet by the slow growth of biologic science based on physics, chemistry and anatomy.

For our practical needs it is desirable to bring as much of the borderland as possible within the limits of the known and measurable and to ascertain where they come together.

It is not so very long since the doctrine of the dependence on the bodily health of correct mental action, of the emotions, even of theologic views, a comfortable digestion, a happy life (in this world at least), was the one popularly taught. It was summed up in various proverbs, such as "*mens sana in corpore sano,*" and the pun "whether life is worth living depends on the liver," etc.

Even in the confusion of claims of the various theories and specialties, each for itself, this doctrine, far from growing obsolete, continues to cover an enlarging field in diagnosis, and as morphology is being supplemented by biochemistry, it more nearly covers the whole. And not only for therapeutics in the narrowest sense, but for preventive medicine, it is by far the most potent theory for good.

Now in the minds of hundreds of thousands, perhaps more correctly millions, this relation is reversed. That "strong will with which anything could be done," and which was considered one of the good gifts of Providence, is now within the reach of any one who will put himself for a time under the influence of a stronger one or even of a meaningless verbiage.

The comfort and usefulness of decision and fortitude in bearing disease, as well as other misfortunes, is not to be underrated. The contribution to the happiness of many persons by instruction in firmness and serenity of mind given by so many sects of mental healing may be of great value. Whether the more recent instructions are more valuable and efficient than the old is another question.

But courage and patience are not new discoveries, nor are they the restoration of health. The invalid may do much and valuable work. In fact, a good deal of the best work in the world has been done by invalids; but it has been done in spite of disabilities, not by getting rid of them.

The normal control of the psychic centers over the functions of the rest of the body is only within a very limited extent a direct one. Strangely enough the connection is most easily interrupted where it is least roundabout, as in the paralyses and anesthesias. The very point at which the circuit seems most direct is that at which the psychic force meets its highest resistance, which may be raised or made absolute by organic disease. It is only when these paralyses and anesthesias are purely inorganic or functional, that is, when they depend not on the severance of organic connection between the psychic centers and the peripheral connections, but on the disarrangement of association centers, that the will or mind of the patient or physician can be made to influence them usefully. (This, of course, does not refer to conditions in which the training of a new set of muscles or even new centers can be made to take up the movements of others disabled.)

Nothing can be much more hopeless than an attempt to make the will control purely psychic manifestations of organic degeneration in "general paresis," for instance; and almost as strong an expression may be used of a great share of the melancholies and other forms of insanity with which as yet neither morphology nor chemistry have established a definite connection with tissue changes.

On the other hand, for instance, the beneficial effect of thyroid feeding on the mental condition in myxedema is very clear. No one doubts the effect of the nutrition on the emotions.

Mental, that is, cerebral, action is connected with physical, that is, sensation and muscular contraction, by a series of paths which have comparatively little direct relation with the so-called "vital organs." It is only when morbid activity of these organs reaches a certain intensity that it normally forces its way to the upper consciousness, that is, awakens the attention. But the attention may be oversensitized by morbid associations. Here is the crucial point in the diagnosis: Are such activities trivial or not? Can they be physically banished?

Voluntary control over the movements of organic life is not great. In a notorious but highly exceptional case many years ago a person kept up, day and night, a rate of respiration several times the normal and far beyond the limits of voluntary imitation without notable impairment of health in other ways and finally recovered by two applications of a saint's shin-bone. But one can not by an act of the will quicken the beats of the heart.

Psychical excitement, manifest or concealed, will accelerate the pulse considerably. A utilization of this fact has been made for getting a sort of involuntary confession from criminals.

The route of psychic influence on nutrition, on the metamorphosis of tissue, is almost entirely through the vasomotor system, the smooth muscles and the secretory nerves.

Blushing and paling, often dependent on entirely peripheral disturbances of cardiac and vasomotor nerves (for example, those caused by heat and by alcohol), may also be strictly physiologic results of psychic action, which in its turn may be normal or occasionally controlled by a "fixed idea," a "dread," or "obsession."

The movements of the iris are controlled by drugs, by the distribution of light, by organic disease, and also by emotions, which we assume to be the result of associations taking place in the cerebral cortex.

The muscular act of vomiting may be set in motion by direct irritation of the stomach, as in cancer, ulceration, gastritis and irritant emetics, by certain emetics acting on the medulla, by intracranial pressure, by irritants reaching no nearer to the stomach than the pharynx or even the mouth, by disgusting sights and smells (which is a form of psychic association); and again, in a form, not always easy of diagnosis, of wearing, dangerous, even fatal, neurotic vomiting, it may result purely from the "fixed idea." Here the psychic comes very close to the organic, for a constant complete emptying of the stomach, no matter whether under the influence of a cancer or an idea, is in effect the same.

A more pleasing demonstration of the influence of the mind on digestion is to be seen in the dyspeptic who enjoys and digests a "big dinner" but can not get along with the carefully limited scientific feeding. "Better is a dinner of herbs where love is than a stalled ox and hatred therewith."

But even if this universally acknowledged power of the mind over certain bodily functions, which seems to be considered by some a recent discovery and is by many sects claimed as their peculiar property, be much less than many theories would make it; if we admit its strict limitations as a cure (not merely as a mitigation and relief), we find it utilized every day by every sect, consciously, subconsciously, unconsciously or unwittingly. Can any self-critical physician of experience for a moment suppose, in the face of the constant and rapid changes in therapeutic theory, that the recoveries in all his cases are attributable to the exact scientific adaptation of the drugs he has administered? If his patients recover to-day simply because he has employed the most modern and scientific methods, why are his earlier patients still alive? Why do those of his neighbor who follows another treatment recover also?

Every such candid physician treasures in his memory, if not in his case-book, recoveries which he did not expect and could not explain; others which he knew had nothing to do with the drug or the dietetic treatment instituted; others still in which he more than suspected that the batteries and the vibrators had only a "moral" effect; with a small residuum in which he could not help recognizing the predominance of his own personal influence and teachings.

He is not so likely to plume himself on the latter as on his appendectomies, for instance (or was not until he learned that his successful mental devices had also received a name just as long, and better Greek). Is not this because he supposes that the one testifies to real professional skill while the other, if heard of at all, is apt to be attributed to nothing in particular or merely good luck? The fisherman much prefers talking about the trout which jumped at his carefully selected fly to exhibiting the pout or eel which would gobble anybody's ignoble worm.

Is it possible to reduce the accumulated knowledge of the physician and the charlatan to a system? Like too much else of the experience of the busy man, the data of the practitioner are all too briefly recorded. If such episodes live in his memory they are likely to come to light with picturesque and dramatic distortions of years, chiefly as the basis of humorous stories at club suppers. The charlatan may be an enthusiastic, perhaps a learned one. He is more often a shrewd ignoramus or even a liar pure and simple. In the latter case he is no more likely than other manufacturers to give away his trade secrets. In the former case he is probably unable to do so in any language understandable by the common people. But with caution and patience he can be utilized.

Rough statistics, such as those collected by H. H. Goddard, based on interviews with patients and healers whom he thought to be honest, although uninstructed, reveal no astonishing proportion of recoveries; and the boasts of so-called religious leaders, and the recorded cures of these thaumaturgists (they are not in danger of being hidden) confirm these conclusions. The former set corresponds sufficiently well with the reports of scientific hypnotists; the latter can be matched in the recollection of many a practitioner who never suspected that he was stepping outside the plain practice of medicine into higher regions of psychotherapy.

The questions which arise in regard to modern practical schemes of mental healing are partly of principles, partly of methods and partly of persons; the most important, the fundamental one, that of the diagnosis of the known, acknowledged, organic, from the functional, inorganic or psychic, between the structural lesions and the maladjustments, should be settled before mental healing is invoked.[1]

Is there underlying all the forms of cure, whether of the psychotherapist, the enthusiast or the utter charlatan, any common principle or condition which is an essential to recovery?

We must make the unpleasant, by no means flattering admission, that what goes to explain Lourdes or Ste. Anne de Beaupré must have its value in Paris or Nancy or Boston. Holy (even if dirty) water may be —in psychic analysis—the equivalent of bitter tinctures or animal extracts, or sugar plums.

Patients who like to narrate their cures like also to enhance the effect by stating that they "did not believe in it at all, but were persuaded by friends," and so on; but it is certain that faith, formally acknowledged, or unconsciously present, is a factor in all and the only factor in some recoveries. One of the curious contrasts in individuality is to be found in the effect of simple reiterated assertions, in one class of mind awakening only repulsion, in another intensifying and developing a nascent wish into a belief, or in a few even perhaps originating belief from chaos. No one knows this better and utilizes it to more advantage than the commercial and especially the medical advertiser.

The "otherwise minded," the man who really delights in opposition, is probably more highly endowed intellectually than his credulous brother. He is likely also to be much more uncomfortable to himself and to his neighbors, much less profitable to the charlatan, and if his crankiness is brought to bear on his own health rather than on the conduct of the world in general he is a terror to his physician. Mary's little lamb followed her to school one day and undoubtedly remained as stupid as other sheep, but if she had been trying to make a pig a learned one she would have grasped the animal's tail and pulled as firmly in the opposite direction as possible.

When it is considered how many different disorders there are existing supposed to be amenable to mental treatment, and the infinite combinations wrought among them by individual peculiarities, heredity, education and environment, it seems that here more than in any other department of medicine each patient must be a case by himself. As to the development of this necessary faith it may in some be of that nature which attaches itself quickly to the nearest object. In many its development is capricious and dependent on some accident, some pleasing, apparently novel, aspect of a familiar idea. Comparatively few base their faith on a rational judgment.

Among all these is it possible to frame rules applicable by every one in procuring that confidence essential to success? It is the subconscious emotion, wish, longing, trust, confidence, rather than a logical conviction, which supports the forces working toward cure. Often the more completely unconscious it is the better, for it is less likely to be disturbed by intellectual doubt.

"The man convinced against his will is of the same opinion still."

The scoffings of the skeptic can be directed with less effect against a belief which rests on hidden foundations than against one which stands in full view with its weakness exposed. Faith in the occult and mysterious is in many persons easier to attain than confidence in a teacher, no matter how wise.

If from the effect of some unusual excitement on a predisposed constitution the subliminal consciousness becomes completely separated and assumes the control which should belong to the conscious reason, the conditions are ready for the rare miracle-cures which bulk larger in literature than in real life.

A successful scientific system of psychotherapy is as difficult to impart by formal instruction as is business shrewdness, social tact or political magnetism. Indeed, the latter simile carries suggestions which might lead us too far from the field of medicine. It would be as difficult to lead a student, sincere, well instructed, a little too sensitive as to his dignity, a little too fastidious, too careful of his scientific reputation, but without tact and common sense, to overcome these difficulties, to become a successful mind healer, as it would be to make a conscientious student of political economy into a successful "boss." It is largely a work of art, not a science; perhaps a work of Nature rather than either.

If we wish to fix more precisely the avenues of approach to the therapeutics of the lower consciousness, where it is now conceded that many psychoses principally have their stronghold, we might make a list somewhat like the following:

A. Assertion, positive and reiterated.

B. Instruction, persuasion and exhortation. Encouragement.

C. Free confession, including the "cathartic" or analytical method of Freud.

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[1] Warning has been given by some of the early supporters of the religiotherapeutic movement, against the danger from its falling into too enthusiastic, but ignorant hands. The danger is undoubtedly a real one, but it is no more imminent, and possibly less serious, than may be found in the case of any other method (really useful or not) which appears in the guise of novelty. The protection is to be found in what is now and ought always to be an essential part of the system, the skilled careful diagnosis.

D. Deception. Placebos. Drugs in which both the patient and physician have a kind of half-belief.

E. Suggestion, hypnotic or waking. The word is often given a much wider application than was at first intended.

Reason, sympathy, sarcasm, concerted action, interesting occupations, are among the methods to be carried out through these paths. That any one of them is to be looked on as the only avenue in all cases is absurd. They are to be applied with the most careful adaptation, not solely to the name of the disorder existing, but with just as careful diagnosis of peculiarities of the individual case.

One might suppose a practitioner trained in the old-fashioned form of compounding a prescription to put his directions somewhat in the following shape, either in his own mind or on paper, if to be placed in the hands of an assistant:

The essential *active* elements: Reason. Sympathy. Occupation? Shock?

The *adjuvants*: Rest, feeding, seclusion, exercise, passive or active, massage. Occupation?

The *corrigents*: Sarcasm. Judicious neglect.

Flavoring: The favorite theories of the patient, social, moral, theologic.

Vehicle: Faith. Authority of the church. Love of the marvellous. Attraction of the crowd. Enchantment of distance.

Misce secundum Artem. With TACT.

Such a prescription is not to be had in the tabloid form.

Some of these ingredients call for important practical remarks. Encouragement can hardly be used to excess, except in the mixed cases in which too absolute confidence in recovery might lead to neglect of essential hygienic or medicinal measures. Few circumstances are more encouraging than a steady gain in weight. Feeding is an adjuvant.

It is surely better to give a proper dose of quinin than to tell a patient he will not have a chill the next morning, although there have been cases in which the patient recovered after swallowing the prescription instead of the medicine.

The fixed idea of chronic obstruction of the bowels is quite as effectually abolished by a dose of calomel or castor oil as by the most elevating exhortations. And yet there have been cases in which——————

But the dosage of sympathy is that which requires the most careful adjustment. Too many patients, the chronic invalids, the neurasthenics perhaps incorrectly diagnosticated, have already had from their friends, the mother, the sister, the clergyman, or the doctor, too much of that enslaving narcotic. It may develop the trivial injury into a traumatic neurosis. It may prolong the indolence or aboulia due to a temporary cause, the neurasthenia which a moderate rest will restore, into a useless and joyless lifetime; and yet it is very hard to withhold it. Absolutely to omit it may be cruelty and disaster. The patient already accustomed to the overdose who comes into the hands of the neurologist should not have it reduced so abruptly as to cause shock or revolt, but later it may be taken away with a firm hand.

It is evident that sarcasm and neglect are to be introduced into the prescription with the utmost caution, and, at that, only in the rarest cases after a careful diagnosis.

As to the "flavoring," it is that which in psychotherapy makes a great part of the difference between the sects. As in many other prescriptions, it is by the flavor alone that the patient thinks he knows what he is taking.

It is in favor of the present use of the word "psychotherapy" that as yet it carries with it no suggestion of a special theory, and it is to be hoped that its popular use will not warp and twist it into the trademark of an exclusive system. The normal and proper influence of the physician's instruction, the clergyman's kindly rebuke or words of cheer, must not be allowed to degenerate into a superstitious reverence.

Among these subjects there are two likely, from their comparative novelty and their distance from the commonplace methods, to awaken more discussion and difference of opinion than others. These are hypnotism and Freud's analytic method.

The power of hypnotism for evil and the range of its applicability for therapeutic purposes have undoubtedly both been exaggerated, certainly as regards ordinary everyday use. Whether its habitual use tends to weaken the normal will, whether under special circumstances it may be used for criminal purposes (explicitly denied by its advocates), and whether it may in rare cases get a control which other less sensational methods fail to secure, I do not undertake to say. The power of persuasion, with or without hypnotism, which one person may obtain over another either for evil deeds or virtuous determination, varies immensely. In alcoholism, for instance, in which special claims have been made, it may be reasonable, professional, or friendly inducements, or personal determination, which lead to the abandonment of the pernicious habit; and, on the other hand, it is only too well known that everything, reasonable or occult, punishment, deceptive medication, family distress, as well as hypnotism, utterly fail of any permanent result in a large proportion of cases.

The induction of sleep in cases of insomnia is well known to be a frequent desirable result of monotonous sounds and sights, that is, the cessation of all external stimuli and disturbing thoughts, a sort of hypnotic power not reckoned as a merit in the clergy.

The importance of hypnotism in the psychoses, with the exception of hysteria, in which it is little but a change of form, and some of the lesser ones, in which it is unnecessary, might be thought from the closeness of the relation between the remedy and the disease, to be at its maximum. By this time, however, there must have arisen from the experience of many candid or even enthusiastic men a most conclusive consensus of opinion that it has done nothing to displace in practice the non-hypnotic suggestion (to use an overweighted phrase), or in other words, the persuasion, instruction, re-education and suitable employment which are to-day among the ~~most~~ important resources of the enlightened alienist.

There are reasons why it is desirable to avoid hypnotism in ordinary use. The possible abuse for criminal purposes, the impairment of the patient's will, and the liability to induce too great dependence of the patient on the mere personality of the physician are not objections of great weight. As much may be alleged against powerful drugs, as, for instance, alcohol and opium.

Since nearly all other methods of reaching the mind of the patient depend on a confidence in the knowledge and professional skill of the physician, it is of great importance that he should not jeopardize his influence by a failure to hypnotize, and many high authorities agree that it is only a certain proportion of persons who are hypnotizable. An unsuccessful experiment will materially impair the effect of the next attempt at rational persuasion.

Freud's method does not demand the induction of hypnotism, but an attitude of confidential trust evoked by long continued and careful questioning as to the earliest recollections which have given rise, through long trains of association, forcibly repressed or fallen below the threshold of present consciousness, to morbid psychic conditions largely of fear and depression.

The method has probabilities in its favor, but if it be possible in any given case to develop and strengthen what has been morbid suppression with its residue of doubt and fear into a complete rupture of associations, it would seem that such a short cut is preferable to the tedious questioning, which is almost certain to implant and vivify ideas of the very kind which it is desirable to get rid of. Some other plans of developing more speedily this desirable attitude of trust have been considered dependent on slighter grades of hypnotism, so-called hypnoidal conditions.

It is not necessary, if one intends to utilize the methods of Freud, to accept the extreme views of this acute psychic analyst, or to admit that every 'phobia has a sexual foundation. Even if it be true that this potent factor in the emotional life does not always, for very obvious reasons, receive the consideration it deserves, it is surely not the only one. Other motives, indeed, other motives which many a person prefers to ignore, may have as powerful an influence in the emotional development. It is necessary to accumulate a wider experience under different social conditions and with a greater variety of personalities before we accept so nearly an absolute connection between a single class of emotions and so narrow a clinical group.

By whom should the treatment be carried out? Obviously by the physician who makes the diagnosis, who should know better than any one else what is best adapted to the case, or else under his immediate direction, if he have the requisite characteristics, the good sense and the tact, which are of far more consequence than any details of method; if to an assured diagnosis he adds the firmness to carry out what he sees to be needed.

But it is true that he may be an excellent therapeutist and yet be lacking in some of the qualities desirable in the care of functional cases in general, as well as in the case before him.

Circumstances may be such that he can not undertake it. The method of Freud, for instance, demands a vast amount, not only of time but of patience, and although there are others which may lead to the same result more promptly, there are few of any kind which can be carried out by the physician in the dispensary or the general hospital. It is not every man who can listen sympathetically to a daily rehearsal of imaginary, self-developed woes, or the maudlin details of a self-accuser.

It may be further noted that ignorance may have its advantages as well as its dangers. The complete diagnosis by exclusion is not always possible to every man in every direction; and between the same man acting as diagnostician and as therapeutist there can be no real intellectual gap. A nervous patient may be a shrewd observer. He may detect or suspect from the words or the manner of his healer that the diagnosis is incomplete and that the positive assurances are not quite sincere. There are few errors more mortifying, if not worse than mortifying, than overlooking an organic cause for symptoms which the patient must be assured are purely nervous. The scientist may be obliged to hedge a little for his own sake. But between the physician and his assistant, medical or otherwise, no matter how well instructed and loyal, there may be left a gap wide enough for doubts to shrink into the background and leave to the therapeutist the full advantage of absolute confidence in which the timorous patient can detect no weakness.

A very recent movement for combining the work of the physician and the clergyman, the diagnostician and the lay therapeutist, offers this among some other advantages. The bright light of enthusiasm, the uplifting of religious faith, the feeling of sympathetic companionship, perhaps a little of the "crowd madness," transform the scientific opinion into a moving force. Words of cheer, advice, appropriate music—one of the most powerful of emotional stimulants — may be addressed to dozens as well as to units and each may rightfully find his individual needs as carefully ministered to as if he had received a few hasty words and a scrap of paper from the hospital out-patient doctor, who can by no possibility give adequate thoughtful attention to each of his "nervous" clients.

It has been said, even by physicians, that an antagonism to psychotherapy exists among their brethren. It can hardly be true as regards the principle itself, but only against the extravagant claims based on a new nomenclature, against its misapplication, and especially the disgust with a multitude of quackish practices whose genetic relationship can not be denied, but with which all fellowship should be shunned.

The specialist who sees nervous disorders which, as he knows, depend on organic changes in the nervous structure, not naturally reprobates as absurd and often cruel the effort to make a patient believe that a proper frame of mind is alone sufficient to get rid of the tumor, the inflammation, the toxin, the degeneration. But he can only be thankful if the patient can be taught to use another set of muscles to accomplish lost movements, to bring his will to bear on what is normally done automatically, or at least to bear unavoidable defects and suffering as well as possible. But he ought not to be allowed to cherish ideas which he can be shown are morbid or baseless or to suffer incapacities which can be removed.

An objection to this alliance has been heard from the other side to the effect that the church is deserting its proper work in administering to the bodily as well as the spiritual wants of its disciples.

As to what the proper function of the church as an organization may be, it does not become me to express an opinion, but considering the example and teaching of its head and the zeal with which these have been followed by so many of his disciples with no disastrous results for nearly 2,000 years, the outlook does not seem to an outsider alarming.

Maternal Impressions.—C. H. Melland, in the *British Journal of Children's Diseases*, states that the belief that the fetus may be influenced by impressions received by the mother during pregnancy is as old as history and, like other superstitious ideas which are the residue of deeply ingrained mental conditions dating back into the age of barbarism, it is displaced only with difficulty. Even in the present day, the possibilities of coincidence are greatly underrated, mainly because those cases are placed on record in which the cause and effect seem satisfactorily established, while the far more numerous instances in which coincidence fails to produce any startling effects are silently passed over.

SANITATION IN THE PHILIPPINE ISLANDS SINCE AMERICAN OCCUPATION,

WITH PARTICULAR REFERENCE TO REDUCTION IN MORTALITY BY ELIMINATION OF INTESTINAL PARASITES, ESPECIALLY UNCINARIA

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In response to the kind invitation of the Association to prepare a paper on tropical sanitation, it was not considered amiss to give a brief description of the work which has been done in the Philippine Islands, in order that the profession at home may be in a position to judge whether the same high standard achieved in Cuba and Panama and other American tropical possessions nearer home has been reached there.

The Philippine Islands are so far away from the United States and it so frequently happens that conditions there are not known that I will take the liberty of giving a brief description of the islands as they appeared at the time the United States took possession of them.

GEOGRAPHY OF THE ISLANDS

The group is composed of about three thousand islands and extends from 21° 25′ latitude to 4° 45′ latitude, and from 116° to 127° longitude, has an area greater than the states of Pennsylvania, New York, New Jersey and Maryland, and has a coast line equal to that of the United States. There are two prevailing winds during the year, one known as the northeast monsoon, which blows almost continuously from November to April, and the other known as the southwest monsoon, which blows from April to November, the latter being the period during which the destructive typhoons occur. These conditions produce a climate which varies greatly in different portions of the islands, in fact, the rainy season on some parts of the eastern coast occurs during one monsoon period, and on the western coast during the other monsoon period. In general, it may be said that the dry season, in which there is an average rainfall in Manila of 379.5 millimeters, corresponds to the period of the northeast monsoon, and the rainy season, during which there is an average rainfall of 1,537.1 millimeters, corresponds to the period of the southwest monsoon. The temperature varies from an average of about 80 F. in the lowlands to an average of about 75 in the mountains of Benguet, where the summer capital of the Philippine Islands is located. The lowest temperature of the lowlands is about 65; the highest rarely goes above 95 F. In the mountains it ranges from 35 to 80. The conditions as to warmth and moisture are such that mosquitoes, other insects, bacteria and parasites thrive throughout the year, and cold, that great aid of the sanitarian of the temperate zone, is not available.

With the exception of three large valleys in the Philippines, the interior is very sparsely inhabited, most of the towns being found along the coast. Three valleys, the Cagayan and Dagupan, in the island of Luzon, and the Cotabato, in Mindanao, are traversed by great rivers, of which the Cagayan in Luzon is navigable for a distance of 200 miles. The soil in these valleys is as rich as any found in any portion of the world, but as yet the conditions are such that the mosquitoes breed in abundance.

SANITARY CONDITIONS BEFORE AMERICAN OCCUPANCY

It is estimated that, at the time of American occupation, the population of the islands was about six and one-half millions, and the death rate so high that the population had been practically at a standstill for many years. There are no records in existence in the Philippines from which even a rough estimate could be formed as to what the actual death rate had been, but judging from the mortality at present, with the positive knowledge that a large reduction in the death rate has been brought about, it certainly must have been over 50 per 1,000.

At the time of American occupation, at least forty-thousand persons per annum died of smallpox. So far as could be ascertained by a careful sanitary survey, not one artesian well existed. The examination of water from practically every section of the Philippine Islands showed that all wells, rivers, springs and other surface sources contained amebas.

There was no sewer system in Manila, a city of over two hundred thousand inhabitants, and the night-soil and kitchen and other waste was disposed of in a most crude manner.

The water supply for the city was derived from a river, the watershed of which was inhabited by about ten thousand persons who considered it their inalienable right to bathe both themselves and their animals in the river and otherwise pollute the same.

In the city about thirty-one miles of esteros or canals existed which were nothing more than open, filthy water-courses into which all waste material, mostly liquid, found its way.

There was practically no provision for the care of the insane, a common custom being to tie them to a stake with a dog-chain.

About two hundred lepers were taken care of at San Lazaro and the Palestine Leper Colony for charity's sake only; four thousand or more roamed about the islands at will.

The remains of human beings were interred as many as four or five in one grave, the remains of former persons being frequently thrown carelessly about in order to make room for a more recent corpse.

Cases of and death from beriberi in penal institutions were very numerous. Malaria claimed its victims by the thousands. On account of there being no adequate quarantine system, diseases like plague, cholera, leprosy and smallpox were frequently introduced from the great infected centers of the Orient. Amebic dysentery claimed its victims by the hundreds without any hope of relief. Devastating cattle diseases were literally sapping the wealth out of the country. Great epidemic diseases like cholera sometimes claimed as many as a thousand victims a day in the city of Manila, and at times are said to have depopulated entire villages. Bubonic plague was found in Manila some time after American occupation.

SANITARY CHANGES

Pleasing as it might be to state that all the foregoing conditions have now been entirely eliminated, yet in all candor it must be said that the work is so enormous, the funds so inadequate, and trained helpers so few that much yet remains to be done. Yet when it is remembered that the Philippine Islands are eleven times larger than all the remaining tropical possessions of the United States, that it requires over six months to have even small requisitions for supplies from the United States filled, and that their financial resources are meager, it will not be considered strange that the conditions have not yet become perfect.

Soon after occupation, the general campaign of cleaning and scrubbing so characteristic of the American sanitarian was at once inaugurated throughout the islands. The health requirements were crystallized into compact shape and enacted into laws. About three hundred boards of health were organized, so that the needs of the different municipalities could be systematically studied, and the results enforced. Garbage collection, sewage disposal, street sweeping, the isolation of dangerous communicable diseases, etc., all received attention, and improvement soon became everywhere apparent.

The vaccination of over six million people in a more highly educated country with the best transportation facilities would be no small undertaking. The work in the Philippines was begun by permitting each municipality to vaccinate on its own account, but after several years' faithful trial this scheme was abandoned, and a plan of systematic vaccination by groups of about twenty-five vaccinators directly under the charge of a competent physician was started in various parts of the islands. The plan found to work best was to commence on the border of a province and systematically work across it until every person was vaccinated. In the provinces near Manila, which represent a population of about a million, there were formerly six thousand or more deaths from smallpox annually. Last year after the systematic vaccination was completed, not one death occurred from smallpox.

To-day dozens and dozens of artesian wells exist, and in many localities the death rate has dropped as much as 20 per 1,000 after the use of artesian water became general.

The new gravity water system, which brings water from an uninhabited watershed, will be completed July 1, 1908. The new sewer system for Manila, which is being constructed at a cost of nearly $2,000,000, will be ready for use next year. In the meantime, however, the sewage is being disposed of in a system of septic tanks which are as effective as could be desired, and have deservedly earned for Manila the name of the city without odors. There is no longer any pollution of the canals or the Pasig river. The thirty-one miles of esteros or canals have been dredged and cleaned of the filth which accumulated during the several centuries. The moat which surrounded the walled city has been filled up, and is now being parked. Thousands on thousands of malodorous wooden structures used over tight vaults have been replaced by the modern enameled closets, and hundreds of acres of lowlands have been raised above tide level and drained. The present watershed is patrolled by United States troops to prevent pollution of the water supply, and a modern ice plant produces daily 100,000 pounds of ice and 5,000 gallons of distilled water, which is sold to the public by the Government at a nominal rate.

Hygiene is taught in the 3,500 public schools of the islands, and the simple rules of health are repeated like a catechism in thousands of Filipino homes.

A hospital of 160 beds was promptly established for the treatment of civil employés, and over half a million dollars have now been appropriated for a new hospital which will not only be large enough to meet the needs of the government employés, but will be used as a general hospital as well. The same is now actually under construction. A modern hospital building for the insane is already completed, and facilities are available for the care of 500 of those unfortunates.

In the establishment of the leper colony on the island of Culion one of the most extensive segregations recorded in history is being undertaken. Of the 4,000 estimated lepers in the Philippines only about 1,000 remain to be collected. (It may be remarked in passing that the policy of segregating lepers will apparently be fully vindicated. Our experience during past years has been that in those provinces from which the lepers were removed and in which more than 300 new cases have appeared annually, not more than fifty new cases were found.)

The burial of the dead is now properly regulated in over half of the provinces.

The free distribution of quinin has greatly reduced the incidence of malaria. Some drainage and other mosquito extermination has been undertaken, but lack of funds and trained assistance has prevented much headway in this direction.

Great advances have been made in prison sanitation. Diseases like beriberi have been almost eliminated and the death rate brought down to normal.

The management of that great devastating disease, cholera, has been so perfected that even with the funds and help available in the Philippine Islands only dozens now succumb where hundreds died heretofore, and almost positive assurance can be given that the disease can be eradicated from any community in a period of a few weeks. This last fact has done much to allay public apprehension; panics of fear have entirely disappeared, and a community in which cholera makes its appearance moves along in the even tenor of its way as if nothing unusual had happened.

The foregoing sanitary measures, as well as many others too numerous to mention, have produced the same satisfactory results that have heretofore been recorded in other communities in which they have been faithfully applied; the death rate has no doubt been reduced by ten or more per 1,000, which in itself means the saving of many thousands of lives. The morbidity has also been lessened, but even after all of this was brought about the feeling still remained that more should be accomplished.

However desirable the necessary cleaning up and ordinary sanitary measures may be to a community, still our experience in the Philippine Islands leads us to believe that such work alone is not nearly so effective in improving the public health as has heretofore been believed to have been the case. Experience in eradicating yellow fever from Cuba by the elimination of the mosquito and not by the removal of filth, the destruction of the rat for the eradication of plague, the killing of anopheles for the suppression of malaria, all go to demonstrate that there are other more important factors to be taken into consideration than the mere cleaning up in improving the public health.

CAUSES OF MORTALITY

Practical work and experience change many apparently well-grounded theories.

In casting about for the cause of the still high mortality in the Philippine Islands two factors seem to stand pre-eminently to the front. One is the infant mortality, and the other intestinal parasites. After some consideration, infant mortality was dismissed because this is a subject which is much the same all over the world, and has been given much study and attention by persons working in communities where ample funds and trained help are available, and still no great progress has been made, so that we concluded to take up the question of intestinal parasites first.

A fortunate incident occurred at this time which aided materially in the study of this problem. The death rate in Bilibid Prison under the administration of laymen had increased from year to year until the appalling figure of 238 per 1,000 was reached. The management of the sanitation of the prison was then transferred to the Bureau of Health. Ordinary sanitary measures, like relieving the overcrowded condition, improving the methods for the disposal of night soil, regulating the diet along scientific lines, improving the drainage, etc., in a period of six months succeeded in bringing the mortality down to about seventy per 1,000; but persistent efforts carried on for nearly six months more failed to lower it further. Prisoners seemed to be dying from illnesses which should not have killed them. At this juncture a systematic examination of the stools of prisoners was begun. The same was undertaken by examining all the prisoners in a brigade, usually 300 in number. In the first batch examined most astonishing figures resulted.[1] Eighty-four per cent. of the prisoners were found to be afflicted with at least one intestinal parasite, 50 per cent. had two or more, and 20 per cent. had three or more, and of the total number examined 52 per cent. had hookworms.

Active treatment for eliminating the intestinal parasites was begun in one brigade, and after this work was completed it was noted that the incidence of disease in this brigade was much less than among the remaining brigades which had not yet been so treated. The work was actively continued until all the prisoners, numbering over 3,500, were examined and the intestinal parasites removed. The percentage of parasites in the remaining group was about the same as that given for the first brigade. After the treatment was well under way the death rate in the prison gradually commenced to fall, and several months after the intestinal parasites from the last prisoner under observation had been removed the death rate dropped to thirteen per 1,000 and has remained so up to the present time, a period of over a year. These figures show in a most convincing manner the effect of the intestinal parasites on the general health. It seems probable that they so reduce the resistance of the individual that he becomes a ready victim to any intercurrent disease which he may contract.

Records of over 1,000 stool examinations made of persons at large in the Philippine Islands show that practically the same condition of affairs exists among the general population and that as soon as the intestinal parasites of the inhabitants can be removed and the environment made so that they will not readily become reinfected it may be confidently predicted that the death rate in the Philippines will be lowered to figures corresponding closely to those in temperate climates.

It will thus be seen that the magnificent work which has been done in connection with intestinal parasites by Stiles Loos, King, Ashford and others has pointed the way toward a sanitary reform which will no doubt stand in medical history as one of its greatest triumphs.

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[1] 1. Shattuck and Garrison before the Philippines Medical Association, 1908.

CRANIAL TECHNIC *

FRANK HARTLEY, M.D.

NEW YORK

The most frequent causes of death following operations on the brain are shock and sepsis. Shock is given by Horsley as the cause in 8 per cent. of tumors diagnosed and removed and in 37 per cent. of those inaccurately diagnosed and not removed. Sepsis increases just in proportion as one is obliged to drain and is unable to heal by primary union; 30.8 per cent. of deaths is the usual proportion.

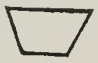
THE PRIME REQUISITES

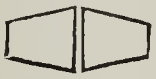
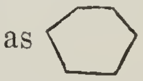
To avoid these dangers the following five requisites must be secured:

1. Instruments which will open the skull quickly over any desired area and to any extent. The preferred instruments are the motor, saw and guard, osteotome, drill, fraise and measure used by me.

2. A method of craniocerebral topography which will permit an accurate exposure of the intended cerebral area. It should be so accurate that the flap is neither too large nor too small. Chipault's is the best method, as it adapts itself to the skull of all ages, races or individual peculiarities.

3. Osteoplastic flaps cut so that they will expose the desired area in the easiest manner.

(a) For the lateral region the flaps radiate like the leaves of a fan, the broader part being toward the vertex, the narrower extremity or hinge at the temporal fossa. These flaps are frontal, rolandic, parietal or occipital. They are four-sided as 

(b) For the exposure of both sides at once, bilateral flaps with their hinges in the temporal fossa, or single flaps with their hinges in the median line, are used. These flaps are either frontal, sagittal, occipital or occipito-cerebellar. The bilateral flaps are four-sided as  The single flaps are usually six-sided as 

4. The replacement of the bone flap in every possible case or the covering of the defect with an accurately fitting foreign material (celluloid or aluminum). I prefer autoplasty to heteroplasty because bone implanted when still in connection with its periosteum undergoes an immediate reparation if the circulation is not disturbed. Where the apposition is the most intimate, there one will find the least disturbance in healing, the slightest bone absorption, and the surest safeguard against infection. Necroplasty is my second choice.

5. The assurance of a perfect hemostasis both in the preliminary as well as in the final steps.

These five points are to be mastered in any operation in which the cerebrum is exposed for the removal of a tumor, the draining of an abscess or cyst, or for the relief of an injury.

I would divide every operation into two steps, in which the preliminary step concerns only the skull, etc., and the final step, the cerebrum.

OPERATION—I. PRELIMINARY STEP

All drugs are given up several days before operation.

A record of pulse rate and blood pressure is taken twenty-four hours before operation.

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* Read in the Joint Meeting of the Section on Surgery and Anatomy and the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908.

The patient's head is shaved twenty-four hours before operation and Chipault's measurements made, recorded and marked with a fuchsin pencil on the scalp just before operation. Chloroform is preferred, though ether is often used if the head is raised over 30 degrees.

The patient is placed on the table with the head of the table raised between 15 and 30 degrees. This position has been sufficient to stop the bleeding from the veins and to lower the arterial pressure. I have so far not been able to compare its value with the rubber suit and temporary compression of the common carotids (Crile) or with the sequestration-anemia proposed by Dawbarn. If either of these methods will improve the arterial pressure in greater amount than elevation alone, and with no greater danger of inducing sudden syncope, I shall certainly use them.

The sphygmomanometer is placed on the arm and blood pressure is recorded by the anesthetist. A sudden fall of blood pressure will warn the operator of an impending collapse. Horsley says that attention to this point will permit us to avoid the 25 per cent. of the sudden deaths following prolonged operations, and will force on us the necessity of two-stage operations.

The tourniquet is applied. I prefer one based on Lambotta's idea of a local anemia in the scalp. If this is not used, buttonhole stitches, Kredel's plates and the T-forceps of Chipault may be used.

The flaps are either four or six sided. Each limb is cut with a single stroke of knife. The periosteum is retracted on the bone surrounding the incision only.

A drill is applied to each angle (4 or 6 holes) and the depth of the holes is measured. If the disparity between holes is greater than 2 mm., that is, 3 or 4 mm., one or more holes should be interposed and measured. Thus it may be ascertained whether the incline between holes is gradual or abrupt. If gradual, the saw should be armed with guard for 2 mm. less than largest measures and the bone divided with the saw at right angles to the bone-surface. If abrupt, the saw should be placed at an angle of 10 to 30 degrees to the bone, which diminishes the depth of the saw cut over the perpendicular cut about 2 mm. more. In this manner injury to the dura may be avoided without changing the guard even when the disparity between holes is as great as 4 to 5 mm. If one prefers, the guards may be changed, or two saws with different guards may be used. I always purpose to leave an uncut area of bone over the dura of at least 1 or 2 mm. If muscular tissue is very thick I use a fraise attached directly to the motor or by means of a short cable.

An osteotome (McEwens) is inserted into the slit, and with a few strokes of the mallet the bone (that is, the vitreous plate) is cracked. The point of inserting the osteotome is where the bone is the least divided. The bone is now lifted from the dura by 2 to 3 spud-like instruments, two of which are always placed near the desired line of breakage. When these are inserted a movement of depression to break the bone is made rapidly and with some force in order to snap this exactly between the two drill-holes.

Hemorrhage from the bone now requires attention. I make use of (*a*) Horsley's wax, consisting of vaselin 50, paraffin 50, and phenyl 5 parts; (*b*) decalcified bone plugs; (*c*) boiled wooden match-sticks; (*d*) cotton wool; (*e*) crushing forceps.

The reflected flap is protected by a towel and the dura mater is exposed.

II. FINAL STEP

The condition of the dura is now noted: (a) its change in color; (b) its vascularity; (c) its thickenings; (d) its inflammatory changes, and (e) its pulsation or want of pulsation.

If the pulsation is wanting a tumor, pus or blood between the membranes, or severe contusion of the brain is suspected.

The dural flap is cut 1 cm. from the edge of the bone and on all but one side of the exposed area. This flap is lifted, and the tumor or disease is revealed immediately if it arises from the dura, the tentorium cerebelli or falx cerebri. The tumor or disease arising from this structure either pushes aside the convolutions and forms a bed for itself or it infiltrates the cortex or bone. The former is usually a fibroma, a syphiloma, a tuberculoma, or a traumatic or a hydatid cyst, while the latter is sarcomatous or the diffuse variety of tuberculosis or syphilis. If the process arises from the pia or cortex, the tumor or disease appears as (1) a vascular prominence surrounded with edematous brain tissue; (2) an encapsulated non-vascular mass; (3) a cyst containing serous or bloody fluid.

Growths of the first variety, among which are included angiomata and the racemose aneurisms, demand the most careful ligation of the vessels about their periphery before any attempt at enucleation is undertaken, as hemorrhage into the brain tissue favors infection (encephalitis) and destroys the tissue. Growths of the second variety (fibroma, tuberculoma, endothelioma) can be enucleated with a spatula if care is taken to avoid injury to the cortical tissue.

The cysts found here are congenital, traumatic, gliomatous or sarcomatous. So deceptive are the latter two varieties that the inner side of the whole extent of every cyst should be examined for tumor tissue. For the congenital cysts or those of unknown origin, long-continued drainage has been curative. For the traumatic and sarcomatous cysts, extirpation of the cyst wall is necessary. In the case of the latter, some brain tissue is usually sacrificed. These cysts are liable to be multiple and to have many prolongations, so that they must be followed at times a great distance from the original area exposed.

Tumors or diseases situated in the subcortical area are located by puncture, if liquid; by palpation, with or without incision, if solid, or by electric stimulation. They are found at a distance of 1 to 6 cm. from the cortex, and the convolutions over them may or may not be flattened and the sulci effaced. The solid tumors are usually gliomata and sarcomata, while the liquid tumors are congenital, of unknown origin, or are classed as traumatic, porencephalic cysts. These cysts are curable by drainage alone, though extirpation, if advisable, would more surely cure them. Encapsulated solid growths are extirpated with resection of enough brain tissue to insure tamponade of the cavity and to avoid the possibility of recurrence.

Diffuse processes, tumors, scleroses and multiple hydatids are inoperable, except in so far as removal of a part may relieve symptoms of pressure. This can be done only when the hemorrhage is not liable to be great and where the lateral ventricles can be avoided.

During the second part of the operation two accidents are liable to occur, namely, hemorrhage and opening of the lateral ventricles.

Every vessel must be ligated carefully before cutting. This should be done in a delicate manner and without traction on the vessel in tying the knot. One knot is sufficient. Mosquito-forceps or a round needle, armed with a pliable ligature, is the best. Capillary hemorrhage is managed with moist gauze at 115 or 120 degrees applied to the area. Venous hemorrhage or oozing is treated by administering oxygen.

The longitudinal or transverse sinus or any large vein is closed by the total or lateral ligature or by suture. If hemorrhage can not be controlled in this manner, the best results have been obtained by tamponade and compression by the flap replaced.

The reason for careful hemostasis in this stage is (1) to limit the injury to the cerebral tissue by the blood infiltration; (2) to avoid the application of heat, and (3) to avoid the use of the tamponade. Careful hemostasis limits as well the danger of a late encephalomeningitis.

The second accident occurring during this stage is the opening of the lateral ventricles and the escape into them of the fluid washing, of the detritus of the tumor or of the brain tissue or of blood, which will form a nidus of infection. The mere opening of the ventricle, if one can see it at the time and avoid its infection by the admission of foreign material, is not dangerous.

If the operation has proceeded without accident and hemostasis is complete, the dura is sutured, the bone is replaced and the skin is sutured. A primary union is the rule. If the wound must be tamponaded or drained, the bone flap is either cut away to give exit to the tampon or drain, or the flap is replaced over the tampon for forty-eight to fifty-six hours and then is lifted, the tampon removed, and a small rubber drain or gauze substituted for it. After this the dural flap is sewn and the bone flap replaced and sutured except at exit of the drain.

POSSIBLE LATER COMPLICATIONS

During the after-treatment certain accidents may take place: 1. Shock may be seen in prolonged operations with hemorrhage or after large tumors have been removed and the cerebral statics have been changed by the space left. In such conditions the acute cerebral edema of von Bergmann occurs. To avoid this, Horsley tampons and gives counter-pressure through the flap.

2. Hyperpyrexia: This occurs after both severe and moderate handling of the brain, especially if the ventricles have been opened. The cause is toxicity of the products of secretion of the neoplasm, infection itself or lesion or irritation of the thermal centers.

3. Encephalomeningitis may be caused by injury to the cerebral tissue or by infection from the patient's blood or from without. It is usually seen during the first month after operation, coming on slowly and announced by localized convulsions, contractures, paralyses, somnolence, mental torpor or delirium.

4. Hernia may be present at time of operation as a tumor of the base or as a voluminous tumor of the centrum ovale, or at a later period in the form of encephalitis.

OPERATIVE RESULTS

1. *Operations on the Cerebrum.*—(*a*) Krause and Oppenheim[1] give statistics of 27 tumors of all kinds. Of the patients, 11 per cent. were cured, 22.2 per cent. improved and 55.5 per cent. died.

(*b*) Horsley[2] gives accounts of 55 tumors of all varieties. The regionary mortality was as follows: Motor zone, 3.7 per cent.; parietal zone, 5.26 per cent.; frontal zone, 7.69 per cent.; temporal zone, 8.3 per cent. The recurrence and mortality, according to tumor, disease, etc., were as follows: In glioma and sarcoma, 87.7 per cent.; in endothelioma, 12.5 per cent.; in tuberculoma, 50 per cent.; in gummata, none; in fibromata, none, and in cysts, none.

(*c*) Duret[3] reports 400 cases of all kinds, of which more than one-half were gliomata or sarcomata. The mortality was 19.5 per cent. The patients cured were 7 to 8 per cent.; those benefited by amelioration in the headache, vertigo, stupor, convulsions and paralyses, were 73.25 per cent. There was restoration of vision in 60 per cent. of the cases; partial restoration of vision in 28 per cent., and life was prolonged for several months in 33.5 per cent.

(*d*) Alessandri[4] gives 22 cases of tuberculomata, in which 86.36 per cent. of the patients were cured.

(*e*) Duret[3] gives accounts of 33 cases of tuberculomata, in 69 per cent. of which cures were effected.

(*f*) Stransky[5] reports 18 cases of syphilis. In 15 cases the lesions were gummata. Of these patients 60 per cent. were cured or greatly improved; 40 per cent. were not benefited because the diagnosis was not accurate and the gumma not found or the process was too extensive. Of 3 patients with pachymeningitis, 33.3 per cent. were cured.

2. *Operations on the Cerebellum.*—(*a*) Horsley[2] gives the regionary mortality as 10 per cent.

(*b*) Alessandri[4] reports 6 cases of tuberculomata, in which 33 per cent. of the patients were cured for 2½ to 10 months.

(*c*) Borchardt[6] gives accounts of 101 cases of glioma, sarcoma, etc. Of these patients 11.8 per cent. were cured; 16.8 per cent. improved; 11.8 per cent. died as the result of the operation, and in 59 per cent. of the cases the lesions were not found. He also gives 14 cases of cysts, in 92.8 per cent. of which cures were effected, and 21 cases of tuberculomata, in which 57 per cent. of the patients died of shock; 38 per cent. withstood the operation, of which 37 per cent. died of miliary tuberculosis, and 63 per cent. lived from 4 to 13 months.

(*d*) Stransky[5] reports 2 cases of gummata, with a mortality of 50 per cent. and 50 per cent. completely cured.

Cerebellopeduncular and Acoustic Nerve.—(*a*) Borchardt[6] reports 19 cases of fibromata. Of the patients, 15.5 per cent. were cured, 5.5 per cent. lived over one year, and 73.5 per cent. died. In 5.5 per cent. the fibroma was not found and not removed.

(*b*) Krause[7] gives 9 cases, with 66.6 per cent. of cures and a mortality of 33.3 per cent.

Pituitary Body.—Horsley[2] reports a mortality of 33.3 per cent., 66.6 per cent. cures from operations for adenoma and adenosarcoma.

From these statistics of cranial surgery the following conclusions may be drawn in regard to tumors. In glioma and sarcoma, recurrence and mortality is the same as in other regions of the body.

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[1] Wien. med. Wchnschr., 1906.

[2] Lancet, 1906, viii, 52, and Jahrsbericht für Chirurgie No. XII, 1906, p. 402.

[3] Tumeurs de l'encéphale.

[4] Ann. Surg. 1906, ii.

[5] Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1906.

[6] Arch. f. klin. Chir., lxxxi.

[7] Arch. f. klin. Chir., lxxxi.

In regard to tuberculomata, statistics are as yet bad and uncertain in compilation. Surgery, when indicated, is better than serum therapy.

In syphilis, surgery is good enough to be tried after six weeks to three months of medicinal treatment.

Fibromata, non-malignant cysts and endotheliomata offer the best curative results and the slightest mortality. The endotheliomata recur in 12 per cent. of the cases.

The statistics on the operative treatment of meningitis lead to the following conclusions: Diffuse tuberculous and syphilitic meningitis offer no chance for surgery.

In circumscribed tuberculous and syphilitic meningitis Alessandri's and Stransky's statistics show a favorable percentage.

Circumscribed suppurative meningitis from trauma or extension from nose, throat or ear is curable.

In 10 cases out of 15 of otitic origin the patients were cured (Hinsberg[8]).

McEwen reports cures in 6 out of 12 cases.[9]

Amberger[10] and Witzel[11] report cures in 2 cases of traumatic origin, the one from a punctured wound of the cervical portion of the spinal canal, the other from a fracture of the base of the skull involving the temporal bone.

Diffuse suppurative meningitis has been apparently cured by Poirier, Witzel[11] and Kümmel.

Surgical treatment demands a more extended application.

Statistics on encephalitis show that five patients were cured last year of traumatic encephalitis.

When symptoms of pressure exist and the disease or the tumor is not or can not be removed the operation for decompression is indicated for the following reasons:

1. It is an operation without danger.
2. The optic atrophy disappears in 6 to 8 weeks if operation is early, according to de Schweinitz.[12]
3. According to von Bergmann,[13] the patients in 65 per cent. of cases have shown amelioration of cephalalgia, stupor, vomiting, convulsions, paralysis and optic atrophy, for periods ranging from 1 month to 1½ years.
4. Borchardt[6] says that in "pseudotumors and meningitis serosa with hydrocephalus it has been curative."

The operation may be performed (a) in the right parietal region, according to Sänger,[14] (b) in the right parietal region with a 6x8 cm. removal of bone, according to Frazier,[15] (c) in the right temporal region with vertical incision on one or on both sides, if thought necessary, according to Cushing,[16] and (d) in the cerebellar region, according to Weisinger.[14]

In any case the dura may be excised, divided or left intact. Opinions are divided.

The rule is to operate where a tumor is suspected. If a diagnosis of location can not be made, select one of the three regions—temporal, parietal or cerebellar.

The time for operation is the beginning of optic atrophy.

No mention has been made in the paper of the operations on the cerebellum. This omission is purposely made, because I am not yet satisfied that the technic is what it ought to be nor have I anything to suggest which is any improvement on the methods already initiated by Horsley, Krause, Cushing, Frazier, Borchardt or Wiesinger. Thirty-two lantern slides were used to demonstrate the method of flap formation, etc.

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[8] Ztschr. f. Ohrenh., 1906, No. 50, p. 261.
[9] Infectious Diseases of Brain and Spinal Cord.
[10] Beitr. z. klin. Chir., xlviii.
[11] Verhandl. d. deutsch, Gesellsch. f. Chir., xxxiv.
[12] Univ. Penn. Med. Bull., 1906.
[13] Traité de chirurgie cérébrale.
[14] Zentralbl. f. Chir., 1906, No. 47, p. 1256.
[15] Univ. Pennsylvania Bull., 1906.
[16] Surg. Gynec. and Obst., 1905, No. 5.

INTRACRANIAL COMPLICATIONS OF ACUTE AND CHRONIC MIDDLE-EAR SUPPURATION

THEIR SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT *

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As I have several times written on one or more phases of this topic, I must ask your indulgence if I repeat statements that have already been presented in previous communications. The reason is obvious; first, because there is nothing new on the subject, and second, because the ground has been amply covered by many of our co-workers in this field during the past three or four years.

In discussing the intracranial complications of otitic origin, I shall place them in the order in which I have most frequently encountered them, which is as follows:

1. Pachymeningitis.
2. Epidural Abscess.
3. Thrombosis of the Sigmoid Sinus.
4. Meningitis of the Serous Type.
5. Thrombosis of the Jugular Bulb.
6. Thrombosis of the Internal Jugular Vein.
7. Brain Abscess, Middle and Anterior Fossa.
8. Cerebellar Abscess.
9. Meningitis of the Purulent Type.
10. Encephalitis.
11. Subdural Abscess.
12. Thrombosis of the Petrosal Sinuses.
13. Thrombosis of the Cavernous Sinuses.

PACHYMENINGITIS, KNOWN AS PACHYMENINGITIS EXTERNA

Cause and Site.—This condition occurs usually as the result of a suppurative process extending from the middle ear and mastoid cells through the inner plate of the temporal bone. Its most frequent seat of occurrence in acute cases is the dura covering or adjacent to one or more portions of the lateral or sigmoid sinuses. Its second site in order of frequency is the dura covering the lateral surface and floor of the middle fossa; and in this region it is also the result of an acute process. The third common site, where the lesion occurs as a result of a chronic middle-ear suppuration, is in the region of the tegmen tympani.

Symptomatology.—The one prominent symptom complained of is headache, corresponding to the inflamed dura. This head pain is nearly always aggravated by exercise. There is extreme irritability of temper, and if a larger area of dura is involved, the patient exhibits twitching, drowsiness at times, intolerance of light, and in the severe type of cases, intermittent delirium, especially at night. Combined with these are the symptoms usually associated with the severe types of mastoiditis.

Diagnosis.—It is not often that the diagnosis is made prior to a mastoid operation, as, in the vast majority of cases in which a pachymeningitis exists, the lesion is not discovered until the operation on the mastoid bone is done. When it is suspected, it is because of the character of the pain, which is more severe and lasting than in uncomplicated cases of mastoid disease. When the disease is situated in the region of the tegmen, the pain is of a severer grade, lasting longer, radiating over a larger area, and the photophobia is more pronounced.

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* Read in the Joint Meeting of the Section on Surgery and Anatomy and the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908.

Treatment.—Every vestige of diseased bone adjacent to the inflammatory zone should be removed. If the bone is covered by firm granulations these should not be molested, as this is an attempt of nature to combat the disease. If, however, the area is covered with soft broken-down granulations, they should be curetted away and the parts rendered sterile by flushing with a warm saline solution, followed by absolute alcohol with a final saline flushing following the alcohol. A dressing of plain sterile gauze moistened in a normal saline solution is placed loosely against the exposed dural area. In cases where a large dural space is exposed, the dressings should be changed frequently, as a wet dressing in contact with the dura is more comfortable than a dry one.

EPIDURAL ABSCESS

Cause and Site.—This is a very common complication of mastoid disease. Its most frequent site is over and around the sigmoid sinus. When in this situation it is referred to as a peri-sinus abscess. Its site of next frequency is the region of the tegmen antri, and the abscess may extend all along the floor of the middle fossa. At times it is very extensive, extending posteriorly over a large area of the cerebellum.

Symptomatology.—In addition to the ordinary symptoms of involvement of the mastoid bone, the pain present is of a severer type, throbbing in character, and more persistent. The temperature during the disease is higher, there is more frequent vomiting, and all the symptoms usually present in a simple mastoid are aggravated to a marked degree. There is extreme restlessness at night, inability to sleep for any length of time on account of localized head pain, drowsiness, and in advanced cases, stupor. In many of the cases well-developed chills are present, with considerable fluctuation of temperature.

Diagnosis.—This is usually made at the time of the mastoid operation, although in well-developed cases it may be determined prior to the operation by the marked severity of the symptoms, the excessive degree of tenderness on pressure, and percussion over the accumulation of pus. A physical sign which aids in diagnosis, especially in cases of long standing, is the presence of swelling and edema of the soft parts externally, corresponding to the pus areas within. A differential blood count is of value, as here the proportion of polynuclear cells is higher than in an uncomplicated mastoiditis.

Treatment.—There can be but one successful method of treatment of this condition, and that is to remove all diseased bone adjacent to it; no matter how extensive it is or where it leads to, it should be removed, and the field of operation treated in the manner described under pachymeningitis.

THROMBOSIS OF THE LATERAL OR SIGMOID SINUS

Cause and Site.—This complication is met by the otologist very frequently. It may be complete or partial, of the whole or of any part of the sinus or its adjacent blood currents, and may result from an acute or chronic suppuration of the middle ear. It is however, more frequently associated with a chronic purulent condition, or an exacerbation of such a condition. When complicating an acute middle-ear involvement, the infection is usually of a virulent type.

In reviewing the symptomatology, I shall follow my usual custom and speak of it from a clinical standpoint, under three separate headings. While not all cases can be definitely grouped under this classification, the majority can, and it is for this reason that I make the following clinical distinction. First, the typical cases; second, the atypical, and third, the cases in which the bulb and sinus are primarily involved without macroscopic disease of the mastoid process.

Symptomatology—Typical Case.—Temperature is one of the most important symptoms, and ranges from normal to 106 and higher, quickly followed by a remission to near the normal point or below. There may be one rise or several during twenty-four hours, depending upon the rapidity and the quantity with which the infection enters the general circulation. If the patient be kept under observation for several days, these exacerbations of temperature become more frequent and the variations greater.

Chills are present in about 50 per cent. of the cases, preceding the rise in temperature, and in well-advanced cases followed by profuse sweating. Many patients exhibit no chill, and only complain of a chilly sensation, and this is frequently overlooked. In a postoperative mastoid case, with frequent variations of temperature, these chilly sensations are as important as though a distinct rigor were present.

When the temperature is high, there is a corresponding rapidity of the pulse-rate. Respiration remains unchanged except during the hyperpyrexia. Pain is more pronounced than when an uncomplicated mastoiditis exists and is referred to the occipital region. Where the internal jugular vein becomes infected early, there is pain along its course, due in all probability to an infected chain of lymph glands in that region.

Nausea and vomiting are usually present to a moderate degree during the stage of development, becoming more pronounced as the infection progresses.

Intraocular symptoms are present in about one-third of the cases. The earlier the patient is seen and operated on, the less frequently are they observed. If the infection has extended to the cavernous sinus, there is swelling and fulness of the eye and lid of the affected side.

Cerebration is normal except in advanced cases.

Among general symptoms are loss of appetite; dry, coated tongue, and dryness and yellowish tinge of skin, indicative of pronounced sepsis.

Physical Signs.—Edema is occasionally present over the mastoid region to a greater extent than in a simple uncomplicated bone involvement. In advanced cases there is marked stiffening of the muscles of the neck on the affected side, and the patient's head is drawn well over to the shoulder of this side. Combined with this, there is a well-marked rigidity of the muscles in this region. In a few cases where the vein is involved, it gives the impression of a hard cord-like swelling in the neck, but this physical sign is by no means so frequent as many of the text-books on this subject would have us believe.

Symptomatology—Atypical Case.—Atypical cases usually develop a few days after the mastoid operation. There is loss of appetite; the patient becomes restless and irritable; the tongue is dry with a thick coating in the center. There is a gradual increase in the pulse-rate from 100 to 130 per minute, and a slow but gradual rise in the temperature to 103 F, or 105 F, or higher;

and this may remain so for several days. In many cases it will not vary a degree in twenty-four to forty-eight hours; in other cases there is a little more variation, but there are no sudden fluctuations. The patients complain of nausea and headache and are unable to sleep for any length of time. There is no chill or chilly sensation observed. There is marked irritability of temper; this is followed by drowsiness with sweating. The skin at first is dry, and later becomes yellow.

Physical Signs.—One of the signs which I consider of great value is, that the mastoid wound in the early stages of the disease is healthy and covered with granulations, except over the bone of the inner table which forms the sigmoid groove. This bony area is darker in color than it was at the time of the operation, and there are no granulations over any part of it. All the rest of the wound cavity shows evidence of healing. Should the infection progress, an entirely different condition will be found at the end of two or three days. The parts that before looked healthy will now look pale, and the granulations will have begun to soften and break down, while the bone overlying the sinus will be still dark in color, with no evidence of repair. If the sinus is exposed at the time of operation, the overlying dura appears grayish; there is an absence of luster, and often it is covered with a plastic exudate which is compressible if pressure is applied over it.

PRIMARY BULB THROMBOSIS

This occurs usually in young children as a consequence of an acute purulent otitis, the result of a direct infection from the tympanic cavity through the floor of the tympanum to the jugular bulb. This explanation is logical if the fact is borne in mind that in a certain percentage of skulls of young children and adults, an unusually high dome is found encroaching on the middle-ear cavity; a dehiscence also not infrequently exists in this region. Under these conditions it can easily be comprehended how an active purulent infection of the middle-ear cavity can involve the blood current—finding its way through the small veins and lymphatics or by absorption through the parchment-like bone in this region, without first pursuing its usual course through the cellular structure of the mastoid bone.

Symptomatology.—Temperature rises rapidly from normal or thereabouts to 105 F or 106 F or higher, with a sudden remission to near the normal or below. It may remain below for several hours and then quickly rise to the high level, with as rapid a decline as before.

Pulse ranges from 110 to 160 or higher per minute, depending on the age of the patient.

Chills are not observed. Prior to the rise in temperature many of the patients have cold hands and feet; they are fretful, and extremely irritable and drowsy. The eye signs are negative. If this temperature range be permitted to go on for several days, these patients exhibit all the signs of a general sepsis. There is a phase of sinus disease in children and adults which should be carefully noted because it is so misleading and so frequently causes the postponement of an absolutely necessary operation. I refer to that period of the disease which is seen in a majority of cases during the temperature remissions, for at this stage I have often been misled by the patient's apparent improvement. During my earlier years of observation it was most difficult, and at times impossible to understand why, if the patient was suffering from such a serious condition, he should feel so well between the rises of temperature. A closer study of the cases, however, taught me that the rise in temperature could be explained on the theory that some of the infective material from the sinus was being thrown into the general circulation by way of the internal jugular vein, causing a general systemic poisoning. When this occurred, the chill, temperature, nausea, vomiting and drowsiness were observed; but as soon as the major portion of the toxins had been eliminated the patients felt better; there was a subsidence of all former symptoms until sufficient toxic material from the seat of the thrombus was again disseminated throughout the general circulation. If such a case be allowed to progress without surgical interference these symptoms recur with greater and greater frequency until operative measures would be useless to save life.

DIAGNOSIS

In typical cases it is based on the temperature changes, with the chill or chilly sensation preceding the rise in temperature following the mastoid operation. In many of the cases most of the symptoms given under Symptomatology are present, and when these occur a diagnosis is comparatively easy. In cases in which the sinus is operated on at the time the mastoid operation is done, and there are no previous symptoms as a guide, the diagnosis is based largely on physical signs; the dura is lusterless, thicker than usual and of a grayish or yellowish color, with frequently an adherent plastic exudate. The dura itself looks flat; does not present an oval appearance; is easily compressible, and does not fill quickly when pressure is removed. The mere presence of an epidural and a perisinus abscess is by no means an indication for exploring this channel, and the same is true if the sinus wall is covered with granulations, for this is nature's effort to protect the structures beneath. Bacteriologic examinations of the discharge from the ear are of value, as certain forms of infection are prone to greater activity and involve adjacent blood currents more rapidly than others. A further aid in diagnosis is the differential blood count, of which the important part to us is the polynuclear percentage, which, if it be 80 or over, is indicative of pus-absorption, while the leucocyte count merely gives information as to the patient's resistance to the disease. A still further aid can be obtained from the blood by cultures; the knowledge thus gained is very valuable, and at the same time positive evidence can be gained of the nature of the blood constituents. These blood cultures will, I believe, supplant in real value all other forms of examination as an aid in diagnosis.

In atypical cases the diagnosis is also made from the temperature changes, the patient's condition and the physical signs presenting. These cases develop several days after the mastoid has been operated on, and can best be described by briefly outlining a case during its development and course. Take a postoperative case following its usual course for several days, when anywhere from the fourth to the 10th day the patient is restless, his appetite poor, his tongue slightly coated, his pulse 90 to 100, his temperature 99.6 to 100.6 F. The next day the temperature is from one to two degrees higher, with no marked remissions; restlessness is more pronounced; the patient is irritable, and has anorexia; his tongue is dry at the edges, and the coating more pronounced than on the previous day; the pulse is 110 to 120 per minute; and the patient has general headache, and nausea, and is unable to sleep quietly. The day following, the temperature is 104 or higher, and the pulse 120 or 140 per minute, showing less tension. The headache is more pronounced, and the restlessness, irritability and sleeplessness are distinct symptoms. The tongue becomes brown and dry and has a glazed center. If allowed to progress for another day the temperature is 105 F or higher, pulse 140 to 150 per minute and weaker. The patient is drowsy and apathetic; as the infection progresses the temperature is practically stationary. The pulse becomes weaker, and the evidences of a general pyemia are present. A physical sign which is of distinct value from a diagnostic standpoint is the condition of the inner table covering the thrombotic area. Instead of being white and of a normal color as when the mastoid was operated on, it will be found dark. This is a distinct evidence of disease beneath, the change in color being due to an obstructed venous circulation throughout the bone at this point. If the sinus was exposed at the time of the primary operation, the dura covering it will be found to have undergone a marked pathologic change. It now presents a grayish or yellowish appearance, is flat and covered with fibrinous exudate.

PRIMARY BULB

Diagnosis.—Here the diagnosis is made from the rapid temperature changes closely following an acute purulent involvement of the middle ear. The blood examinations are additional aids, and all other diseases should be ruled out by a process of elimination.

Treatment.—The time allotted me forbids any extensive description of technic so I shall speak only of the most important points, omitting all minor details. First, a complete and thorough exposure of the sinus from a point above the knee down to just above the bulb is essential. The treatment of the first and second class differs but little. Too much bone should not be removed posteriorly so as to expose a large dural area over the cerebellum, as a hernia is liable to occur in this region if this be done. The dura forming the anterior wall of the sinus should be incised freely, first with a scalpel to make an opening of sufficient size to allow of the introduction of a blunt pair of scissors. On exposure of the clot it should be removed; if no hemorrhage be obtained from the proximal end of the sinus, a further exposure toward the torcular should be made, and this should be continued until a free hemorrhage is established and it is certain that all infective material in this region has been removed. When this is accomplished the blood should be allowed to flow for a second or two so as to wash out any clot or septic material that may be present further back in the vessel. The blood flow is then controlled by placing a piece of gauze firmly against the opening in the sinus. The lower portion of the sinus is treated in the same manner. If there is a free hemorrhage below, and the clot shows no evidence of having broken down, and pus is absent, the operation can be ended here and gauze packed into the lumen of the sinus. But if, on exposing the interior of the sinus, pus or a broken-down or disintegrated clot be found, or the operator is unable by gentle manipulation to restore the return circulation in the bulb region, he should without delay—and before any attempt has been made to remove the septic material in the sinus—expose, ligate and resect the internal jugular vein from the clavicle to its exit from the skull, together with any of its tributaries that are found involved, as well as infected glands along its course, and then proceed to evacuate the contents of the sinus above. In cases in which operation is done before marked systemic symptoms have developed, and before the coats of the vein below have become infected with the micro-organism of the disease, and where a return flow of blood in the bulb region is not obtained, it is not always wise to remove the vein at this time, for experience teaches that a certain number of these patients recover without further operative procedure. Should they, however, show evidence that a septic process is still continuing, the vein should be removed without delay, provided that the patient's condition will admit of it. In cases in which a return flow of blood has been established at the bulb, one is never sure from what source the current has its origin—whether from the internal jugular vein, or from the inferior petrosal sinus, or both. In a number of cases in which the vein has been removed as a primary step in the operation, before the sinus has been exposed above, we find on opening the sinus that the return flow of blood from the bulb region is quite as free as we would expect if we had the internal jugular vein intact and performing its usual function, the blood coming no doubt from the inferior petrosal sinus. I have seen this demonstrated several times when the internal jugular vein was ligated and resected as a preliminary to exploring the sinus above.

THROMBOSIS OF THE INTERNAL JUGULAR VEIN

Cause.—In otitic disease this thrombosis is always secondary to bulb or sinus involvement.

Symptomatology.—Occurring as it does secondary to sinus involvement, thrombosis of the internal jugular vein usually presents the symptoms associated with this condition. In a number of cases there is also pain referred along the course of the vein in the neck and radiating down over the chest of the affected side.

Physical Signs.—In some cases there is marked tenderness on pressure along the course of the vein and for some distance anterior and posterior to it, with perceptible fulness and swelling of the neck. In a few cases a hard cordlike mass can be felt, which, however, I have seen only once, and that was in a case of long-standing disease of the vein, with marked hypertrophy of the muscular coat.

Diagnosis.—This is usually made from the symptoms associated with disease of the sinus or bulb above and the physical signs, together with blood examinations and culture.

Treatment.—This consists of ligation, excision and removal, with any tributaries, and infected glands. The treatment of the resultant wound is optional either by the open method or suturing at the time of operation and inserting a large cigarette drain. I prefer the latter method, with moist saline dressings changed every twenty-four hours.

PRIMARY THROMBOSIS OF BULB

As nearly all these cases occur in young children, and are produced by a primary infection of the blood current, the patients should be operated on early. When this is done the percentage of recoveries is in favor of removing the clot without ligating the vein, as they do not bear prolonged operations well. Later, if it becomes necessary to resect the vein, it can be done at a second sitting, without the added risk of a long operation. Not infrequently in this disease an exception must be taken to this conservative plan of treatment when, on opening the sinus, pus or a broken-down clot is found. When this condition confronts the operator, whether there be a free hemorrhage at the bulb or not, I believe that it is imperative for the safety of the patient that the vein be removed at once. Occasionally, a case of postoperative mastoid exhibiting all the typical signs of a sinus infection, is met. When, however, the sinus is explored, no clot or foci can be demonstrated; but as soon as the sinus is opened and a free hemorrhage occurs, the patient improves and recovery follows. I believe the explanation of this to be that there is a small parietal or central thrombus present, and the sudden gush of blood outward when the sinus is opened carries the clot with it, thereby relieving the vessel of any further infection. Before leaving this subject I wish to make a plea for early operation in these cases of infected sinus disease. Experience has taught me that the so-called elective time is during the temperature remissions, as the patients bear the shock of the operation better and react more favorably than if it is done when the temperature is at its height.

BRAIN ABSCESS

Cause.—When we are confronted with the fact that about 37 per cent. of all cases of brain abscesses are the result of an extension of an infective process from the middle ear, it is not difficult to understand how important it is to treat this local condition in order that adjacent structures may not become involved.

This otitic complication is very often difficult of recognition, because of the number of symptoms that may be present, some of which may be due to other intracranial conditions. For this reason a positive diagnosis prior to operation is impossible in many cases.

Symptoms.—In abscess of the middle and anterior fossa, the symptoms present in cases seen by me are as follows: A purulent discharge or the history of such, from the ear of the affected side; persistent and localized pain over the suspected area; tenderness on percussion; fretfulness; irritability; moaning, gritting of teeth and crying out in sleep; nausea and vomiting; insomnia at first, later drowsiness; photophobia; aphasia; depending on the location of the abscess; and vertigo in the majority of cases. Intraocular changes, when present, are valuable aids, but not positive. Nerve manifestations are of but little value in the majority of cases. The pulse, in cases uncomplicated by other intracranial affections, is slow, from 45 to 65; when complicated, it is much higher. The temperature ranges from subnormal to a little over 100; if coincident with other lesions it is much higher.

Diagnosis.—The diagnosis is made from several or all of the symptoms given. A differential blood count is of aid, and if the abscess be of the acute type, before a limiting membrane has had sufficient time to become organized, the absorption will be greater, and with this there will be a higher polynuclear percentage, ranging from 85 per cent. to 95 per cent. If the abscess be of the chronic variety, from an old middle-ear infection and of long standing, the percentage will be much lower, because of the small amount of systemic absorption taking place, and because the abscess walls are formed by a more or less dense and limiting membrane. A radiograph of the cranial contents may be of aid; in one case it has been of value to me.

CEREBELLAR ABSCESS

Cause.—A collection of pus in the cerebellum may remain unrecognized for years, and if the accumulation be small in amount, with well-defined walls, give but little trouble; but if situated deeply, the lack of coordination on the part of the patient leads us to suspect a lesion of the posterior fossa. An abscess of recent origin may present many of the same symptoms as when located in other parts of the brain.

Treatment.—When the various regions of the brain are being explored for an abscess, the skull should be entered at a point corresponding as nearly as possible to the floor of the lobe about to be exposed, in order that free drainage may be obtained. There should be a sufficient opening of both the bone and the dura to enable the operator to examine the region in every direction. Many times the otologist is at fault here and subject to just criticism from the general surgeon, because he makes too small an opening in the skull, and produces more injury to the dura and cerebral substance than he would if he had a larger space to work in. After incision of the dura in a horizontal plane, it has been my custom to introduce silk sutures through the flaps, as in this way they can be used as retractors to draw the edges apart, while they do not injure the dura; should exploration prove negative, they can then be used to close the opening. In exploring the cerebral substance for a pus collection, experience has led me to rely on the use of a long narrow scalpel, and if pus be encountered, to withdraw the knife and introduce into the opening a pair of closed forceps, enlarging the opening by separating the handles. The cavity may be cleaned by one or two methods, depending on whether one is dealing with a pus accumulation of a recent or remote origin. If the abscess be of the acute type, without the presence of an organized tissue wall, the less manipulation used the better. It can be cleansed by gentle mopping with strips of sterile gauze, and drained by placing a small wick of sterile gauze down to the bottom of the cavity, allowing the brain substance to collapse around it; for it is a clinical fact that brain abscesses of the acute form discharge but little after evacuation and do not need firm packing. If the abscess be a chronic one, and if, in addition to the pus there be broken-down and disintegrated brain substance, it can best be removed by irrigation with a warm normal saline solution. The cavity should be mopped out with sterile gauze. In this type of abscess I have been accustomed to use for drainage purposes, a moistened wick of gauze rolled in equal parts of boric acid and iodoform; packing the whole abscess cavity quite firmly so as to promote repair; for with its limiting membrane or connective tissue wall, it does not collapse around a wick as does the acute type of abscess. A serviceable drain also in this latter type of cases, is decalcified turkey-bone. Before inserting the drain in any of these abscess cavities, the utmost care should be exercised in searching for multiple abscesses, as they occur frequently and are often overlooked, to be found at a subsequent operation or on autopsy.

MENINGITIS SEROSA, OR SEROUS MENINGITIS

Cause.—This form of meningitis occurs not infrequently, as a complication of extensive mastoid or sinus involvement.

Symptoms.—Aside from the symptoms of the primary disease the one most prominent is pain referred to the basillar region, vertex of the skull and the cervical region of the spine. There is marked stiffness and rigidity of the muscles of the neck, and exquisite tenderness on pressure over the muscles, caused in all probability by the inflammatory process extending along the sheath of the spinal nerves from their exit at the skull. In a fair proportion of cases a chill is present. In well-developed cases the muscular tissue itself is swollen and tender to the touch. The temperature ranges from 99 F. to 103

F., always higher at night than in the morning. The pulse rate is from 85 to 120. The respirations are unchanged at first, but later when pressure is pronounced they increase to 30 and 40 per minute. There is well-marked restlessness, moaning and irritability and hypersensitiveness during the early stage. Later this is succeeded by drowsiness; delirium occurs when the disease is well developed, and nausea and vomiting are present to a marked degree—depending on the amount of pressure exerted by the fluid.

Among the eye symptoms is congestion of disc. Photophobia is always present and nystagmus is frequent. A few patients exhibit difficulty in swallowing. The reflexes remain unchanged except in cases well advanced in the disease.

Diagnosis.—The diagnosis is made from the symptoms enumerated. An additional aid is lumbar puncture. When this is done the spinal fluid passes out through the trocar with distinct evidence of pressure and examinations and cultures of it demonstrate whether the case belongs to a serous or purulent type of the disease. If the fluid is clear and free from micro-organisms, then it is only the serous form. Differential blood count is of value.

Treatment.—Ice should be applied continuously to the head and neck; there should be free purgation; as little of sedatives as possible should be given to allay pain; the surroundings should be absolutely quiet; feedings should be frequent. Lumbar puncture is, I believe, of distinct therapeutic value, and large quantities of fluid can be drawn off with most beneficial results. This procedure can be repeated several times should it become necessary. In nearly every case the acute symptoms subside following the withdrawal of the fluid. Under this treatment a majority of the patients usually recover.

PURULENT LEPTOMENINGITIS

Cause.—This form of meningeal involvement is frequently encountered as a direct extension from the middle ear through the tegmen tympani, from the mastoid, sinus, pachymeningitis, encephalitis and brain abscess.

Symptoms.—Many of the symptoms as exhibited in the serous type of meningitis are present during the early stage. With these we have the presence or history of an otorrhea. The restlessness, irritability and general discomfort are more pronounced. Vomiting is more or less constant, and is independent of the taking of liquids or food. Vertigo is nearly always present. Pain is severe and constant, referred at first to the frontal region or vertex; later along the cervical portion of the spinal column and radiating outward to the muscles. There is well-marked tenderness on pressure in the posterior cervical triangle, and the soft tissue is at times swollen. Temperature is uniformly high, from 103.5 to 105.5, with no marked variations except in cases complicated by other lesions. Rigors precede the temperature rise, and occur from time to time during the course of the disease. There is marked muscular prostration with areas of anesthesia of various portions of the body. Reflexes are but slight, and later absent. Thirst is intense. A number of patients exhibit herpes of the lips, with a rash over the chin, neck and chest. Eyesight is defective in the majority of cases. Photophobia is marked; later nystagmus occurs. Examination of the eyes shows discs hyperemic, with a beginning distention of the veins; later a well-marked optic neuritis is seen. The respirations are but little increased at first; later they become rapid, loud and stertorous; then slower and intermittent. There is complete absence of cerebration and death in coma.

Diagnosis.—This is made from the symptoms present aided by lumbar puncture, and here the fluid drawn is turbid, flaky, and contains large numbers of diplococci or meningococci.

Treatment.—Nearly all these cases terminate fatally. The application of ice locally seems to make the patient more comfortable. Lumbar puncture relieves, for a time, the pressure symptoms. The rational treatment would seem to be to expose and drain the infected area, and this should be done early, before a general infection of the meningeal structures has taken place, if any measure of success is to be obtained. I have had only one successful case, and here the drainage was done early at the time of the mastoid operation. It is interesting to note in this connection, the communication and suggestion advanced by Dr. Cushing, namely, that if repeated doses of urotropin be given to a patient suffering from purulent meningitis, the micro-organisms are rendered sterile. If this be proved, it would be an easy matter to introduce a solution of this drug through the trocar into the spinal canal, after drawing off the amount of fluid desired, and before the trocar has been withdrawn. I believe, however, that the future successful treatment lies in an early operation.

ENCEPHALITIS

Cause.—I shall speak only of that form of encephalitis which the otologist meets following the infection of one or more of the sinuses, or after evacuation of a pus collection in the brain—the latter being the more frequent of the two. In this connection its causation is by an extension of the infection from the sinus or abscess cavity through the veins or lymphatics to the cerebral or cerebellar substance itself.

Symptoms.—Occurring as encephalitis does after an operation in this region, the first evidence is given by rigors with vomiting, and closely following this is a sharp and sudden rise of temperature from near the normal point to 104 or 105 or even 106 F., with a correspondingly rapid pulse rate. Pain is severe, and referred to the exact region of the infection. Later, all the symptoms referable to well-advanced cases of brain abscess may be present.

Diagnosis.—Inspection of the wound is usually sufficient, as here will be found necrotic and broken-down tissue. At first it is odorless, but later when pus forms the odor is pronounced.

Treatment.—The protruding mass should be incised with the scissors; an effort should be made to remove all the disintegrated area; and the cavity should be cauterized and filled with powdered boric acid. The tissue is prone to bulge, owing to a further disintegration, and quantities of it have to be removed at each dressing. Drainage seems of but little use in this connection, as the quantity of the bulging mass forces the drain out. A few patients recover with this treatment, but the prognosis in the majority is bad.

SUBDURAL ABSCESS

Cause and Site.—The two usual sites for the occurrence of subdural abscess are beneath the dura, corresponding to the tegmen antri and the tegmen tympani. In the former locality it is caused by an extension of an infective process from the mastoid antrum, through the superior portion of the inner plate. In the second situation it occurs from an infective middle-ear process through the tegmen tympani. In either case there is a localized pachymeningitis at the point of perforation, and later a localized accumulation of pus beneath the dura, between it and the brain substance covered by the pia mater. If discovered and evacuated early, it does no harm to the brain tissue, except by pressure while *in situ.*

Symptoms.—These are much the same as in a well-developed pachymeningitis or an extensive epidural abscess. If the pus accumulation be large, additional evidence of localized intracranial pressure is exhibited.

Diagnosis.—This is seldom made prior to operation. The dura, on exposure at one of the points mentioned, will be found thickened, darker in color and bulging into the opening.

Treatment.—Incision of the dura evacuation of the pus and drainage is all that is required. Nearly all the cases recover if operated on early, before complications occur.

THROMBOSIS OF THE PETROSAL SINUS

Cause.—This usually occurs by an extension of a thrombotic area from some portion of the sigmoid sinus or jugular bulb. The inferior petrosal is the one found involved most frequently, and its source of infection is from the jugular bulb into which it empties anteriorly. The superior petrosal receives its infection from the descending limb of the sigmoid sinus a short distance below the bend or knee. Either one or both of these blood channels conveys the infection to the cavernous sinus, from which they carry the blood direct to the sigmoid and bulb.

Symptoms.—These are very similar to those found in the phlebitis of the sigmoid and jugular bulb.

Diagnosis.—This can only be made a certainty by exploration after operation on the sigmoid, bulb and vein, for here, if the evidence of pyemic infection persists as shown by the symptoms, the presumption is that one or both of these channels is involved. I believe that they are infected far more frequently than is supposed, for many cases show no abatement of the symptoms after obliteration of sinus and bulb and removal of vein. This continuance of symptoms is, I believe, due to an infective process in these sinuses.

Treatment.—The only rational treatment is a free exposure of the thrombotic area; evacuation of the sinus contents and packing, so as to obliterate the blood current. It is my belief that many times when a complete operation has been done on the sigmoid bulb and vein, an encephalitis of the cerebellum subsequently develops as the result of an infective process left in these sinuses.

THROMBOSIS OF THE CAVERNOUS SINUS

Cause.—This is seldom, if ever, primary, and very frequently is bilateral, owing to an extension through the circular sinus.

Symptoms.—Occurring as this thrombosis does secondary to thrombosis in other blood currents, we may have many or all of the symptoms that are present in these cases. Pain is always pronounced. The condition is one accompanied by basilar meningitis and when present is associated with the symptoms produced by this lesion, besides the others.

Physical Signs.—These are edema of eyelids and root of nose and face on affected side, ptosis and strabismus. Vision is defective; exophthalmos, retinal hemorrhages and choked disc are present. Pharyngeal swelling, as well as that of the tonsils and larynx, is frequently seen.

Diagnosis.—This is made from the symptoms and physical signs presenting.

Treatment.—I do not know of any treatment that is successful.

A few cases have been reported as recovering with complete loss of vision. Day[1] reports such a case. The duration of the disease is usually a few days; occasionally a case may go on for weeks or months.

I have purposely omitted thrombosis of the vertebral, mastoid, anterior and posterior condyloid veins, as well as the marginal sinus, as they seldom, if ever, occur primarily, save possibly thrombosis of the mastoid vein; and when a primary infection of this does occur, the symptoms resulting from it are immediately overshadowed by those quickly produced from infection of the sigmoid.

I urge most strongly the importance of teaching the undergraduate in our medical colleges more about aural disease, and particularly the gravity of a running ear, so that when this class of case presents itself to him for advice and treatment, appropriate measures may be instituted for its relief. It is mainly in this way that we may hope in the future to diminish and limit the intracranial complications of otitic disease.

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INTRACRANIAL LESIONS CONSECUTIVE TO NASAL AND ACCESSORY SINUS INFECTIONS *

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My friend, Dr. John McCoy, and I have made a search of the literature and find that but few rhinologists have had any experience with intracranial complications. No rhinologist has reported anywhere near the number of cases depending on nasal infections as compared with the number met in an otologic practice. It is only within the past few years, during the development of the modern radical surgery of diseases of the accessory sinuses, that the cranial complications have at all come to the notice of the rhinologist. Previous to this time such intracranial lesions as were diagnosed fell into the hands of the general surgeon for operative treatment.

That infection occasionally extends from the nares to the cranial contents is sadly brought to our notice. That these complications occur as frequently as they do in connection with suppurative lesions of the tympanum, mastoid and internal ear, present information would seem to deny. A vertical anteroposterior section of the head just to the left of the median line shows the wide area of the cranium exposed to possible infections as a result of suppurative inflammation of the frontal, ethmoid and sphenoid sinuses. The antra nowhere come in direct connection with the floor of the cranium, yet it is possible for an infection in the antrum to reach the cranial contents indirectly through either the orbit or the ethmoid.

The frontal sinus may be absent, or it may extend in a vertical direction three inches above the orbital arch. Again, there may be a horizontal prolongation partially or completely over the roof of the orbit, so that in the latter case a very large part of the floor of the anterior fossa of the cranium may be exposed to infection extending from a diseased frontal sinus. Let me call attention to the close juxtaposition along the floor of the cranium of the two areas occupied, respectively, by the right and left ethmoidal and sphenoidal sinuses. The importance of this can be appreciated only by the surgeon at the bedside, who, having reason to suspect an intracranial lesion in cases of bilateral sinusitis, is called on to decide through which side the infection entered.

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[1] Trans. Am. Laryngol. Rhinol and Otol. Soc., 1906.

* Read in the Joint Meeting of the Section on Surgery and Anatomy and the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908.

Infections of the nares may extend into and involve the cranial structures in three ways:

1. Through the blood vessels.
2. Through the lymphatics.
3. By necrosis and perforation of the bony walls of the frontal, ethmoid or sphenoid sinuses.

1. While the bulk of the venous blood from the nose and accessory sinuses returns to the heart through the external veins, there is a small amount that reaches the superior longitudinal sinus through the foramen cecum, thus making it possible for infective sinus thrombosis or general infection of the system to occur.

2. The general lymphatic drainage follows the same course as the venous. The perineural lymph spaces around the branches of the olfactory nerve are so arranged that it is easier to understand how infective meningitis may arise by infection along this route. Evidence is yearly increasing that leads investigators to believe that the micro-organisms inducing meningitis gain access to the cranial cavity in the large majority of cases through the ear, nares or nasopharynx. The exact paths, however, by which they traverse the latter two regions remain still to be determined.

3. Necrosis of the walls of the sinuses and direct infection of the dura. In discussing this subject I shall consider the frontal, ethmoid and sphenoid sinuses individually.

FRONTAL SINUS

It has fallen to my lot to see a great many cases of frontal sinusitis, both acute and chronic. Having operated in more than two hundred cases in such a way that every part of the cavity was explored, I have records of but three cases in which there was a necrosis of the posterior wall. In two of them there was a history of syphilis, and from the extensive destruction of bone I can not help thinking that it was a very important factor. In the third case there had been a previous operation at which also I am told there was a small perforation of the posterior wall. In most of the cases of chronic frontal sinusitis which I have seen no matter how extensive the change in the mucosa, the bone had been only slightly altered from the normal. Occasionally I have observed an ostitis of a proliferative type resulting in the thickening of the bone in ridges.

Necrosis with perforation of the inferior or orbital wall of the frontal sinus is quite common. It is most commonly associated with obstruction to the adequate drainage of pus through the nasofrontal canal. The perforation is more frequently nearer the nasal than the temporal portion of the upper lid. Structurally, portions of the inferior wall of the frontal sinus are thinner than the posterior and give way to the pressure. In cysts of the frontal sinus there may be extensive pressure and absorption of the wall. A few non-syphilitic cases have been reported in which the posterior wall of the frontal sinus has been perforated and, as complications, epidural abscesses, meningitis and brain abscesses have been found.

ETHMOID CELLS

There are three pathologic processes found in the ethmoid cells: suppuration, polyp-formation and cysts. In suppuration, when drainage through the normal openings into the nasal cavities is obstructed, necrosis and rupture may occur either through the superior wall, that is, the cribriform plate of the ethmoid, into the anterior fossa of the cranium or through the external or orbital wall into the cavity of the orbit. As a result of rupture into the cranial cavity, three processes have been observed: meningitis, epidural abscess and abscess of the brain. As a result of infection of the orbital contents there occurs an orbital cellulitis characterized by a marked edema of the upper and lower lids with exophthalmos. Secondary to the orbital cellulitis, and even possibly primary in the case of the rupture of the posterior ethmoid cells, thrombosis of the orbital veins may occur, which, traveling backward, involves the cavernous sinus on the same side. Involvement of the cavernous sinus is invariably associated with marked exophthalmos and edema of the lids. Owing to the communication of the cavernous sinus on one side with that of the opposite side through the circular sinus, it occasionally happens that a sinus thrombosis arising from infection of one orbit and cavernous sinus extends through the circular sinus to the opposite cavernous sinus resulting in exophthalmos of the opposite eye.

POLYP-FORMATION

Polyp-formation within the ethmoid cells causes extreme distention of the cells, rupture of the bony walls and occasionally results in absorption of the superior wall or orbital wall of the ethmoid. As polyp-formation is usually accompanied by suppuration in these cells, the subsequent history of such perforation either into the cranial cavity or orbit as a result of a new and added infection to that which is already present produces the same pathologic conditions as described above in suppuration. Cystic formation within the ethmoid cells results in varying amounts of distention of the cells with absorption by pressure of the bony walls in various directions, upward through the cribriform plate or externally toward the orbit. As the contents of these cysts are usually sterile, the symptoms depend entirely on pressure and displacements produced by the mass. It is quite common for these cysts to absorb the lacrimal bone and displace the contents of the orbit. In such cases a tumor may be seen and felt near or slightly above the inner canthus of the eye, displacing the globe externally and often downward. If the cyst projects through the posterior ethmoid cells into the rear of the orbit, protrusion of the eye or exophthalmos may result. There is seldom in cystic disease any edema of the eyelids as in the acute inflammatory cases. The cyst may become infected, rupture and then suddenly the symptoms that were enumerated in acute suppuration may supervene.

SPHENOID SINUS

Two processes are found in this cavity, namely, suppuration and polyp-formation. As portions of the superior and outer wall of the sphenoid cavity are normally very thin usually, one can readily understand how obstruction to the outlet of a purulent secretion may cause rupture of the superior or outer wall. The conditions resulting from this rupture are meningitis, epidural abscess, brain abscess, sinus thrombosis, impairment of vision, even blindness and exophthalmos. The cavernous sinus passes along the lateral wall of the sphenoid sinus and is the one usually to be involved in cases of sinus thrombosis. When the circular sinus is involved the clot usually extends quickly into the cavernous sinus, and both the right and left cavernous sinuses are secondarily involved. The relation of the sphenoid sinus to the orbit makes it possible for an orbital cellulitis to develop in connection with suppuration of the sphenoid sinus, giving rise to the same conditions as described in connection with the ethmoid cells. Of the three sinuses, the frontal, ethmoid and sphenoid, it has been my experience that intracranial complications are far more apt to result from disease of the ethmoid and sphenoid than of the frontal.

That the rhinologist is not entirely at fault in not being able to determine the source of infection in many cases with the present methods of examination is perfectly true. In the first place, the anterior fossa of the cranium and the cranial contents found therein are those first involved when the nares are the source of infection. In the cases of infection from the ear the cranial contents in the middle and posterior fossa are first involved. It is well known that far more severe and extensive lesions may be present in the anterior fossa without giving rise to sufficient symptoms to enable the physician to make a diagnosis than in the middle and posterior fossa of the cranium. The rhinologist again meets difficulties in his examination of the nose far greater than does the otologist in the aural examination.

Nearly every patient ignores a moderate amount of discharge from the nares, considering it a type of catarrh which is common to every one. Consequently inflammatory lesions of the accessory sinuses, accompanied by a moderate discharge but unaccompanied by pain, are frequently unheeded by the patient. On the other hand, a discharge from the auditory canal is cause for concern and the seeking of relief. Nasal examination of a patient in whom intracranial lesions are suspected is frequently most unsatisfactory to the examiner and the family physician. For example, a patient in whom there are symptoms of meningitis in the early stages seeks an opinion as to whether the infection originated in the nasal cavities. Should the disease have extended through the veins or lymphatics it is scarcely likely that the nasal examination will detect the fact. If there is no sign of any secretion either in the nose or nasopharynx, one may never be sure that the sinuses are not involved. It is not at all uncommon to have the secretion from the ethmoid and sphenoid sinuses retained and only periodically discharged into the nares or nasopharynx. Without the evidence of secretion or any undue bulging of any group of cells, suppuration may be present without being detected by nasal examination. There are many factors which make it difficult to make a thorough nasal examination, such as the presence of a badly deflected septum, polypi, etc., which render a satisfactory examination unusually difficult. If, on the other hand, pus be seen in both nasal cavities, it is extremely difficult at a single examination to determine the extent of the involvement of the frontal, ethmoid and sphenoid cavities. It is still more difficult to determine in bilateral cases whether the infection has extended to the cranial contents from the cells, blood vessels or lymphatics of the right or left side. Since the cells meet so nearly in the median line and the physician is without the aid of a focal symptom as in one ear, little if any help is to be derived from a consideration of the subjective symptoms of the patient. Likewise, when but one side of the nasal chamber is involved in the suppurative process, great difficulty is experienced to determine whether the infection of the cranial contents arose from the frontal, ethmoid or sphenoid sinuses. With such difficulties, then, before the rhinologist, there should be no surprise that greater progress has not been made by him up to the present time.

The intracranial complications consecutive to nasal infection are meningitis, epidural abscess, sinus thrombosis and brain abscess.

MENINGITIS

It is unnnecessary to enter into the details of the varieties and symptoms of meningitis. I shall merely remark that there is an acute type, not only involving the brain, but extending to the spinal cord, which is nearly always fatal. These cases are such as are most frequently seen by men devoting themselves to internal medicine. The source of infection is rarely if ever discovered. I have frequently been called in to decide whether the infection reached the meninges through the nares. Finding the patient in a mild delirium, the difficulties attending a thorough examination of the nares and accessory sinuses were much enhanced and my nasal examination has in nearly all cases been most unsatisfactory to me. I have never felt that I could conscientiously advise an operation in these acute cases, and death has usually occurred within two or three days.

There is another type of meningitis commonly described as serous meningitis in which the symptoms are less acute. In such cases, if disease of the accessory sinuses has been discovered and no other source of infection can be found I believe that we are justified in advising operative interference with the object of removing further infection, just as is done in cases of otitic meningitis.

A third class of meningitis, a more chronic or leptomeningitis, includes cases in which undoubted sinus disease has existed for some time. When all other source of infection has been excluded, I would again advise operation on the same ground as in the case of serous meningitis.

EPIDURAL ABSCESS

An epidural abscess is usually discovered at the time of operation for chronic sinusitis. It gives rise to vague symptoms which are frequently associated with sinus disease independent of epidural abscess. Headache is perhaps the most common symptom associated with this condition, but headache is so frequent in some of the severe types of sinus disease that from it alone we can not make a diagnosis of epidural abscess. In one patient on whom I operated there was a perforation, about 2 cm. in diameter, of the posterior wall of the right frontal sinus with a mass of granulations and pus between the posterior table and dura. The headache in this patient was so severe and at times the mentality was so confused that I told the surgeon and the family physician with whom I saw the case that I suspected an abscess of the brain. The patient was under observation for a period of about ten days before he would consent to operation. During the twenty-four hours before I operated the patient had three epileptiform seizures, one occurring during the night. There was no history of any such attacks previously. The patient was immediately sent to the hospital when the epidural abscess as above described was found, evacuated, and the patient made an excellent recovery.

SINUS THROMBOSIS

Thrombosis of the cavernous and circular sinuses gives rise to marked eye symptoms, such as edema of the lids and exophthalmos. These cases are more frequently referred to the ophthalmologist than to the rhinologist and surgeon.

BRAIN ABSCESS

The symptoms which lead one to suspect an abscess of the frontal lobe of the brain are persistent headache, slight elevation in the temperature, pulse slow, possibly choked disc and a blunted mental activity, as apparent delay in comprehending the questions asked and slow response. I believe that there is a field as yet insufficiently developed, namely, skiagraphy, by which we shall be able to determine abscesses of the brain. I do not pretend to say that every novice in the use of *x*-rays can make a plate which will show an abscess when it exists, but I do believe that, if an opportunity were given to a few of the experts in this line of work to skiagraph patients with brain abscess, the radiographer would soon learn the proper tube and time of exposure o that in many cases brain abscess might be accurately ocated by this method.

OPERATION

The operative technic which has been most satisfac- ory to me in exploring the sinuses has been what is nown as the ethmoidal route. Skin incision begins eneath the eyebrow at the supraorbital notch, is car- ied in a curved direction downward midway between he inner canthus of the eye and the dorsum of the ose, and terminates at the middle portion of the nasal one. The periosteum is peeled forward and backward, he capsule of the orbit freed from its attachment to he inner wall of the orbit. With chisel, mallet and ongeur forceps the nasal process of the superior maxilla cut away, opening at once into the anterior group of hmoid cells. By following this back through the hole of the ethmoid labyrinth and opening and enlarg- g the sphenoid sinus one traverses and explores very oroughly the region from which the majority of infec- ons reach the cranial and orbital cavities. The opera- on is a bloody one and sould be performed only by one ho has acquired the ability to reflect light into the vity so as to see into the depths of the ethmoid and henoid regions. By this route one is working parallel th the floor of the cranium and is much less likely to rforate the floor than by the maxillary route which is vocated by some. This exposure enables one to re- ove the floor of the frontal sinus and by means of obe to explore the frontal sinus, and in that way to termine whether this cavity may be the seat of the uble. If this is found to be the case, then a horizon- incision through the eyebrow with the elevation of periosteum over the frontal bone and the removal of entire anterior wall of the frontal sinus is indicated. many of these patients are desperately ill, it is ex- dingly important that whatever operative procedure ndertaken shall be terminated as quickly as possible. e shock of a short operation is much less than that of ong one. In my opinion, it has been advisable in se cases not to attempt to do the most thorough ration that one does in chronic suppurative sinusitis hout cranial complications, but to exenterate all the es as quickly as possible, introduce iodoform gauze inage through the opening, and leave the wound open without any attempt at suture. Should the patient recover from his acute symptoms, secondary suturing may be done in the course of a few days with but little more scar than if the wound had been closed at the time of operation.

53 West Fifty-sixth Street.

[THE DISCUSSION ON THE PAPERS OF DRS. HARTLEY, MCKERNON AND COAKLEY WILL APPEAR NEXT WEEK WITH THE OTHER PAPER IN THE SYMPOSIUM ON CRANIAL TECHNIC, THAT OF DR. CUSHING.]

DIPHTHERIA "CARRIERS"

THEIR DISCOVERY AND CONTROL*

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The part played by the sanitarian in the control of contagious diseases is a most difficult one. On the one hand, the public resents any infringement on its personal liberty, and many physicians object, on scientific or other grounds, to whatever restrictive measures are enforced. On the other hand, reliance is placed by both the public and the profession on the precautions adopted by the health authorities, whether sufficient or insufficient, in consequence of which a false sense of security is often imparted.

Of no disease is this truer than of diphtheria. When the sanitary officials have disinfected the premises and removed the placard after recovery from this disease, all danger of infection is believed to be ended. The feeling of safety is the same whether this be done on the attending physician's statement that all clinical evidence of diphtheria has disappeared or only on bacteriologic evidence that the bacilli no longer are present.

That fomites infected by a diphtheria patient may transmit the disease to others all seem to recognize. Terminal disinfection of the sick room and its contents, therefore, is universally employed. Seldom, however, is any effort made to discover and disinfect animate carriers of the contagion. Yet it has been shown repeatedly that Klebs-Löffler bacilli from a diphtheria patient may be deposited on the skin or mucous membrane of persons coming in contact with him, and that throats so infected may retain the organisms for weeks and months.

PROPORTION OF "CONTACTS" INFECTED

During the past four years I have discovered diphtheria germs on the throats of many healthy persons who had been in contact with persons suffering from clinical diphtheria. These so-called infected "contacts" or diphtheria "carriers" were found in orphanages and homes, in public schools and in private dwellings.

The healthy inmates of several homes for children were examined bacteriologically during nine different outbreaks of diphtheria, as many as 124 being examined on one occasion and as few as two on another. The percentage found infected varied from 50 to none, the average for the nine epidemics being 9.14 per cent. Altogether, 269 individuals were examined, of whom 35 (13 per cent.) harbored the germs. On four occasions children suffering from sore throat were examined, the greatest number tested at one time being eight and the smallest four. The percentage harboring diphtheria bacilli, and in consequence regarded as cases of latent diphtheria, varied from 100 per cent. to 33.3 per cent., the average being 62.5 per cent. Of the 22 examined altogether 12 (55 per cent.) had latent diphtheria.

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

In eleven private dwellings, where one of the family was sick with diphtheria, the healthy inmates were cultured, from eight to one being tested at a time. The percentage infected was 100 per cent. in three instances and zero in one, the average of the eleven being 57.3 per cent. The total number examined was 40, of which 22 (55 per cent.) were infected. In four of these houses persons with sore throat were similarly investigated, the number in each house not exceeding four and in one instance being as small as one. From 66.6 per cent. to 100 per cent. of cases of latent diphtheria were discovered, the average being 91.6 per cent. Of the 10 examined the report was positive in 9 (90 per cent.).

In a block where several cases of typical and latent diphtheria had occurred, three children who were suffering from sore throat were examined, two (66.6 per cent.) proving to have latent diphtheria.

Twenty-three school children who had been in contact in the class room with a child convalescent from latent diphtheria and with one who subsequently developed the disease, and who themselves exhibited reddened fauces or enlarged tonsils, were examined bacteriologically, but only one (4.3 per cent) was found infected. The details of all these cases may be obtained from the histories appended.

The figures just given correspond fairly well with those of other observers. These latter have recently been compiled by Graham-Smith.[1] According to them 66 per cent. of the members of the family to which the diseased person belonged were infected, the proportion being higher (100 to 50 per cent.) in families in which no precautions were taken to isolate the sick and much lower (10 per cent.) when every precaution was taken. Of the more distant relatives examined, 29 per cent. were found to be infected. Bacilli were found in 37 per cent. of persons in attendance on the sick. Observations on the inmates of hospital wards and institutions showed that 14 per cent. are likely to give positive cultures when diphtheria occurs among them. In infected schools 8.7 per cent. of the scholars were found to be harboring the germs.

THE INFECTED "CONTACT" A SERIOUS MENACE

An infected "contact" may later develop diphtheria, typical or latent, or he may remain healthy. In either instance he is capable of transmitting virulent bacilli to others, who may then develop clinical diphtheria in a mild or a severe form, or, remaining healthy, may themselves act as diphtheria "carriers." Consequently, the infected "contact" is as great a menace to the public health as is a patient convalescent from diphtheria; for in the one, as in the other, it is the presence on the mucous membrane of diphtheria bacilli that makes them a source of danger. In point of fact, the former is even the more dangerous, for he goes about among healthy people unrestrained, while the convalescent usually is isolated until the bacilli disappear from his throat.

I believe that it is the latent and "carrier" cases that are mostly responsible for the prevalence of diphtheria in cities where the usual precautions are taken in regard to clinical cases that are reported or "notified" to the health authorities. Not until these hitherto unrecognized cases are discovered and removed as sources of contagion will much headway be made in checking the spread or preventing the occurrence of diphtheria.

In a large proportion of diphtheria cases the source of the infection is unknown, the patient never having been in contact with the disease; and yet in every instance there must have been some contact with an animate or inanimate carrier of the Klebs-Löffler bacilli. Is it not fair in these cases to assume that the sick person has been in close proximity in the street car, shop, factory, office, class room or dwelling with an unrecognized case of latent diphtheria or with an infected "contact" or diphtheria "carrier"?

I have tabulated, with a view to ascertaining their possible sources of infection, 268 cases of typical diphtheria and 130 cases of latent diphtheria that I have investigated, most of them in my capacity as assistant medical inspector of the bureau of health.

By typical diphtheria I mean cases with pseudo-membrane. I regard as suffering from latent diphtheria all persons giving positive cultures who exhibit some pathologic condition, local or general, unassociated with pseudo-membrane. Healthy infected persons I term infected "contacts" or diphtheria "carriers." The cultures were examined by the city bacteriological laboratory, which judges the organisms according to morphology alone. It is possible that in some instances what I have called latent diphtheria may have been cases of ordinary tonsillitis in whose throats a non-virulent diphtheria-like organism chanced to be present. It is only fair to state that from ten of these so-called cases of latent diphtheria discovered in school during a diphtheria epidemic pure cultures were isolated and inoculated into guinea-pigs. Only two of the pigs died and in but one were Klebs-Löffler bacilli recovered at autopsy. Considerable time elapsed, however, in many instances between the dates of the first culture and the one that was tested for virulence, seventeen days intervening in one case. It is conceivable that virulent Klebs-Löffler organisms may have been present at first and were replaced later by non-virulent bacilli, as is the usual occurrence in true clinical diphtheria. Still, from the public health standpoint, I feel that these doubts are outweighed in importance by the fact that virulent bacilli remained for twenty days on a boy's throat despite vigorous antiseptic measures and that seven persons with latent diphtheria gave typical diphtheria to others.

TABLE SHOWING POSSIBLE SOURCES OF INFECTION

	Typical Diphtheria.		Latent Diphtheria.	
	No. Cases.	P.C.	No. Cases.	P.C.
Total number of cases investigated......	268	..	130	..
Case of typical diphtheria in same house	57	21	23	17.5
Case of latent diphtheria in same house..	8	3	4	3
Infected "contact" diphtheria in same house	5	2	1	1
Case of sore throat in same house.......	12	4.5	6	4.5
Case of typical diphtheria in same school or Sunday school....................	29	11	20	15.5
Case of latent diphtheria in same school or Sunday school....................	10	4	56	43
Case of typical diphtheria in same factory	0	0	1	1
Case of typical diphtheria in same street.	3	1	3	2
Case of typical diphtheria in school attended by other members of family...	14	5	0	0
Case of latent diphtheria in school attended by other members of family....	1	0.5	0	0
Case of typical diphtheria in Sunday school attended by other members of family	2	1	0	0
Inmate of institution with no history of recent known contact................	14	5	1	1
No history elicited of direct or indirect contact as above (exclusive of inmates of institutions)	113	42	15	11

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[1] "The Bacteriology of Diphtheria." Edited by G. H. F. Nuttall and G. S. Graham-Smith, Cambridge, 1908.

In most of the cases of typical diphtheria where no history of direct or indirect contact was elicited no inquiry was made as to the existence in the house of cases of sore throat. Many attended schools outside of my district (which included about one-fiftieth of the population of Philadelphia). Not being acquainted with conditions in those schools, I did not know whether or not cases of diphtheria had occurred there. Probably more attended infected schools than the figures show. Had cultures been taken of the cases of sore throat existing in the same house with the patient many doubtless would have proved to be instances of unrecognized latent or mild diphtheria.

Patients who attended schools where pupils had recently been stricken with diphtheria did not necessarily contract the disease from those pupils. It is possible that some may have been infected by unrecognized cases of latent diphtheria or by healthy diphtheria "carriers" who were attending school in ignorance of their infectivity and who may themselves have been infected by the first cases that occurred. In like manner, when other members of the family attended schools where diphtheria was prevalent they may have become infected, though remaining healthy, and may thus have brought the germs home to the susceptible children. Enough has been shown, at any rate, to demonstrate how great a factor in the spread of diphtheria is the unrecognized human carrier of contagion.

DISCOVERY AND CONTROL OF INFECTED "CONTACTS"

The one thing, however, that probably more than any other prevents public health officials from taking action in regard to the infected "contacts" is the knowledge that healthy persons may have in their throats diphtheria-like bacilli indistinguishable, morphologically, from virulent Klebs-Löffler bacilli, but which, nevertheless, are harmless. Many bacteriologists regard these as varieties of or attenuated or modified Klebs-Löffler organisms. Others believe them to be completely distinct from the latter and refer to them as the Hoffman or pseudo-diphtheria bacilli. Whichever view is accepted, the fact remains that non-virulent diphtheria-like bacilli frequently are present on the throats of healthy persons. Depending on cultural tests alone, such persons, when found in the same house with a diphtheria patient, would naturally be looked on as infected "contacts," and when suffering from sore throat could easily be mistaken for cases of latent diphtheria. It is no wonder, therefore, that health authorities hesitate before applying restrictive measures to those inmates of a diphtheria house whose throats may give positive cultures.

However, as I recently pointed out,[2] the consensus of opinion among bacteriologists and sanitarians is that he diphtheria-like bacilli found in the throats of healthy persons who have not been in contact with cases of diphtheria, typical or latent, or with infected "con-acts" are practically always non-virulent. On the other hand, the diphtheria-like bacilli found in persons who ave recently been in contact with the disease are usually irulent.

Consequently, public health officials would undoubt-dly be justified in demanding that the inmates of an in-titution, hospital ward or private dwelling which contains a diphtheria patient be examined bacteriologically, nd, if found infected, be isolated until the bacilli disap-ear. But owing to the possibility of the organisms being non-virulent, I think that inoculation tests on guinea-pigs should be made when requested by a healthy infected "contact" or by his physician, and, in the event of the animal surviving, that all restrictions should be removed.

The measures here recommended I have been carrying out whenever possible since September, 1906. While attending a case of diphtheria I invariably take cultures of the throats of all the inmates of the house. In institutions and dwellings that I visit as medical inspector, however, I am permitted to take cultures only when the attending physician requests it. All persons found infected are confined to the house; many are isolated; a few are sent to the hospital.

The beneficial results of such a procedure and the unfortunate consequences of its omission may be seen from the appended histories of epidemics that have occurred at various times in institutions and private families. Institution A, for instance, had experienced prolonged epidemics despite the fact that every recognized case of diphtheria was sent to the hospital and the building disinfected. But when all the children were examined bacteriologically and those found infected isolated, spread of the disease was speedily checked. The reverse occurred in Institution B. On one occasion discovery and isolation of the infected "contacts" had brought an epidemic to an early termination. At a subsequent outbreak, when this was not done, the disease persisted for several months. In both institutions children who had been immunized contracted diphtheria after the effect of the antitoxin had worn off.

Protective doses of antitoxin were always administered to the healthy inmates and unquestionably were an important aid in fighting the epidemics. Their greatest value, in my opinion, lies in protecting the non-infected healthy children from the infected healthy children, and in protecting the latter from themselves. The antitoxin does not influence the bacilli, which still persist in spite of it.

Infected children, despite their immunization, remain dangerous to all unprotected persons with whom they come in contact, and even, as soon as the period of immunity has expired, to those who have received prophylactic injections. In Institution E, infected "contacts" gave typical diphtheria to children admitted to the Home subsequent to the immunization, to a servant who had refused the antitoxin and even to inmates who had been protected two months previously. Hence the necessity of discovering the diphtheria "carriers" and isolating them until bacteriologically clean, in addition to general immunization.

Routine bacteriologic examination of all those living in a house where diphtheria has occurred will sometimes disclose the original source of infection, as happened in house infection C.

When secondary cases arise in a family where one member has had diphtheria the disease is not necessarily communicated by the patient, but may be transmitted by a healthy infected "contact." This is clearly shown in house infection A.

That persons who have never been near a case of clinical diphtheria may contract the disease from a diphtheria "carrier," house infections B and H give ample evidence.

The latter also illustrates how persons become infected in an industrial establishment and remaining healthy themselves may yet give diphtheria to others.

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[2] Latent Diphtheria a Public Health Problem, THE JOURNAL M. A., July 6, 1907, xlix, 30.

Without asserting any relationship between cause and effect, I merely mention the fact that during an epidemic of diphtheria, in the course of which I discovered and isolated many cases of latent diphtheria, there were markedly fewer cases of typical diphtheria in my district than in an adjoining district where such measures were not carried out.

Appended will be found detailed histories of epidemics in institutions and private dwellings with brief accounts of the culturing of healthy contacts.

CONCLUSIONS

1. Persons coming in contact with a diphtheria patient frequently have virulent Klebs-Löffler bacilli deposited on their mucous membranes.
2. Such infected "contacts" may later develop diphtheria or, remaining healthy, may act as diphtheria "carriers," transmitting the bacilli to others who thereupon may develop the disease or may themselves become diphtheria "carriers."
3. To prevent their becoming a source of danger to others, diphtheria "carriers" should be isolated until bacteriologically clean.
4. Recognition of the infected "contacts" must precede their control. This can be brought about only by taking cultures of the throats of all the inmates of a house where diphtheria exists.
5. Little progress need be expected in the prophylaxis of diphtheria so long as we neglect the animate carriers of the contagion.

DIPHTHERIA EPIDEMICS IN INSTITUTIONS

In all these institutions, whenever a child presented a suspicious throat it was immediately isolated and as soon as a diagnosis of diphtheria was made it was sent to the hospital. The building was always disinfected on the following day.

Institution A, consisting of a large central building, two cottages and an infirmary. Between May 11 and 20, 1904, four cases of diphtheria occurred. On May 26 I examined six children who had tonsillitis, with positive culture results in four (66 per cent.). Two days later, and again in three days, a diphtheria patient was removed to the hospital. Then forty-eight inmates were immunized but no cultures were taken. Two of these subsequently developed diphtheria, one on June 3 and the other on June 25. An assistant caretaker was stricken on Sept. 12, 1904.

The orphanage then remained free of the disease until Oct. 29, 1906, when a case developed and was removed two days later. The other children, 124 in number, all healthy, were examined bacteriologically and thirteen (10.5 per cent.) were found infected. Eleven did not retain the germs long, but one gave positive cultures for two weeks and another for over three weeks despite vigorous antiseptic measures. The infected children were each given 3,000 units of antitoxin and the rest were immunized. No subsequent cases arose.

An epidemic of scarlet fever began shortly afterward, the patients being sent to the municipal hospital for contagious diseases. On January 13 two cases of diphtheria were reported, another on the seventeenth, and two more on the nineteenth. Cultures taken on January 14 of two children who had been in contact with the patients proved negative. On January 20 the whole institution was immunized and cultures were taken of six children who had sore throats, two being found infected. A child who had not been cultured developed latent diphtheria two days later.

On May 24, 1907, three days after a boy had returned from the infirmary where he had been eighteen days with tonsillitis, another boy in the same cottage contracted diphtheria. A culture taken of the one who had had tonsillitis was positive. All the boys in the cottage were immunized. A case developed on June 24 and another on September 1. On each occasion prophylactic doses of antitoxin were administered to all the children in the infected cottage.

Institution B, a colored home occupying a converted house. On July 11, 1906, two children developed diphtheria, two more cases occurring on July 14. The other children were neither examined nor immunized.

On Oct. 10, 1906, a child contracted diphtheria. The physician in charge, Dr. John M. Swan, took cultures of all the inmates, 36 in number. Six (20 per cent.) were found to be infected. All of these exhibited enlarged lymph nodes on the posterior pharyngeal wall. All but one had enlarged tonsils and a frequent pulse. Only one showed membrane. None complained of headache.[3] The infected children were isolated and their throats treated antiseptically. The bacilli persisted in some for a long period.

On March 14, 1907, another case of diphtheria developed. A different physician was in charge, who took cultures only of suspicious cases. Of eight persons with sore throat examined at various times three gave positive cultures. One whose culture was then negative subsequently developed another attack of tonsillitis at which time Klebs-Löffler bacilli were found. All the inmates were immunized on April 3. The germs persisted in one of the cases from March 29 to May 20.

On April 10 another case developed that was not bacteriologically clean until June 5. On June 25 a child who had been immunized developed diphtheria and remained infected until June 18. At no time were cultures taken of the healthy children.

Institution C, a large children's home, having a large building and a separate isolation building. On Feb. 24, 1906, the son of the superintendent was reported sick with diphtheria, and cultures taken on the same day of three suspicious cases showed two of them to be also suffering with the disease.

Two days later nine children with measles who were in the infirmary where the diphtheria cases were isolated were immunized and examined bacteriologically, and the following day sixty healthy inmates received similar treatment. None of the former and three of the latter gave positive cultures. Three more were examined March 1, one on March 3 and two three days later. All were negative.

The home was then free of the disease until Jan. 23, 1907, when a child developed diphtheria. Five of the most intimate "contacts" were cultured, but only one was found to be infected, although another had dull gray patches on both tonsils. The former was isolated until bacteriologically clean. All the more intimate "contacts" were immunized. No case has occurred since.

Institution D, a home for colored crippled children, consisting of two converted dwellings. A nurse developed diphtheria in the fall of 1906, and seven children that showed some abnormality were examined, bacilli being found in three. These were isolated, and all the inmates were immunized. No more cases arose for nearly two years, a sporadic case occurring in March, 1906.

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[3] I am indebted to Dr. Swan for these notes.

While at school, Oct. 16, 1906, a child from the home was examined by the medical inspector who was examining the members of her class on account of the prevalence of typical and latent diphtheria among the pupils of that school. Although her throat was only slightly inflamed and received constant treatment, the bacilli persisted for three weeks. On November 4 a child developed fever, vomiting and sore throat, associated with the presence of Klebs-Löffler bacilli, but without membrane formation. The twenty inmates were examined, four being found infected, of whom two had enlarged tonsils.

November 6 a nurse became sick and gave a positive culture, although no membrane was present. She was sent to the hospital and fumigation was ordered. Two weeks later a boy developed typical diphtheria and the following day another infected "contact" was discovered. The home has been free since.

Institution E, a children's home utilizing a large mansion. A sporadic case developed in March, 1905. On Oct. 6, 1907, a child took sick, was treated for "croup" without any precautions being ordered and twenty-four hours later diphtheria was diagnosed. On this day another sick child was said to have "stomach trouble" and was allowed to mingle with the other children until the next day, when a diagnosis of diphtheria was made. All the children in the home were immunized by the medical inspector, who, however, gave 3,000 units to one who seemed feverish, with foul breath, reddened fauces and secretion in the tonsillar crypts. The inspector ordered this boy isolated and his physician summoned. The latter's first impression was that the boy had diphtheria, but as all signs rapidly cleared up he decided that the lad merely had been frightened by the injection.

Another child took sick the morning after he was immunized, complaining of headache but showing nothing abnormal in his throat. Fearing diphtheria, the physician had the child isolated, but as all the symptoms disappeared in a day he finally believed that the boy did not have diphtheria. At the medical inspector's request, however, he took cultures of these children. Both were positive and remained so for eleven days, the boys then being sent to the hospital.

On December 6 of the same year a child that had been admitted to the home only five days previously seemed droopy, and four days later exhibited a false membrane. The physician then examined a child who had been in the home but a few weeks and who for four days had been suffering from a "cold" and one who had been immunized two months before and who was not eeling well, although neither complained of sore throat. Both showed evidence of diphtheria. The other children were promptly immunized. Cultures were taken of ight who had slightly reddened throats, four proving positive and being thereupon sent to the hospital. A hambermaid who had refused to be immunized devel-ped diphtheria two weeks later.

Diphtheria Epidemic in a Block.—Two children in a amily developed diphtheria in July, 1906, one going o the hospital, the other remaining at home. The mother, who nursed the latter, gave a negative culture, ut a sister, who was healthy and whose throat was lear, was found on July 27 to be harboring the germs. Two months later a culture was still positive. The yard of this house faces the yards of the houses on the next street.

In one of these houses a boy took sick Sept. 5, 1906, with sore throat. Four days later he was seen by his physician, who diagnosed "abscess in the throat." The child went about the neighborhood. A culture taken on September 15 showed Klebs-Löffler bacilli. The throat was reddened and the tonsils appeared enlarged when palpated externally. The cultures continuing positive, the boy was sent to the hospital.

September 10 his brother was taken with fever, vomiting and diarrhea. The attending physician noticed nothing abnormal in his throat, but thought he detected some pulmonary consolidation, and suspected the existence of typhoid fever. September 15 I was asked to see the patient, and on looking at the throat observed a small, gray, non-typical patch on the right tonsil. The child was very weak. A diagnosis of diphtheria was made and the lad was sent to the hospital, where the diagnosis was confirmed. The culture I took, nevertheless, was negative, but there was a large amount of mucus in the throat at the time.

The mother, who nursed both children, and who herself had a sore throat, gave a negative culture. Another healthy brother was likewise free from germs. A sister had a sore throat from the afternoon of September 16 to the morning of September 17. The mother, who looked at her throat, said it was reddened, but that nothing else was wrong. The girl felt perfectly well, and when I examined her on the evening of September 17 the throat was clear. A culture taken at this time was positive. This girl was working in the kitchen of an apartment house until the report of the culture was received.

September 17 I visited every house on the block and took cultures of all who were suffering or who recently had suffered from sore throat. A little boy living next door to the above mentioned case had been ill with sore throat and gave a positive culture. A boy living two doors away, who had played with the infected children and who had had sore throat, was bacteriologically clean. A child living further down the block, who had played with the infected children and who had a slight sore throat with slightly reddened fauces, was found to be harboring diphtheria bacilli which persisted for over seventeen days. Her mother, who had suffered from pain and stiffness in the side of the neck, was free from germs on September 19.

DIPHTHERIA IN PRIVATE HOUSES

House Infection A.—A child whose mother was a disciple of Dowie died of diphtheria without having received medical attention. After the child's burial the whole house was thoroughly fumigated. Cultures were taken on Dec. 14, 1906, of four children, and on December 18 of the mother and of two elders of the church who had prayed over the child. Only one was positive, that of a sister, R. ,whose tonsils were enlarged and reddened. All the others were healthy. The mother would not permit immunization nor would she allow the infected child to use an antiseptic gargle or spray or to be swabbed. The child was not isolated, although the bacilli persisted until December 25. The throats of all the children were examined visually and bacteriologically at frequent intervals.

On December 18 M.'s culture became positive. E. took sick on December 25. When seen by me on December 28 she had typical diphtheria, a pseudomembrane being present on the left tonsil. The culture taken December 28 was positive. At the request of the father, who was not a Dowieite, and despite the mother's protests, I assumed charge of the case, administering 2,500 units of antitoxin at once, 3,000 the day following and 3,500 the next day. The child was well on January 7, but despite frequent and vigorous swabbing with a strong formaldehyd solution, the bacilli did not disappear until January 20. The child's nurse and the mother, though healthy, gave positive cultures on January 12, but the next two cultures of both were negative. The father's throat contained no bacilli on January 12.

December 18 V.'s throat was still negative, but on December 28 the culture was positive. On this latter date the mother took the three children, R., M. and V., the last two being infected at the time, to the house of friends who were also followers of Dowie. A culture taken of M.'s throat was examined at the Pepper Clinical Laboratory of the University of Pennsylvania and pronounced positive. (All the other cultures were examined by the Bacteriological Laboratory of the Philadelphia Bureau of Health.) While away this child became sick and was sent back home. When examined by me on December 31 she was sick and complained of sore throat, but had no fever. No membrane was visible. I administered 1,500 units of antitoxin. On the next day the temperature was 99.2 F. and plugs of membrane could be seen in the crypts of the left tonsil. The same condition appeared in the opposite tonsil. The temperature remained slightly elevated for several days. On January 7 the child was well and bacteriologically clean. A culture of V. taken by his father at his retreat on January 13 was negative.

House Infection B.—A child had developed chronic lymphatic leukemia following an attack of diphtheria in December, 1906, and was being treated in a children's hospital. A case of diphtheria having broken out in the ward where the child lay, all the children there were examined and immunized. A number were found infected, including this case of leukemia. The child was sent home and came under my care on June 1, 1907. Despite antiseptic and hygienic treatment, the bacilli persisted until the child's death on June 17. June 8 the child was given 2,000 units of antitoxin in the hope that it might influence the leukemia, in view of the history.

June 15 the mother's median basilic vein was attached to the child's radial artery by Dr. George M. Dorrance and transfusion attempted. The mother suffered from shock and the evening following the operation had fever and sore throat, associated with the presence of a slight membrane. Antitoxin was immediately administered. A culture taken June 15 was doubtful, but one taken on June 16 proved positive. Cultures taken the following three days were negative. The husband was also examined, being found infected on June 17, but free from germs on June 19.

House Infection C.—The families of a brother and a sister lived in the same house. About April 4, 1907, P. C., the father of one family, was taken with sore throat which lasted all week. A day or two afterward his son, J. C., developed sore throat and headache. The latter was put to bed for a day and in four days felt all right. On April 9 a daughter, M. C., was taken sick with membranous croup and two days later was sent to the hospital. On the following day the house was disinfected.

I immunized all who would permit it, and took cultures of their throats. The father, P. C., still complained a little of sore throat. The fauces were reddened and the cervical glands were slightly enlarged. The culture taken April 1 was positive and inasmuch as the cultures continued positive for thirty-eight days, despite faithful antiseptic treatment, the man was sent to the hospital. The boy, J. C., when examined April 12 felt well and his throat was normal, but his cervical glands were markedly enlarged. A culture taken then proved positive, but cultures taken ten and twelve days later were negative.

A. McG., of the other family, although perfectly healthy, gave a positive culture on April 12 and it was not until May 11, one month later, that the first negative culture was obtained. The mother of this girl, C. McG., the brother, B. McG., and the sister, M. McG., gave negative cultures on April 12, as did M. C. and H. C. of the other family. This last child, H. C., subsequently developed a mild attack of diphtheria on May 5, twenty-three days after immunization. Diphtheria bacilli were present in her throat on May 7, and as they still persisted on May 22 the child was sent to the hospital.

House Infection D.—About March 17, 1907, H. P. had tonsillitis. Two days later her brother, F. L., had a similar attack. March 26 another brother, L. L., took sick with what was reported to the board of health five days later as suspicions of diphtheria. March 31 the latter's twin, H. L., took sick.

The whole family was examined and immunized on March 31. All of them, the four mentioned above, the mother and another brother, the last two perfectly healthy, were found to be infected. The girl, H. L., kept giving positive cultures up to May 3, a period of thirty-four days. F. L. gave negative cultures after April 12. The twin babies, L. L. and H. L., were sick. L. L. gave positive cultures from March 29 to May 9, a period of six weeks. The last positive culture from H. L. was taken April 12. J. C. gave his first negative culture on April 12. Antiseptic gargles were used by the older children. The babies were swabbed.

House Infection E.—In September, 1906, a little girl suffered with diphtheria in the family summer residence in the country, after which the house was disinfected. A month or so after the family had returned to the city the gardener's child, who had remained in the country, was stricken with diphtheria. About March 1, 1907, the baby of the family which had moved to the city was taken ill with diphtheria.

The rest of the children, seven in number, were at once immunized and removed to another house, where they were placed under my care. Two were found to be free of germs on two successive tests. One gave a negative culture on March 4, positive cultures on March 7 and 10 and negative March 13 and 14. Two gave a positive culture at first, followed by two successive negative cultures. Another gave a series of two positives, followed by two negatives. The one who had been sick in the fall was also found to be harboring diphtheria germs which persisted for two weeks.

The infected children were isolated until two successive negative cultures were obtained, meanwhile gargling and being swabbed with antiseptic solutions. The sick child's nurse and his mother, who was constantly with him, were examined March 18 with negative results. Later, however, before the germs had left the sick child's throat, the mother contracted diphtheria. No cases have occurred since.

House Infection F.—A boy had a mild attack of diphtheria, unrecognized at first. The whole family was examined bacteriologically, the bacilli being absent in the mother, one brother and one sister. Another brother, although healthy, gave a positive culture and remained infected from November 20 to December 17, 1907. Another sister, whose culture was positive, later went through a typical attack of diphtheria, followed by paralysis of the soft palate. No other case resulted in this group.

House Infection G.—A little girl, G. R., was absent from school the week of Nov. 11, 1904, on account of sore throat, but received no medical attention. A child living next door also had sore throat. On November 22 J. R.'s two sisters, F. R. and H. R., developed diphtheria. A brother, P. R., who had left the house on November 24, was taken sick with the disease four days later.

House Infection H.—A girl working in a candy factory contracted diphtheria. Shortly afterward the daughter of the forelady of the sick girl was also stricken with the disease. A culture taken of the forelady proved positive. Although the latter was perfectly healthy and gargled assiduously, the next eight cultures were still positive, the daughter having recovered and been free from germs two weeks before the mother was bacteriologically clean.

House Infection I.—Sept. 7, 1904, a boy contracted diphtheria. Two sisters were immediately sent from the house, but continued attending school. The throats of both were examined visually and bacteriologically September 19. One was normal in every way. The other had no subjective symptoms, but presented greatly enlarged and reddened tonsils and gave positive cultures for twenty-two days.

House Infection J.—The mother and the sister, both healthy, of a diphtheria patient were examined for the Klebs-Löffler bacilli, which were found present in both persons.

House Infection K.—Cultures were taken of the nother and two brothers of a diphtheria patient. One rother was infected, the others were not. All were ealthy.

LATENT DIPHTHERIA IN PRIVATE FAMILIES

The healthy brother of a person with latent diph- heria was found to be harboring the germs. Cultures aken of two healthy sisters of a person with latent liphtheria both proved negative.

SCHOOL CONTACTS

A girl, J. R., probably convalescent from latent diph- heria (see House Infection G) was in school from Nov. 1 to 23, 1904. Her sister, F. R., who developed typical iphtheria November 22, had been in school that same ay. All the children in the same classes with these irls were examined by the medical inspector and cul- ures were taken of all those that exhibited reddened uces or enlarged tonsils. Of the seven cultures taken J. R.'s class all were negative. Twelve of F. R.'s assmates were examined bacteriologically; only one as found infected. Four children from other classes sted at the same time were all found to be free from rms.

BISMUTH PASTE IN THE TREATMENT OF SUPPURATION OF THE EAR, NOSE AND THROAT

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The use of bismuth paste in general surgery has been followed with such excellent results that, except for the fact that the nose and middle ear and their accessory cavities are non-collapsible and lined with mucous membrane, one might reasonably expect equally good results in the treatment of chronic suppurations of the nose, throat and ear. Nevertheless, my results have been so satisfactory and encouraging that I desire to present my efforts to the profession.

I began to employ the paste shortly after Dr. Emil Beck noticed cures in his cases of chronic suppurative fistulas and abscess cavities; that is, about one year ago. During this period I have treated 319 cases, which are classified in the accompanying tables, and the results of treatment noted.

Judging from the manifold varieties of pathologic conditions in which I employed the paste, one may be led to believe that my enthusiasm has carried me too far, and that I am trying to apply the bismuth paste as a panacea for all ills. I acknowledge that I am enthusiastic, but I have never employed a treatment with as much satisfaction as this one.

It will be well to define beforehand what is meant by a cure of a chronic suppuration of the accessory cavities of the nose and ear. To my mind, when the cavities have stopped discharging pus, the mucous membrane appears healthy and the functions of smell, taste and hearing return, as well as the symptoms of pressure and obstruction disappear, one may accept that as a cure. We all know that perfect resolution is not to be expected, owing to some fixed changes and destructions, as necroses, adhesions and atrophies.

I have taken radiograms in some of the cases showing the frontal sinus, ethmoid, antrum and sphenoid before and after being injected, in order to determine how long the bismuth will remain in the cavities, but came to no definite conclusion.

TECHNIC

The principal point in the technic is to be able to reach the very depth and every part of the infected area. The necessary equipment consists of four varieties of the paste and the syringes, with various-shaped tips and canulas (Fig. 1).

PASTE 1

Bismuth subnitrate	33
Vaselin	67

PASTE 2

Bismuth subnitrate	30
Vaselin	60
White wax	5
Paraffin, melt 120°	5

PASTE 3

Bismuth subnitrate	30
Vaselin	50
Paraffin	10
White wax	10

PASTE 4

Bismuth subnitrate	30
Vaselin	35
Paraffin	25
White wax	10

The paraffin and white wax are added for the purpose of obtaining more firm preparations, when so specially indicated.

Paste 1 is used principally in the localities where one wishes to cover rather than to distend, and I have used it as a local treatment in the nasal mucous membrane in hypertrophic rhinitis, and have given it to the patient in the collapsible tube.

Paste 2 I have employed universally, and shall do so for all the conditions except in the filling up of the defect of the simple mastoid operation, when Paste 3 is used. This is also employed as a dressing for the septum and turbinated operations and again as the primary dressing of the radical mastoid (plastic).

Paste 4 is used only in the radical frontal sinus operation to act like a plug.

Description.	Cases.	Bilateral.	Unilateral.	Cured.	Improved.	Not Improved.	Discont. Treat'm.
SERIES I. NASAL ACCESSORY SINUSES INJECTED WITH BISMUTH PASTE							
Chronic suppuration of the accessory sinuses not operated on. Bismuth paste injected in the region of the openings	43	19	24	2	10	27	4
Chronic suppuration of the frontal sinus, ethmoidal cells, antrum of Highmore and sphenoidal sinus in which a middle turbinectomy and ethmoidal exenteration had been performed. Bismuth paste injected	4	3	1	1	3*	..	..
Chronic suppuration of frontal sinus, anterior ethmoidal cells and antrum of Highmore in which a middle turbinectomy and ethmoidal exenteration had been performed. Bismuth paste injected	20	14	6	8	9*	1**	2
Chronic suppuration of frontal sinus and anterior ethmoidal cells in which a middle turbinectomy and ethmoidal exenteration had been performed. Bismuth paste injected	9	5	4	2	6*	..	1
Chronic suppuration of antrum of Highmore of dental origin and nasal origin. Primary puncture at inferior meatus. Bismuth paste injection	4	1	3	4	..	..	..
SERIES II. INTRANASAL CONDITIONS							
Atrophic rhinitis. Bismuth paste injected	5	4	1	4	1*	..	..
Luetic ozena. Bismuth paste injected	2	2	..	..	2*	..	..
Pseudomembranous rhinitis. Bismuth paste injected	1	1	..	1	..	..	..
Maggot infection. Bismuth paste injected	1	1	..	1	..	..	..
Suppuration associated with and following removal of foreign bodies from the nose. Bismuth paste injected	1	..	1	1	..	..	..
Tuberculous vestibulitis. Bismuth paste injected	1	..	1	1	..	..	..
Middle turbinectomy in non-suppurative condition. Bismuth paste injected as dressing	19	12	7	Checks bleeding, no suppuration, nor odor, no granulation or synechia foi.			
Inferior turbinectomy. Bismuth paste injected as dressing	14	14	..				
Submucous resection of the septum. Bismuth paste injected as dressing—bilateral	42	No bleeding, granulation or crust formation.					
Hypertrophic rhinitis, principally of inferior turbinated body. Bismuth paste injected	42	42	..	0	30	6	6
Ulceration of the septum. Bismuth paste injected	6	2	4	2	4	..	..
Suppurative dacryocystitis. Bismuth paste injected	3	..	3	3	..	..	..
SERIES III. MASTOIDS AND EAR							
Otitis, external, furunculosa. Bismuth paste injected	4	1	3	4	..	..	..
Otitis externa eczematosa. Bismuth paste injected	2	1	1	2	..	..	..
Chronic otitis media suppurativa. Bismuth paste injected either through external auditory canal or Eustachian tube	30	12	18	12	6	4	6†
Chronic suppuration following the semiradical (Heath) mastoid operation. Bismuth paste injected	4	..	4	2	1	1	..
Chronic suppuration after radical mastoid operation. Bismuth paste injected	8	1	7	1	5	2	..
Scale formation. Bismuth paste injected	3	2	1	3	..	..	..
Acute mastoid operation. Filling defect with Bismuth paste and complete immediate suture	7	..	7	7	..	..	..
Semiradical mastoid operation. Bismuth paste injected instead of inflation as a subsequent dressing	3	..	3	1	2*	..	..
Radical mastoid operation. Bismuth paste used as a dressing instead of gauze packing and drainage	9	1	8	8	1*	..	..
SERIES IV. TONSILLAR AFFECTIONS							
Peritonsillar abscess: small incision and injection of Bismuth paste	3	1	2	No other return of abscess for one year.			
Chronic lacunar tonsillitis and supratonsillar infection. Bismuth paste injected	29	8	21	5	20	2	2
Summary	319						

* Still under treatment.

** Operated on by external method.

† Besides 2 operated on.

It is very important to have the preparation of the paste correct, and these are the directions we have followed: To either yellow or white vaselin, sterilized by boiling, then taken off the flame, the bismuth is gradually added and thoroughly stirred. In Pastes 2, 3 and 4 the wax and paraffin are added in their proper proportions. The syringes are filled while the paste is in the warm and liquid state.

The syringe (Fig. 1) is an essential element in the carrying out of the proper treatment, for until the syringe was perfected the results were not as satisfactory. It is a powerful instrument that works on the thread principle. The flexible tube is essential and requires to be metal, inasmuch as the rubber distends and soon breaks.

It is well to keep the syringes in a place not too cold or too warm, as the consistency of the paste is affected by the temperature.

The technic in the special pathologic conditions mentioned will suggest itself to any one and is easy of execution by those who are accustomed to treat these cavities. I only wish to mention some points that have appeared to me as being different from the usual technic. Cocainizing in hypersensitive individuals is at times necessary.

In atrophic rhinitis, ozena, nasal dressing after turbinectomies, septum operations, and other conditions in which one desires to fill the nasal cavities completely, one can occlude the posterior choana by placing one finger postnasally in it, or by using a postnasal tampon until the cavity is filled and then removing the tampon. I have, however, discontinued the use of these devices and simply instruct the patients to close off the nasopharynx from the oropharynx by repeating the letter K while I am injecting.

Some of the paste may pass into the postnasal space and drop into the mouth, but sufficient usually remains to do the work. In the injection of the antrum of Highmore one must pack firmly the middle meatus, particularly the nasofrontal duct, in order that the paste may not escape at this point. If there be more than one opening, for instance, in cases of patients previously operated on, with persistence of an opening in the inferior meatus or canine fossa, then one of these openings must also be blocked, for the same reason. These packings are, of course, removed following the injections. In the frontal sinus, ethmoidal region, antrum and sphenoid injections, the general nasal cavity is always thoroughly filled in addition, in order to retain the paste in the cavities and also to affect the mucosa of the general nasal cavity.

The patient is to be placed in the best position to retain the paste while being injected, generally the semi-reclining position.

In the treatment of chronic suppuration of the ear one will necessarily determine the size of the perforation and the presence of a fistula of the labyrinth before injection. A pin-point perforation will not permit free drainage or the easy flow of the paste into the attic and beyond it. The injection of a fistula of the labyrinth may be followed by severe symptoms of irritation. I have employed the paste in both of these conditions and have encountered such difficulties.

In the application of the paste following the radical operation of the mastoid, one will complete the technic in the same way as if he were going to pack with gauze. Just before filling the cavities created by the complete exenteration, the assistant is instructed to press a pad of gauze firmly over the posterior sutured incision, in order not to permit the paste to get under the skin and through the stitches in the incision. This should be done also at the next two subsequent dressings until firm union has taken place.

How often to inject is a matter to be determined by the pathologic conditions and symptoms present. As a general proposition, however, I have reinjected daily until the patient was well or so much improved that less frequent treatments were warranted. Suppurations of the nasal accessory cavities require more frequent injections and much longer time for treatment. In the cases of ear suppuration, in which the discharge stopped, it stopped very soon, and the ear did not have to be reinjected as often. This is accounted for by the fact that the paste was retained better than in the nose and some of the sinuses. The antrum and sphenoid retain the paste longer and better than the frontal and ethmoidal regions.

The good results ascribed to the use of the bismuth paste in this special field are very likely due to several causes. Dr. Emil Beck, in his recent article, read before the International Congress on Tuberculosis, says, in abstract:

> Many factors undoubtedly contribute to the healing process, but I am convinced that the bactericidal effect of the bismuth subnitrate is the most prominent one. In nearly every case treated we have noted that the injections are followed by the gradual diminution and final disappearance of the micro-organisms. Tubercle bacilli are no exception. This fact was discovered in a case of tuberculous empyema, and corroborated by another typical case. Whether the bismuth subnitrate destroys the bacilli by its chemical action or whether it exerts a chemotactic power has not yet been definitely determined. I am inclined to believe the latter to be the case. The fact that the number of tubercle bacilli at first increase in number, and are found mostly in the interior of the leucocytes, while before the injections were started they were very scanty and mostly extraleucocytic, supports the chemotactic theory.

My own belief is that in the first place either the bismuth or the nitrate, coming in contact with the tissues, produces such a change in the inflammatory cells and leucocytes of the infected area that they are enabled slowly to destroy the vegetable organisms. When these are destroyed, then the process undergoes resolution, providing that there be not present some foreign body, as a sequestrum or necrosis.

Again, by filling up the cavity, the paste prevents the accumulation of fluid and the ingress of air, which may carry micro-organisms. Or the uniform pressure exerted on the tissues under moderate distention may act beneficially. It can be used as a framework to obliterate a cavity only in the cases of acute mastoid operation or following the radical frontal sinus operation, as shown in my cases.

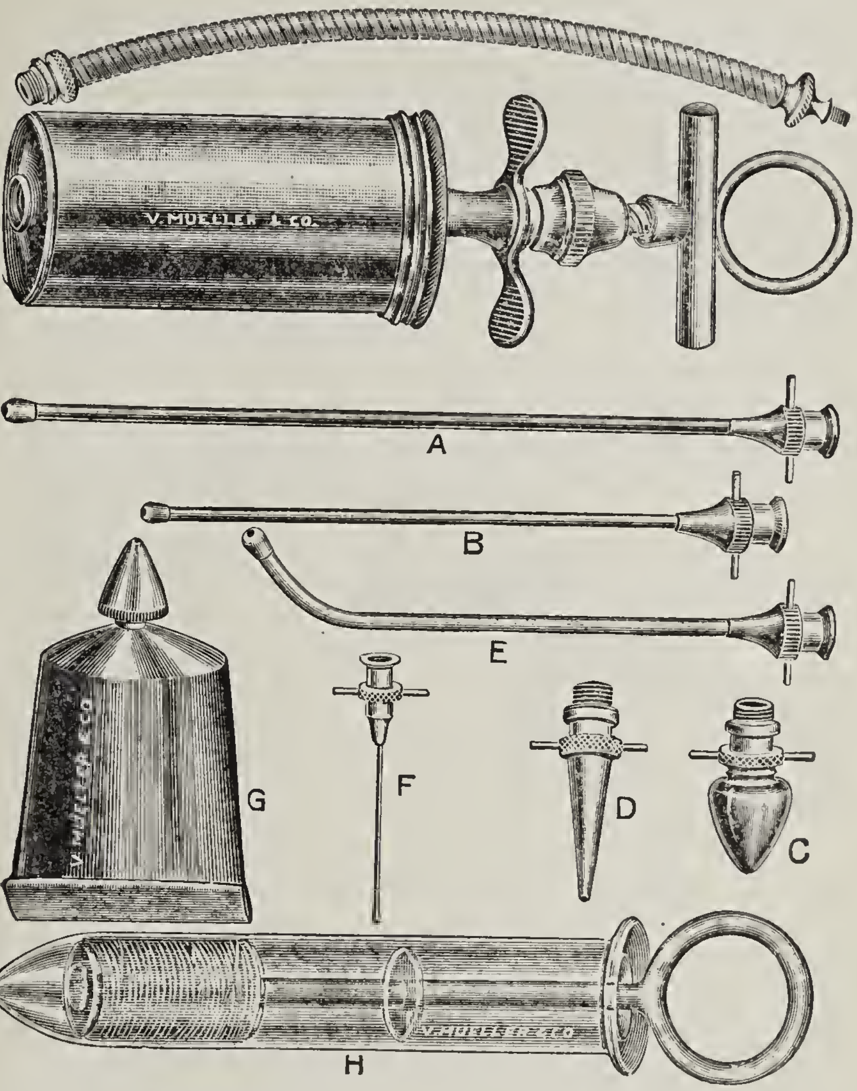

Fig. 1.—Metal syringe for use in injecting bismuth paste into the ear, nose and throat.

Tip A.—A silver canula that can be bent to suit each individual case and is used in the injections of the various sinuses after their openings have been made accessible.

Tip B.—A finer silver canula, which is used for injection into the regions of the nasofrontal duct, sphenoidal sinus region, and the upper, narrowest portions of the nasal cavity; that is, before any operation is done; also into the tonsillar crypts, supratonsillar fossæ, and into the incised peritonsillar abscess cavity.

Tip C.—An olive-shaped tip for injecting the ear paste into the perforations and beyond, even through the tube into the nasopharynx.

Tip D.—Fits into a Eustachian catheter, and is used for injecting the tube and middle ear by the nasopharyngeal route. It is also used to fill up the cavity of the mastoid process after the simple operation.

Tip E.—Eustachian catheter with large bulbous end.

Tip F.—Very fine canula for injecting the tear ducts and other fine fistulas.

Collapsible Tube G.—For the patient's own use for home treatment. While the result from its use will be insignificant, because not all the parts can be reached, it is convenient and necessary in some cases. The conical tip is introduced either into the vestibule of the nose or external auditory meatus, and the paste expressed.

Glass Syringe H.—The same that is used for general surgical work; is practically for the use of the paste in injecting the general nasal cavity, and also the ear, after the sinuses, as well as the middle ear have been filled by the metal syringe. After the various operations on the turbinates and septum, this syringe is used with good effect; in other words, for general application, as the dressing for the nose and ear.

Another factor that must be considered is the coating property of the bismuth to the mucous membrane. That bismuth subnitrate has beneficial properties as a nasal dressing I have been convinced for several years, because I have employed it in connection with gauze packing, impregnating the same after intranasal operations, and I am aware that other rhinologists have also made use of it for the same purposes.

As to the effect of the bismuth subnitrate on the general circulation of the body by its absorption, it can scarcely be considered in our line of work, as the quantities used are too small, and with the exception of the acute mastoid and a radical frontal sinus operations are not pent up for absorption.

Definite toxic symptoms arise from the constant absorption of bismuth subnitrate, namely, a black line along the gums, ulceration of the mouth, albumin in the urine and diarrhea. None of these symptoms has occurred in any of my cases, and the reason for it is probably that too small a quantity is used, and in the majority of the conditions there is a constant escape of the paste. This is in marked contradistinction to the use of the paste in general surgery, in which large suppurating cavities, as those in pleural empyema, joint cavities, etc., are enclosed and bismuth subnitrate is constantly being absorbed.

In support of the bactericidal effect of the paste, I have made observations of about 100 smears in my cases, and have found that with a few exceptions the pathogenic micro-organisms disappeared shortly after its use. Whenever the micro-organisms persisted or returned, the results were poor or negative, and more radical surgical treatment was necessary; in other words, the paste did not reach the infected areas or some pathologic process, as a sequestrum or necrosis, was responsible for the failure. This failure occurred particularly in ethmoidal and mastoid suppurations. In the former condition a very thorough exenteration of the multiple cells is necessary before injection.

In two cases of chronic suppuration of the middle ear in which treatment by bismuth injection was given for a long period and finally radical operation performed, I found that the paste reached only as far as the antrum of the mastoid, and not into it. The antrum and mastoid cells were not much filled with granulations and obliterated, and the paste could easily have passed into them. I concluded, therefore, that this failure of penetration to the remote portion of the mastoid was either due to the escape of the paste through the Eustachian tube into the nasopharynx, or, what was more likely, that the presence of the air in the cells did not permit the paste to flow in. In the second case I attempted to close the pharyngeal orifice of the Eustachian tube by means of a bulbous probe during injections, just before operation, and found precisely the same condition as in the first case. The attic, middle ear and its Eustachian orifice, as well as the aditus ad antrum, were thoroughly packed with the paste. In the very near future, in a radical mastoid operation, I shall open the tip of the mastoid alone and inject, in order to prove this point.

EXPERIMENTAL WORK

I wish to put on record the following subjects of experiment at this time. I will report my results subsequently:

1. Injections of nose and its accessory sinuses and middle ear and its accessory cavities on the cadaver.
2. Comparative study of the chemistry of bismuth subnitrate and other bismuth preparations, and their action on bacteria on artificial culture media, in animals and man.
3. Comparative value of bismuth subnitrate in different strengths and combination of the four ingredients in paste form in chronic suppuration of the nose, throat and ear.
4. Comparative value of bismuth subnitrate, zinc stearate and other zinc salts, calcium salts, barium salts, silver salts, mercury salts and other salts in paste form in chronic suppuration of nose, throat and ear.

CONCLUSIONS

1. The anatomic-physiologic conditions of the nose, middle ear and their accessory cavities play an important part in the healing of chronic suppurations, because they are non-collapsible, lined by mucous membrane and the mastoid and ethmoids are multicellular.
2. In the majority of cases of nasal accessory sinus suppurations some slight operation, as puncture or middle turbinectomy, is essential to a cure; that is, in order to enable one to inject the sinuses properly.
3. The middle-ear suppurations respond very readily to the treatment if the disease process is confined to the cavity of the middle ear, attic and aditus ad antrum, and if no necrosis be present; but when the mastoid cells are involved, and necrosis is present, the result will be practically *nil*.
4. The simple mastoid operation for acute mastoiditis is markedly simplified and healing much shortened by the filling up of the created defect.
5. As a dressing in the radical mastoid it is the procedure *par excellence* and produces more rapid epidermization than any other treatment.
6. When a chronic suppurative middle ear treated for some time by the injection of bismuth paste does not get well, this is an indication for operation, either semiradical or radical.
7. As a nasal dressing in turbinectomies and septal operations, bismuth paste has served me better than any other in that it checked the bleeding, prevented infection and decomposition and synechial formation, especially in ethmoidal operations.
8. From the great variety of conditions that I have treated and the large number of injections made, I have never had any serious results or complications. I consider this a very safe procedure. At the same time a thorough knowledge of the pathologic anatomy and diagnosis—in other words, the specialist's technic—is absolutely indispensable in obtaining good results.
9. Not enough time has elapsed to say definitely what the limitation of the bismuth paste treatment is, and to-day I would use it in any case of chronic suppurations of the nose, throat and ear. I wish to state distinctly that I never use it in acute conditions, since I have found out that violent reaction followed its use.
10. Finally, this is not the only treatment that will cure or improve chronic suppuration, aside from surgery. Especially are some of the modern modes of treatment, as vaccine therapy, Bier's suction treatment, and irrigation of the sinuses, of inestimable value, and I have had some excellent results from their use, but not as good as from the bismuth paste.

CASE REPORTS

I shall not report all cases in detail. The tables suffice to illustrate the vital points of the total number, but I wish to call attention to some typical cases of each variety of the disease.

Case 1.—*Patient.*—Miss M., aged 24, several years ago, had a violent attack of grip, with very severe head symptoms. After recovery from the acute trouble she constantly suffered from frontal and occipital headaches, especially in the mornings, and there was a constant discharge from her nose and into her throat on both sides. These conditions persisted, only at times she would have worse head pains and the discharge became more and more offensive, but not so profuse as at first. The smell and taste, as well as the sight, were very much dulled. The gastrointestinal disturbances were quite marked at times.

Examination.—There was mucopurulent discharge from both nostrils, below as well as above the middle turbinated bodies. The mucosa had an angry, red appearance of chronic inflammation. The inferior turbinated bodies were hypertrophied; the postpharyngeal wall glazed, and the epilarynx markedly congested. There was general malnutrition of the body and anemia. Transillumination showed frontal and antral involvement. The *x*-ray showed the whole anterior group involved.

Operation and Treatment.—This began March 10, 1908, with irrigation of the various sinus regions with mild alkaline solution, followed by suction treatment, and local application of argyrol to the nose and throat. There was some improvement after two weeks, but discharge of pus and other symptoms persisted. Bismuth paste 1 injected in the regions of the various openings of the nasal accessory sinuses, and also the whole general nasal cavity, for about two weeks, appeared to improve the condition to some extent. I then removed the whole middle turbinated body on the right side, curetted the ethmoidal region, enlarged the nasofrontal duct by Good's rasp, and opened the sphenoidal opening by the curette sufficiently to enter with the canula of the bismuth syringe. I punctured the antrum at the inferior meatus with Krause trocars. I then injected the frontal, sphenoidal antrum and ethmoidal region, as well as the entire nasal cavity on the right side, but for control I did nothing on the left. I treated this side with irrigation, suction, etc. The patient had practically no bleeding following the operation. The after-treatment consisted in refilling the above-mentioned sinuses and nasal cavity until the discharge stopped and other symptoms improved, which was in about eight weeks. The left side did not improve at this time, and so the same treatment was carried out on the opposite side.

After four months the patient was completely cured.

I had four of this kind of cases with the result given in accompanying tables. Thirty-one cases, differing only in that the suppuration existed in the anterior group of sinuses, as the frontal, ethmoidal and antrum, were treated in the same manner, with results given in the accompanying table.

Case 2.—*Patient.*—Mrs. H., aged 26, for several years had been having trouble with her nose. Large crusts accumulated in both her nostrils, which she would with difficulty expel every morning. An offensive odor was present, with no sense of smell or taste.

Examination.—The patient had been under treatment by the usual method for a long time. The usual picture of atrophic rhinitis was presented. The pharynx was glazed.

Treatment.—Both nasal cavities were filled to distention with bismuth paste 2 every day for two weeks. The postnasal space was closed off by either the finger or temporary introduction of a postnasal tampon. At that time the crusts did not form. The treatment was carried out every other day for another month.

Result.—I then declared the patient cured. I mean that the mucous membrane had a very good appearance, and the crusts did not form. The odor was absent, and the pharynx was not so dry and patient felt well. The sense of smell did not return, but the taste was improved. I gave the patient the collapsible tube, filled with bismuth paste 1, to use at home every evening, to fill her nostrils, and instructed her while doing so to repeat the letter K in order to prevent the paste from falling into the nasopharynx and below.

Case 3.—*Patient.*—Mr. D., aged 27, complained of a nasal obstruction, and constant dropping of mucus into the throat, compelling him to expectorate. This had been present for a long time.

Examination.—Both inferior turbinated bodies were hypertrophied and there was a slightly deviated septum, also a chronic pharyngitis.

Treatment and Operation.—I used bismuth paste 2 for about two months, filling the general nasal cavities to full distention every day, and usually on the following day would find remains of the paste within the nasal cavity. There followed very little change in the hypertrophy, but the mucosa appeared healthier and the nasal discharges less in amount. Patient expressed a sense of improvement. I next performed a partial inferior turbinectomy on both sides, and filled the nasal cavities completely with bismuth paste 3. Practically no bleeding followed. Next morning, as well as the following three days, the nose was refilled with the same paste. On inspection of the wound surface there were neither granulations nor the usual reaction that follows packing or other methods of dressing. In similar cases, if at the time of operation there occurs considerable bleeding, or if the posterior ends are markedly hypertrophied, I employ my concho-angiotribe (Fig. 2), which prevents any hemorrhage. The final result was perfect nasal breathing.

Case 4.—*Patient.*—Mr. McE., complained of unilateral deafness and difficulty in breathing through left side of nose.

Diagnosis.—Deviated bony and cartilaginous septum. Retracted left tympanic membrane.

Operation and Treatment.—I resected submucously the cartilaginous and bony septum by the Killian method. Bringing the flaps in apposition and holding them by a clamp, I filled both nasal cavities to full distention, especially the vestibular regions, using paste 3. This latter procedure was repeated the next day.

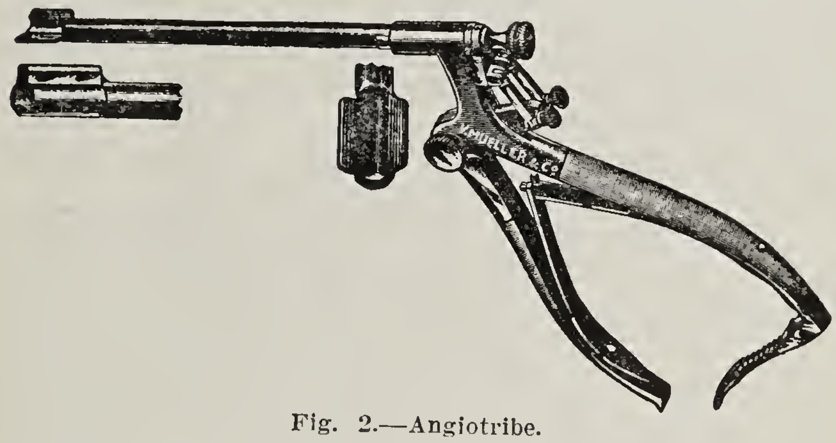

Fig. 2.—Angiotribe.

Result.—On the third day the septum was thoroughly healed and, no evidence of hematoma or infection being present, the result was considered perfect.

Case 5.—*Patient.*—Mr. E., aged 26, complained of severe pains in his left ear, especially when his outer ear was touched, of some dizziness, and of not hearing well with the left ear. He had a running ear since childhood, which stopped for as long a time as one year.

Examination.—This showed marked stenosis and much inflammation of the external auditory canal. There was scanty, foul-smelling discharge, smears of which showed a very short bacillus and staphylococcus; also a number of non-pathogenic micro-organisms, as proved by Petri dish colony culture. The tympanic membrane was perforated at the lower anterior quadrant, the perforation being of the size of a millet seed, the remainder of the tympanic membrane being intact, but very much thickened. Test of hearing showed reduction in the lower tone of about one-half. Bone conduction much increased on that side (the Rinné test was negative). Test of the vestibular apparatus showed same intact by means of the Berany method (hot and cold water). Nasal examination showed a marked deflection of the septum (cartilaginous) to the left.

Diagnosis.—1. Chronic suppuration of the middle ear. 2. Acute exacerbation of chronic external otitis.

Treatment.—This consisted at first of gauze drainage and inflation. Some improvement followed after two weeks. The acute external trouble was promptly relieved by moist dressings of lead acetate solutions. Discharges from the middle ear were examined and still showed the same micro-organisms. Submucous resection of the septum and above treatment, continued for two more weeks, resulted in no improvement, except that the dizziness disappeared. At this time began the use of bismuth paste 1 by means of the Eustachian catheter for one week. Secretions were again examined microscopically. A marked diminution of the micro-organisms was found. I now injected bismuth by way of the tube as well as the external auditory canal, using paste 1 by former method, and paste 2 by the latter method. This treatment was repeated every third day for two weeks. At the time of the injection the patient always complained of dizziness, which, however, disappeared in a few moments afterward, and was explained by the pressure on the labyrinth by the bismuth paste. After this period the paste was thoroughly removed from the canal, as well as through the perforation by the suction method, and inflation, and examined two days later, when I discovered that the ear was dry and that the perforation was closing.

Result.—One week later the perforation closed and the tympanic membrane showed the usual anatomic parts. The hearing is now practically normal and the patient is considered as cured. The patient was seen two months later in the same satisfactory condition.

Case 6.—*Patient.*—Mr. L., aged 38, for many years had been afflicted with a foul-smelling discharge from his left ear, and for the past six months (one and one-half years ago) had been having great pains along side of the head, and at times nausea and vomiting and marked dizziness.

Examination.—A large granuloma practically filled the whole external auditory canal. There was a scanty discharge, the smears of which showed a pneumococcus of Friedlander in almost a pure culture. Temperature every day was about 101 F. Hearing was markedly reduced. There was general anemia and malnutrition.

Operation and Treatment.—The first steps were removal of the polyp which measured a little over one-half an inch; gauze drainage for the next two weeks; repeated cauterization of the stump; silver nitrate and alcohol instillations. The local condition improved considerably; the pain in the head was lessened, and temperature became normal. The discharge was more profuse. The next measure consisted in local instillation of drops and irrigations, with practically no improvement whenever the treatment was discontinued for a day or two. The third step was radical mastoid operation, with gauze packing. The usual uneventful recovery followed, but the discharge, while less in amount, still continued and appeared to come from the region of the posterior semicircular canal. The patient frequently complained of attacks of dizziness. In December, 1907, the patient was subjected to the vaccine therapy by preparing the autogenous vaccine from the aural discharges (pneumococcus). The opsonic index, which at first was very low (0.63), was raised following the third vaccination to nearly 1. But the discharge, while becoming a little less in amount, continued for about two months. When again examined microscopically, it showed the same micro-organisms. On March 1, 1908, I began the treatment by means of bismuth paste 2 by way of the auditory canal under considerable pressure, following which the patient became very dizzy and on attempting to rise would fall to the affected side. Nausea very marked, and nystagmus to the affected side took place. Drs. Hanan Loeb, of St. Louis, and Emil Mayer, of New York, were present at this interesting observation. My diagnosis was that there was an erosion or exposure of the semi-circular canal, and that some of the paste had entered the same. These symptoms, however, subsided after a few hours. I reinjected, though not with as great an amount of pressure, every day for the next two weeks. Then I removed all the paste and after two days re-examined and found that the discharge had changed to one of a more watery character. Microscopic examination showed but few pneumococci. I reinjected every other day for a month, and again repeated the above examination and found that the smear was free from micro-organisms. I reinjected and requested the patient to return a month later, at which time I found the paste in a dried-up state.

Result.—After the removal of the paste the ear healed completely and epidermized. The dizzy spells have also disappeared, but the patient's hearing remains very poor.

Case 7.—*Patient.*—Mrs. O'B., aged 68, for the past six months had had a running right ear, following a cold in the head, in spite of the care of her family physician. About two weeks previous to examination she had another bad cold, followed by pains in the ear and back of the ear, with a swelling extending down the side of the neck, and generally feeling bad. Her hearing had been much impaired within the last two or three weeks.

Examination.—This showed marked swelling over the right mastoid region, especially at the tip and below the tip. The canal was filled with a purulent discharge; there was no odor. The upper posterior canal wall was sagging; tympanic membrane was perforated at the posterior quadrant, the remaining portion being much thickened and congested. Smears of the discharge showed small bacilli and cocci, most probably of an influenza.

Diagnosis.—Acute mastoiditis; exacerbation of a chronic purulent otitis media.

Operation and Treatment.—Under a local anesthetic, subperiosteal, using 2 per cent. cocain, and 1 to 1,000 adrenalin mixture, I performed the simple mastoid exenteration, taking care to preserve the periosteum. The entire mastoid process, including the antrum, was thoroughly exenterated of its granulation. The cavity was made bloodless by an adrenalin pack for a few moments; I then filled the cavity entirely with bismuth paste 3. Four strands of silkworm gut were placed over this mass and allowed to come out at the lower angle of the wound for capillary drainage, and uniting the same completely along its entire extent. A small strip of ear gauze was inserted into the external auditory canal.

Postoperative History.—The patient stood the operation without experiencing the least pain or shock. On the following morning the temperature was normal, and the patient felt perfectly well. The wound was dressed on the third day. The gauze was removed and found to be dry. Examination of the canal showed it to be dry and the perforation closing. Posterior incision appeared angry, red and edematous. There was slight, fatty drainage along the silkworm-gut sutures. The temperature remained normal during the rest of the time. The dressings were repeated daily and showed the redness and swelling at the posterior incision rapidly disappearing, and the silkworm-gut threads were removed on the sixth day and wound closed. The test of hearing showed practically normal hearing. Examination of tympanic membrane showed perforation closed. Six weeks later the patient was still in the same condition.

Case 8.—*Patient.*—Mr., L., aged 34, ever since childhood had had a running ear associated at times with severe pains on the left side of the head. A few years ago, while living in Holland, he had a violent attack of mastoiditis and was advised to be operated on.

Examination.—A very firm body of bony character practically filled the entire external auditory meatus, and was attached to the upper posterior margin. Along the anterior inferior slit a thin cotton wound probe demonstrated a foul-smelling pus, containing few cocci. The hearing was practically *nil*, Rinné was very much shortened and positive.

Operation and Treatment.—Radical mastoid. The hard, bony body proved to be an osteoma. The antrum, aditus and attic were filled up with masses of cholesteotoma, and the remains of the ossicles were necrotic. The mastoid process was sclerotic. The usual technic of a radical mastoid, plastic operation, was performed. The assistant was instructed to hold a pad of gauze firmly over the retro-auricular closed incision on to the bone, and I filled by way of the external auditory meatus the exenterated cavities, attic, aditus ad antrum, antrum and mastoid cells as well as the auditory canal to full distention with bismuth paste 3, thus holding the flaps in position and the assistant preventing the paste from escaping under the periosteum and through the incision. This procedure of refilling with the assistant holding the retroauricular region was performed after two days and after that only once a week for a period of three weeks.

Result.—At the end of this time the paste was removed, and I found the cavity entirely epidermized. The usual large canal, especially in the region of the aditus ad antrum and attic, was wanting, and in its stead was a formation, hard in consistency and possibly of bony character.

In other cases, after similar treatment, this formation was not present to the same degree, but the canal is always smaller in the aditus region than that obtained by means of packing. I am not particularly sorry for that, as the large canal only harbors epithelial masses. This case was an example of the most rapid epidermization I have ever seen.

Case 9.—*Patient.*—Mr. S., referred by Dr. D. for acute mastoid operation, similar to case of Mrs. O'B.

Operation and Treatment.—After thorough exenteration of the mastoid cells, the cavity was filled with gauze and drained for three days, after which the gauze was removed and bismuth paste 3 substituted. Injections were repeated every three days for two weeks; then once a week for three weeks.

Result.—The cavity was healed. This case is an example of more rapid healing, fewer granulations, and less defect than obtained by the usual method of gauze drain.

Case 10.—*Patient.*—Mr. B., aged 49, as long as he could remember, had had a discharge of pus from his left nostril, associated with headaches, especially over the eyes, and difficult breathing through left nostril.

Examination.—This showed marked tenderness over left frontal sinus in contradistinction to the right sinus. Transillumination was positive on the left side. Radiogram showed involvement of left frontal, ethmoidal and antral regions. Examination of the nose showed multiple myxomatous polypi and mucopurulent secretion on left side, the right being free.

Operation and Treatment.—The first steps were removal of the multiple polypi, middle turbinectomy, ethmoid curettement, and puncture of the antrum and inferior meatus, and immediate injection with bismuth paste 2. The entire nasal cavity was daily filled with the same substance. The patient much improved as to his frontal headaches, but after six weeks of this sort of treatment he still had a purulent discharge from the frontal duct. Passage of the canula into the frontal sinus was impossible. A second operation was therefore performed. After local periosteal anesthesia over the left eyebrow a small incision was made down through the periosteum into the bone, and a small opening was trephined, into which the tip of a metal syringe was introduced and the cavity filled to distention with paste 2. By nasal examination observed during injection, the escape of the paste from the nasofrontal duct. This region was firmly packed, the sinus (frontal) injected through the external opening until it returned along the tip. The small incision was closed with one suture.

Result.—The patient made an uneventful recovery and I trust the trouble will not return.

Case 11.—*Patient.*—Mr. P., aged 47, for about one year had been suffering with headaches over the eyes. These pains increased in severity, and since the last two months he had attacks about once a week that were almost unbearable and required the physician's aid, who has given him a hypodermic injection of morphin. The pains were worse in the morning.

Examination.—The eyes were practically negative. In the nose there was no evidence of pus, but a polypoid mass was seen under the anterior end of the middle turbinated body, and this body was crowded towards the septum, especially on the left side. Transillumination and radiograms were positive of frontal sinus involvement of the left side.

Operation and Treatment.—The first step was removal of middle turbinated body and ethmoid curettement. The result was only partial relief from head pains. After waiting for several weeks, I decided to do an external frontal sinus operation, according to my method of osteoplastic flap. I found the left frontal sinus filled with pus and edematous lining membrane. The right was free. The result as to the headaches was good; the patient was free from them, but there developed a retention and discharge at the external canthus end of the incision. After a brief period of time I decided to re-enter the frontal sinus from without and under local anesthesia. I removed the bone flap and completed a modified Killian, not removing the orbital roof or floor of frontal sinus, or performing the usual exenteration of the anterior ethmoidal cells through the nasal process of the superior maxilla. Thoroughly curetting the membranes of the frontals, I filled with bismuth paste 4 and closed completely.

Postoperative History.—The patient made an uneventful recovery; the wound healed within a week, with very little deformity. A subsequent *x*-ray picture seven weeks later shows the bismuth paste still within the cavity. The nose is in good condition, and healing much shorter than when the cavity is allowed to granulate without the introduction of the paste.

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Note.—Because of lack of space, the article is here abbreviated by the omission of some case reports. The complete article appears in the author's reprints.

PROPHYLAXIS AGAINST INFECTIOUS DISEASES FROM THE STANDPOINT OF THE PRACTITIONER *

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Investigations of recent years regarding the transmission of infectious diseases have contributed many facts of profound importance. In their bearing on the point of view that should be adopted by the practitioner they have been especially important, because they have made clearer his powers and his responsibilities. They have, indeed, made more definite and certain the fact, which was always logically evident, that practitioners as a body have more power, and therefore more responsibility, in controlling and ultimately destroying these diseases than have any other persons, even including hygienists and health officers. They have this great power chiefly because, owing to their peculiarly close relations with their patients, they are in a better position than are any other persons to educate the laity into a proper comprehension of what lay relations to infectious diseases should be; and because also practitioners are in command, and in almost all instances they alone are in command, at the critical point, that is, in dealing with the sick themselves when the infection has not yet taken its first step beyond the patient.

NECESSITY OF EDUCATING THE PUBLIC

As to the first of these things that I have mentioned, the power exerted by widely disseminated knowledge is at present so clearly recognized in connection with medical matters, as in connection with others, that it requires no demonstration. One need do no more than refer to the changes that have occurred in connection with tuberculosis. A few years ago the most generally dreaded of all diseases and one of the most hopeless of all problems, tuberculosis has become one of the most encouraging and rational objects of sanitary efforts; and the change has been due principally to the increased knowledge that has been disseminated among the laity regarding the manner of transmission of this disease and the methods of preventing it. We all realize the tremendous influence that education is having in tuberculosis, and we all recognize the profound power that educational measures may exert in all such matters; but it is very striking that we act on this so little as we do in the simpler ways that are open to us in the daily course of our lives. There are some very important diseases that could be controlled much more easily and more extensively under present conditions than can tuberculosis, if the intelligent public had an equal comprehension of what needs to be done in these diseases. There are others that could certainly be controlled quite as easily as tuberculosis, and most of the remainder could at least be held in check and reduced in numbers much more successfully than they can now if they also were attacked by similar educational methods.

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* Read in the Joint Meeting of the Section on Hygiene and Sanitary Science and the Section on Pharmacology and Therapeutics of the American Medical Association at the Fifty-ninth Annual Session, at Chicago, June, 1908.

Yet few of us accept our opportunities to help in doing this. Indeed, many physicians still hold that it is unwise to let the public know much about these things, lest they become unduly fearful and adopt irrational precautions, while many others simply feel that the results of such education are too slight with most human beings to make the effort worth while. Superficially there seems to be some reason in both these objections. Part of the public undoubtedly becomes unduly apprehensive when given a little knowledge regarding matters of this kind, and, unquestionably, with a very large proportion of humanity, teaching has little effect. Yet after all the hysterically apprehensive are a comparatively small fraction of human kind, and not an important one, if tact is used in spreading information; and as to the unreceptive, while they are numerous, they are the very ones that have little influence on the course of the world, and most of them go with the stream, if the current becomes strong enough. The objection that people can not comprehend the meaning of these things is wholly erroneous. If technical knowledge is valuable to the lay public it can always be made comprehensible.

The first thing desirable, to my mind, is a greater dissemination of exact knowledge among the laity regarding the way in which different infections spread, and the methods of preventing this; and this knowledge must come, in large part, not through writings and public meetings, valuable as these are, but through the daily and intimate contact of the practitioner and his patients, and through the acceptance by the practitioner of every opportunity to disseminate simple but correct information regarding these matters. If this is carried out somewhat extensively it will put a stop, I am sure, to a large part of the friction between health boards and practitioners. Much of the difficulty that arises over the intervention of health boards is due to a natural human impulse to rebel when misfortune makes things unpleasant; but a great part of the trouble is due to ignorance, especially to ignorance of the meaning of many of the details that are enforced. A clearer understanding does away with a good deal of the resentment. There will always remain very stupid or very selfish patients, and even doctors. With these force alone will work; but with a somewhat general enlightenment of patients through doctors there will come likewise, on the other hand, a lessening of that not uncommon feeling on the part of health boards that the people they have to deal with have in large part criminal instincts and must be treated accordingly, and there will certainly be a spreading of education among the subordinate officers of health boards in the gentle arts that spring from tact and human kindness. Ignorance in the laity, and tactlessness and thoughtlessness in a few subordinate health officers, are, I think, of about equal influence in producing friction in administering health regulations. A large part of the success of the speaker who is to follow me has been due to his exceptional capacity for carrying out his duties tactfully and without friction.

As to the second reason that the practitioner occupies a position of great power in controlling these diseases, the fact that he guards the critical point in the defense against infections has become apparent through an overwhelming collection of testimony concerning another fact that has long been logically evident, namely, he in a large proportion of instances has the power, by relatively simple means, to limit the infection to the patient, while if it gets beyond that point it may be disseminated so quickly and so widely, and its course may then be so nearly impossible to follow, that it can never subsequently be known that it has been completely destroyed, and it often takes enormous expense and effort to prevent widespread harm. This is, of course, perfectly apparent in connection with the diseases that are highly contagious, and also in connection with those that are freely spread by means of water or food. We have very many records, for example, of the unfortunate instances in which careless management of one case of typhoid fever has caused devastation in a near-by community through infection of the water supply or the milk—all of which could have been prevented by a few simple orders given by the physician and by his seeing that these orders were carried out. But the importance of very exact regulation of the sick in all sorts of serious infections has been strikingly emphasized and illustrated in recent years by a mass of investigation that has become so convincing that, even if in a few details these are not yet quite justified, we should, nevertheless, for safety's sake, make for ourselves two propositions to guide us in some of our most important regulations with the sick.

THE QUESTION OF CONTAGION AN ACADEMIC ONE

The first of these is that the question whether this or that infectious disease is contagious or not is now, at best, an academic rather than a practical one. Some infections can be transmitted to human beings only by going first through some lower animal; but, given the presence of that suitable intermediate host, they may reappear very quickly in those immediately surrounding the patient or in others that are at a distance. All other infectious diseases, so far as we clearly know, may be, and at times are, directly transmitted from one human being to another. Both classes are transmissible, and the question whether they are what we have called contagious or not is now a wholly indefinite one. The practical questions at present are: In what ways is the disease dangerously likely to be transmitted (that is, by ordinary contact, by food or by water, etc.)? How readily is it transmitted directly under ordinary conditions of contact? How readily and in what ways may transmission be prevented?

The question as to the danger need not be answered in connection with the highly contagious diseases. It is too well answered already by years of experience. As to the common infections that were not long ago classed as non-contagious, I may say this: We have grown well accustomed to looking on tuberculosis as having often been directly transmitted, and all the recent observations greatly emphasize this and make the more remote forms of indirect transmission—even street dust—appear much less important than they have seemed. Recently we have been overwhelmed with a great mass of evidence of the importance of contact infection in typhoid fever. So important may this be that controlling it may suffice to control a whole local epidemic, as Koch showed in the investigation that was largely responsible for the recent agitation of this question; and Reed, Vaughan and Shakespeare have shown that contact was chiefly responsible for the terrible extension of this disease among the soldiers during the war with Spain.

As an illustration of the extent and the reality of the danger in this disease I may mention that a careful study of over 200 cases under my care, carried out by Dr. Despard, showed that the history indicated strongly that contact was responsible for over 17 per cent. of them, and that in about 8 per cent. more contact was a highly probable cause: an illustration of the fact that, even when we have an active water infection, as we have had in Philadelphia—and, indeed, because we have such a source of cases—contact is very important in spreading the disease. I have also shown that in some general hospitals the whole group of nurses in the hospital are in from six to nine times the danger of the average citizen, though the latter is largely exposed to water infection and though the morbidity of the citizens in Philadelphia has been dreadfully high. With those nurses who are actually engaged in nursing typhoid fever the danger is unquestionably fifteen to twenty times that of the general public, and possibly more than this.

We now recognize equally well that dysentery may be, and often is, transmitted by ordinary contact; and this fact has repeatedly been of terrible significance in institutions, particularly in institutions for the insane, in which generally reduced resistance, together with a lack of appreciation and observance of ordinary care of the person, has often led to a wide spread of the disease. As to the relation between contact infection and the infectious digestive disorders of infancy and early childhood, every observing practitioner is well acquainted with instances in which these have gone through families of little children; and one can hardly ask for any more emphatic evidence of the seriousness and frequency of this matter than the fact that pediatrists are so afraid of such infections that most of them attempt to get babies out of hospital wards as soon as possible after any acute illness, chiefly because of the danger of infections of this sort. Similar gastrointestinal infections are transmitted among adults at times, though such transmission is less frequent with them than with little children, because their resistance to these infections is greater. If, however, from any cause, their resistance becomes decidedly reduced, there is little doubt that they are frequently and sometimes dangerously infected in this way. From observations that I have recently published I am pretty thoroughly convinced that when groups of cases are being treated together, as occurs in hospitals, the serious abdominal complications of typhoid fever may be, and often are, passed from patient to patient through passing on secondary infections which give rise to the complications.

As to other diseases, I need only mention as illustrations a few facts. Pneumonia is known to be at times directly transmitted, and while most persons appear to be resistant to this disease under ordinary conditions, direct transmission may become exceedingly important when the surrounding persons have become reduced in resistance through illness or bad conditions of life. Pneumococcus infections elsewhere than in the lung, especially in the upper air passages, are undoubtedly a great factor in the continuance and spread of pneumonia, and these are often very readily transmitted. Meningococcus meningitis appears from recent studies to be, contrary to previous ideals, in all probability usually transmitted by human contact. It is now common knowledge and common experience that influenza, tonsillitis, coryza and such conditions are extremely readily acquired by contact. Thus we see that, with varying degrees, in all the common diseases contact infection plays a rôle, in all a rôle of some importance, and in most of these diseases it is increasing in recognized importance constantly, as we learn more of it. Even in a disease that is as yet classed as an infection only by inference, namely, acute anterior poliomyelitis, a very recent statistical study by Holt and Bartlett has shown that the evidence of direct transmission is at least sufficient to make one pause and reflect. We have, then, in the increasing and already great importance of direct transmission of practically all common diseases, very forcible evidence of the necessity for careful and precise regulations with each patient, in order to prevent the spread of any of the serious infections and to limit the milder ones as much as can reasonably be done.

THE IMPORTANCE OF UNRECOGNIZED INFECTION CARRIERS

The second proposition that we should make is that in great numbers of cases and in many diseases it has now been clearly shown that persons who come into contact with infections frequently harbor the germs of the disease for a long time, even though they show none of the ordinary evidences of it, and also that persons apparently long convalescent from infectious diseases often do the same thing; and in this we have a source of infection comparatively recently recognized, a modified form of contagion, so far as symptoms or their absence go, but a very real form of contagion, and a highly important one, in two ways: first, in that it demonstrates a new source of danger and a new thing to be controlled; and, second, in that it goes far to clear up the mystery as to the source of the very numerous cases of infectious disease that could previously be traced to no source, and that could be explained only by a hypothetical distant atmospheric transmission or some such mysterious means. These cases have carried home to us, as nothing else has done before, the importance of contact infection in a multitude of diseases. A quiet sneaking sort of contact infection it is when the person carrying the infection is apparently well, but direct contagion it is, nevertheless.

Such observations are an old and familiar story with diphtheria now. I have myself seen five localized outbreaks of diphtheria in the past four years in which the infection was clearly demonstrated to have been spread about by supposedly healthy or supposedly long convalescent persons, who were actually carrying virulent bacilli. Unquestionably this is an enormously important thing in diphtheria and is the method by which many transmissions of this disease occur. We are likewise familiar with those unfortunates who go about, sometimes even for years, leaving a trail of typhoid fever behind them; and we are approaching the point at which it would appear that pneumonia propagates itself largely in this secretive way. Most persons, in ordinary circumstances, are resistant to the pneumococci that they carry themselves or meet in others, but when in a state of lowered resistance, if they happen to be carrying a virulent strain themselves or come into contact with some one who has such a strain, they fall ill with a pneumococcic infection which may become an actual pneumonia. Thus, the striking fact that most human beings carry pneumococci about with them is no longer a mere curious phenomenon that would seem to lessen the importance of this organism in that disease. On the contrary, when properly comprehended, it becomes a more grave and significant fact than ever before.

With meningococcus meningitis the circumstances appear to be very similar. Observations such as those of Elser and others in this country, and of Ostermann in Europe, make it appear highly probable that the odd way in which this disease spreads is explained: that most persons who are exposed are not susceptible, but that many of them carry the cocci for some time afterward. While only a few sicken in evident relation to other cases, the spread of the disease appears to be usually through contagion, nevertheless; for the cocci may be passed on from one to another, without any one of them knowing this, until finally a susceptible person falls ill. By this time the relation to the original case may be wholly obscure. Any one who, with our present knowledge, does not isolate this horrible disease is dangerously indifferent or dangerously conservative.

A study of those who have unconsciously acted as infection carriers has already marvelously illuminated the whole question of infection and will light up this question still further. Midway between this source of infection and contact with persons who are evidently sick with a recognized disease lie a group of cases that also are growing increasingly numerous and increasingly important, as we come more and more to the point of making our diagnoses in infectious conditions on bacteriologic grounds, rather than on the situation and the character of the symptoms and physical signs—those cases, I mean, in which there is evidently an illness but in which there is not what we have been accustomed to depend on as the clinical picture of a particular infection; cases, however, in which bacteriologic study shows that there is actually a disease which is known to be readily transmissible. These cases are recognized to be highly numerous at present. We are now familiar with the running ears that may spread diphtheria widely, with the fact that an ordinary "cold" due to a virulent strain of pneumococcus occasionally gives someone else a pneumonia, and with many similar occurrences—all pointing toward contact with the sick as a profoundly important source of infection.

All this, brought down to its essence, means that the infected human being is coming daily to occupy a more and more important position, and is approaching a position of supreme importance as the source of infection in others. Even in diseases such as typhoid fever, in which a large proportion of the infections occur through water or milk, this takes place, not because there is some essential dependence of the disease on water or milk, but because these fluids have recently been infected through the imperfect care of a human case, or in a relatively small number of diseases it occurs through infection of these fluids through a case of one of these diseases in animals. The importance of distant infection through the atmosphere or through fomites, rubbish and the like grows correspondingly less as contact grows in importance, though the influence of bad air, dirt and many other such things in reducing resistance to disease remains great. These latter things are, of course, sometimes of direct importance in producing infection, since some pathogenic bacteria can maintain their existence and their virulence outside the animal body for a long time, and most of them can do this for a short time; but the greater proportion of them probably can not do it very long, and hence they are dependent for their continued existence as disease-producers on continued infection of animals; and with human bacterial diseases this usually means that they are dependent chiefly on continued infection of human beings.

All this comes back to the practitioner in its loud insistence on the greatest possible care with the infected sick, if infections are to be stopped at their fountainheads. But in this maze of infections among which we live what is the practitioner to do and what is he to teach? There are many ways in which we are as yet helpless, or somewhat helpless at least. Nevertheless, I think that the thing that we need first of all is to get more thoroughly rid of the centuries-old feeling that these diseases are purely chastisements of Providence and must be borne with resignation, and some of us need this riddance badly. The general trend of the recent investigations that I have sketched, and especially the demonstration of the existence of a large group of infection carriers who are not suspected to be such, unless chance or a somewhat laborious investigation proves it, has, with those of little courage, intensified the feeling of sorrowful resignation. These cases do, indeed, make it appear profoundly true that in the midst of life we are in death; and that with chronic infection carriers particularly we have ordinarily no means of recognizing the danger and, therefore, no means of preventing it — at least when these persons have already become infected—until some unfortunate event directs attention to them. The knowledge of their existence, however, is further evidence of our powers, rather than a source of discouragement, if we direct our efforts properly; and they force our attention more strongly toward the first point in the management of infections, namely, that with any serious infectious disease, and not only with those long known to be contagious, some degree of isolation should be earnestly recommended, and this should be made as complete as is reasonably possible. This will meet with a good deal of opposition, but it is already perfectly feasible with a large proportion of the intelligent public, and every advance that was ever made has met with opposition. With the milder infections, even with acute colds, isolation should be encouraged as much as can be done.

The principal way in which this can be acomplished is, as I have already indicated, in making the laity comprehend the reasons for it, and, as I have just said, a considerable proportion of the intelligent laity already comprehend them fairly well. Isolation may, of course, be modified acording to the disease and according to the manner and the readiness of its transmission; but the chief point is to educate the people into the feeling that those sick with any acute infection should be promptly, and as completely as possible, restricted from any unnecessary contact with others. To many persons this seems an extreme proposition, but its rationality needs no argument. To many others it seems impossible that it should do much good, when so many opportunities for infection must inevitably remain open; when many patients and their families will refuse to carry out any sort of isolation; and when someone must always care for the sick, any way. The proper way to look at the matter, however, it appears to me, is to consider each person exposed as possibly starting an endless chain of infection, the number of links in the chain being possibly doubled, trebled or quadrupled each time it is passed on. We are all familiar with the figures to which such a progression soon mounts. If we restrict intercourse with the sick, we reduce the chances of the starting of such endless chains from five or ten, or more, down to one or two. I have no doubt that, in the apparently narrow sphere of their daily work, a few practitioners can thereby often do as much to prevent disease as a city health officer can usually do in dealing with a whole city; because of the peculiar opportunity in practice to stop the infection before it takes the first critically important step. Much infection must still go on, even if all practitioners make the best efforts possible; but with careful and widespread use of the measures that we have at our command, we can unquestionably reduce greatly the number of cases, and it is only in our dreams that we have thought that infectious diseases would soon be actually stamped out.

In connection, especially with the highly contagious diseases, but also in connection with all serious infections, we need particularly to get rid of the point of view that leads practitioners very commonly to permit a number of persons to have intercourse with the sick, after having explained to them the greater or lesser chances that they may get the disease themselves or may carry it to others. This is practically, with many persons, daring them to face the disease, if they have the courage; and since, in a large proportion of instances, they learn that the chances that they will get the disease themselves, if they are in good health, or have had it before, are small, they very often do have the courage. It is not the province of the laity to decide whether they should do these things. It is the physician's responsibility; and quiet, tactful, but serious advice should be given against any unnecessary contact with any infection, more especially the acute infections. People should be plainly told that, with our present knowledge, we must consider that there is not only more or less danger to themselves, but also that, while the danger to themselves is in most instances slight, the old discussion as to whether this disease or that can be carried from the sick to a third person through an intermediary has been pretty well answered in the affirmative for all the acute infections in which we have any real knowledge of this question. People must be made to realize that unnecessary exposure to any infection is a wrong to the public. It is not a question that affects themselves or their families alone; the question is whether they will help in whatever way they can to lessen the danger from these diseases to the whole public with which they come into contact.

It will again be objected that only the very intelligent will comprehend this; and that only the altruistic will accept this point of view, if they see it. I would again say that the numbers of the intelligent increase with the spread of knowledge, and that the numbers of the altruistic increase by example; and at least many persons adopt altruistic manners and methods through the force of example, even if they do not really enjoy altruism.

The next general principle of which I wish to speak as exemplifying what we should practice and preach is that we should take earnest care to acquaint those who come into contact with the sick, especially those who must be in attendance on them, with the particularly important ways in which they may acquire the especial disease at hand or may pass it on to others; and we should take vigilant care to see that they follow suggestions correctly and conscientiously. The latter is done less frequently than the former. Preventive suggestions are often given; but their effectiveness is a question of accuracy in detail, and anyone who takes the trouble to see in what manner the previously uninstructed carry out these measures after mere verbal instruction or hasty demonstration must appreciate the importance of taking some pains to see that things are done correctly. Even with trained hospital staffs, eternal vigilance is necessary in order to accomplish anything approaching accuracy in these matters; and with those who have previously had neither knowledge nor experience, some hasty directions, once given, will certainly do little good. Unfortunately, even the latter are not given with one-half the regularity that they should be. There seems, even yet, to be vastly less confidence in the value of prevention than in the treatment of the existing disease—in spite of the fact that everyone realizes that we have the power of saving many more lives through the former than through the latter.

As an illustration of the common laxity in this, I may mention that I went carefully into the histories of a large group of hospital cases of typhoid fever, and could not find that in 10 per cent. of them had any definite precautions been taken or suggested, in order to protect the other members of the household; and as a consequence I myself saw among this group of patients, in the course of two years, twelve instances in which from three to five members of families acquired typhoid fever, and almost certainly from the primary cases in their houses.

Only a few days ago I met with another example, when I found a small country community, ordinarily free from typhoid fever, greatly excited over the occurrence of five cases of this disease in one family. There were many speculations as to the source, but the trail of the serpent was plain in this instance. A son had come home sick with typhoid fever from a town constantly infected with that disease. The whole family had assisted at times in nursing him, and even the cook had hovered between the patient and the food that was eaten by the whole family. No instruction had been given at first as to the prevention of the spread of the infection; and the physician in attendance admitted that when the second case occurred and he realized that he was responsible, he deliberately said almost nothing about taking precautions, because he felt that insistence on regulations at that juncture would lead to his being blamed for not having established them earlier. The recording angel has against him, in this instance, one death, many months of illness *in toto* in that family, and very heavy expense to the survivors. This cheerful story is far from representing the great bulk of the profession; but it and the other instances mentioned do show that a great deal more care should be given to detailed instruction regarding preventive measures.

IMPORTANCE OF PERSONAL PRECAUTIONS BY PHYSICIANS

Finally, we need to have more faith than many of us have in the real usefulness—the actual necessity, indeed—of adopting with our own persons all the reasonable precautions available against being ourselves carriers of infection. Many physicians seem to think it embarrassing to adopt precautions, and apparently consider that it will make the laity look on them as lacking in courage and fearful of acquiring the disease themselves. It is not courage, but foolhardiness, to expose oneself needlessly to disease; but any who prefer to be foolhardy, may still put a check on themselves by reflecting that these precautions are really less for the physician's own good than for that of the public. A large number of medical men consider these precautions an unnecessary burden, because they can see little evidence that they or others who take but little precaution ever carry disease. This argument can not hold good at the present day. Which one of these men can say, in the light of our present knowledge of chronic infection-carriers, that he has not unconsciously played this rôle himself many times, and perhaps with gravely important results? We are approaching more closely every day to the position of the surgeon and the obstetrician, who are held—and who hold themselves—responsible, if they infect a patient through neglecting to avoid not only what they can clearly see is dangerous, but also what their reason tells them may be dangerous; and who make every effort to eliminate the inconspicuous and comparatively slight sources of infection. These men have had an advantage over medical practitioners in making progress in these matters, because their bad results openly and quickly follow the cause in most instances. Our errors are much more difficult to see and to overcome, because the bad results are somewhat more difficult to prove and even to suspect. Their existence and their importance, however, have now become beyond reasonable question.

One other highly important reason that the practitioner should exercise great care in the protection of his person against infection, in disinfecting exposed parts, and in all such measures, is that he serves as the chief example that the laity have to follow; and if he evidently regards these things as of too little moment to make it worth while to practice them himself, we can not expect the laity to have much faith in the things we teach them and desire them to practice.

The standpoint that I have described is one that requires more time and effort from the practitioner than does the ordinary method of dealing with infection. Nothing that is worth doing, however, can be done without effort. I am convinced that this is the way that those who wish to be in the vanguard must look on the matter, and I am equally sure that it will not be long before the intelligent public will be learning these things pretty generally, as they have already learned the important facts regarding tuberculosis and its prevention and treatment. They will then require of us in other diseases the same advanced attitude that they now know that skillful practitioners should have in tuberculosis. All this must add somewhat to the time and care devoted to infectious cases. I am fully aware that it means some extra tax on the practitioner's strength and patience, but I have touched on some of the matters that I have included, rather than leave them to one of the speakers announced to follow me, to whom they may in some ways seem more properly to belong, because if I preach, I am at least preaching what I myself have to practice, whereas if they alone say these things they might in their positions seem to be preaching only what they would have others practice.

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Gonococcus in Puerperal Fever.—F. B. Gurd, in *Montreal Medical Journal*, states that the gonococcus, either alone or as a primary infecting agent, plays a much more important rôle in the production of puerperal fever than is usually appreciated by most observers.

THE AMOUNT OF INFECTION AND REASONABLE SANITARY STANDARDS *

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It is not generally appreciated that it requires a certain amount of infection to induce disease. While an acute specific disease is the result of a reaction between two living organisms, the host and the parasite, nevertheless, in the vast majority of instances, it requires a certain amount of the infecting principle on the one hand and a certain degree of susceptibility on the other hand, to produce the fever and other constitutional disturbances we call "the disease."

These two factors are more constant than is commonly supposed. All individuals of a given species usually have about the same susceptibility to a particular infection. Exceptional individuals may occasionally show wide variations, some being especially susceptible, others unusually resistant. These exceptions are rare enough and conspicuous enough to emphasize the rule. Thus, almost all persons are about equally susceptible to smallpox, whooping cough, measles, tetanus, mumps, dengue, yellow fever, plague, scarlet fever, and most of the acute specific diseases, provided certain amounts of the infectious principle are actually introduced into the organism, and provided, of course, that they have not had a prior attack, nor been treated by special means to raise their immunity, etc.

It is wonderful how uniformly the lower animals used for experimental purposes in the laboratory react to bacterial poisons. A given amount of tetanus or diphtheria toxins injected into guinea-pigs is followed by such constant results that these animals are a reliable and satisfactory measure of the strength and concentration of these poisons. So constantly and uniformly do the guinea-pigs react in this regard that they serve the purpose of an accurate analytical balance to measure the potency of these toxins and their antibodies.

Animals show also uniform susceptibility when inoculated with the living cultures. Thus, a twenty-four-hour-old culture of plague, glanders, anthrax, streptococcus, etc., may be depended on to produce surprisingly constant and uniform results when injected in definite quantities and under similar conditions into individuals of the same species.

On the other hand, it is well known in every bacteriological laboratory that, no matter how virulent the culture and no matter how susceptible the host, there must be a certain number of micro-organisms present to obtain a positive result. It has been estimated that it requires at least thirty tubercle bacilli in the peritoneal cavity of the guinea-pig to produce tuberculosis. Although many animals are very susceptible to plague, it requires a definite number of plague bacilli to produce the disease. The same is true of diphtheria, tetanus, anthrax, glanders, streptococci and other micro-organisms that are usually classed among the most virulent of the infections. It is especially true of the pyogenic cocci and the pathogenic group of coccobacilli.

On account of the power of bacteria to grow and multiply within the body, the initial amount introduced necessary to bring about the disease can not be weighed and measured in the same sense that the lethal dose of chemical poisons can be determined. While no hard and fast rules can be laid down, it is evident to those who have had experience in this line of experimental work that very susceptible animals may successfully take care of small amounts of infection.

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* Read in the joint session of the Section on Pharmacology and Therapeutics and the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The same constancy does not hold good for all channels of infection. There is probably a wide variation in the amount of the infection necessary to produce disease, when the active principle is taken into the gastro-intestinal tract. Here many conflicting and complicating factors are introduced. Even here there is reason to believe that with such diseases as cholera and typhoid, it is the amount as well as the virulence of the infection that plays an important rôle. There is experimental evidence which teaches us that the ingestion of small amounts of tubercle bacilli by guinea-pigs appears harmless, whereas the ingestion of large amounts of the same culture causes generalized tuberculosis. When, however, micro-organisms are introduced directly into the tissues by any of the various methods commonly used in research work, we find consistent and unvarying results directly proportional to the amount of infection introduced.

Many factors influence the degree of infection, that is, the mildness or severity of a disease. This problem does not at present concern us, for we are now dealing with the fact whether an organism "takes" the disease after "exposure," that is, after the introduction of the virus into the tissues.

General principles teach the lesson that the occasional introduction of amounts of infection too small to induce disease serves a useful purpose by increasing resistance. All our notions of the production of antitoxins and of acquired active immunity are based on the repeated introduction of subminimal lethal doses of the specific virus into the organism. The higher degrees of immunity are induced by living bacteria; lesser degrees are produced by dead bacteria and by their products. There is, therefore, reason to believe that the chance introduction of a few pathogenic bacteria, which contaminate our food and drink, may serve a useful purpose in strengthening our resistance.

So much for the facts. The lesson to be drawn from them is evident. It is not possible, perhaps not always desirable, that our sanitary standards shall in practice reach the plane of laboratory perfection. In our ordinary walks of life we can not surround ourselves with the ideal asepsis reached in the surgical clinic. We must satisfy ourselves with reasonable cleanliness. For drinking purposes we do not need chemically pure water, sterile as that which has been thrice boiled in the test-tube. We do not demand germ-free milk. We ask only clean, fresh, non-infected milk. There must be a similar compromise between chemical and bacteriologic ideals and reasonable standards applying to our every-day food and drink. We know that a plant raised with great care in the greenhouse can not withstand the adverse conditions met by wild stock. It may be necessary for similar reasons to avoid raising a race of "hothouse" men and women. Dispersion and attenuation are the great natural forces which dilute and finally destroy infection. From a practical standpoint these agencies are useful adjuncts and should be reckoned with by the sanitarian, especially in establishing sanitary standards.

Applying these thoughts to a few individual cases, we find that time and experience have demonstrated the efficiency of slow sand filtration for polluted surface waters. While the effluent is not perfect or ideal, it furnishes a reasonably safe and clean water, and the method has been shown by long experience to be useful and trustworthy.

The milk supply of all large cities is a frequent vehicle of infection. By education, inspection and legal control we can improve the quality of this important but often dangerous article of diet. One safeguard, for the time being, however, lies in pasteurization. Pasteurization is not the ideal, but gives us a protection and must, therefore, be considered a reasonable standard.

With certain drugs and foods there can be no compromise; every known safeguard must be employed. Thus, antitoxic serum must be absolutely sterile and free from all contaminations. Vaccine virus must always be free from pathogenic micro-organisms, though it need not necessarily be "aseptic." Organo-therapeutic products and powerful active principles must be as pure and perfect as science knows how to make them. Drugs and chemicals should attain at least to pharmacopeial standards of potency and purity.

We shall always strive to attain perfection, but there is no reason why we should knowingly permit our fellow men to suffer by refusing to avail ourselves of the protection of reasonable, though imperfect, sanitary standards, even though they are not the end and aim of the future.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. EDSALL AND ROSENAU

DR. D. H. BERGEY, Philadelphia: Direct contact in the sick-room, while it is not the factor which leads to the production of widespread epidemics, is, nevertheless, a very important factor in the dissemination of diseases like typhoid fever, dysentery, pneumonia, meningitis, influenza and so on. We can limit this form of dissemination by educational means. The young recent graduate should fully understand his responsibility and disseminate his knowledge to his clientele. We probably have, in the past, either from lack of knowledge or from carelessness, neglected important steps that would have prevented the dissemination of the infectious agents. Provided we were always able to recognize all cases of communicable disease we should be able to control such disease. Unfortunately we encounter atypical cases far more frequently than typical cases. Certain well persons, the so-called carriers of disease, harbor the virulent organisms, and these, because we have not yet learned to recognize them, are probably of greater detriment to the community than are neglected fully developed cases. The work which has been accomplished in the English and German armies in regard to protection against typhoid fever, the protective value of the Haffkin fluids against cholera and against plague, lead us to hope that perhaps to some extent we may use similar measures to limit other infectious diseases. Dr. Rosenau has emphasized the fact that in infection we see the relation of the seed and soil, and while this is true under normal conditions it can not be true with regard to the human individual at all times or else we should see infection occurring far less frequently than it does. We are not all in the condition of the normal laboratory experimental animal. Our vitality is reduced from various causes and it may be that, instead of thirty organisms required to produce infection, all we may need is a single organism. For that reason the base of his argument will fall to a large extent. In regard to the obtaining of pure milk and pure water, we should rely on education in the principles enunciated by Dr. Edsall rather than the employment of the safeguards that Dr. Rosenau seemed to emphasize. For instance, to my mind it is far more desirable to produce a milk that is clean and free from disease-producing bacteria than to safeguard the public health by the pasteurization of milk. If we can eradicate other diseases as we have eradicated malaria and yellow fever, through hygienic meaures which have been discovered, we shall not, as Dr. Rosenau feared, raise up a generation of hothouse individuals, but a race of individuals that we can protect and keep protected by eradicating the cause of these diseases. Finally, if we can so educate the laity and the profession that they will realize the importance of their duty with regard to diseases; so that they will realize that it is the atypical condition that needs more active control; that as long as an individual carries an infectious organism he is a danger to the community, no matter how long we may keep him in isolation; when we reach that point, then we can limit the incidence of communicable diseases.

Dr. J. N. Hurty, Indianapolis, Ind.: At present I despair of doing anything through education with the older people. In my experience as Health Commissioner of Indiana I have spent a great deal of time meeting county commissioners and the controlling authorities of towns and of cities. I have failed to make much impression on them. Their minds are filled with something else than the protection of the public health, and some of them even inquire, "What is there in it for this man that he should give up his time and his efforts to protect our health?" Hence I believe that the only place really to educate the people in the protection of public and individual health is in the schools. All the labor that I have expended with the local governmental authorities has been wasted. In one of our counties a great deal of malaria prevailed. It was not surprising to find that the county contained many little lakes and ponds. On examining the mosquitoes we found anopheles present. That they were infected to some degree was certain. We appeared before the county commissioners, who, by the way, in our state are generally farmers, and told them that the malaria resulted from the presence of mosquitoes. I thought that a good impression had heen made. These men had listened attentively; they looked from one to the other, and the chairman combed his heard and said: "Now do you believe all that stuff?" After all our efforts they put their opinion and conceit and ignorance against the scientists who had investigated the whole matter to the bottom. We can secure change only by educating the children. Go into the schoolroom and tell the same story to the children; tell them what malaria is and what it has done, how it acts, why it was not possible to build the Panama Canal without abolishing malaria, yellow fever, etc. Then, when these children grow up and have command, something will be done. It seems to me that a great deal of disease is acquired in school. The mental and physical man must be made in youth and not afterward. Hence the building of schoolhouses that impose ill health on children is very unpractical, irrational and extravagant. Yet that is going on everywhere. When children whose eyes have been injured by the bad lighting of the schoolroom, or whose spines have been twisted by bad seats, are exhibited to an assembly of older people, the latter are not impressed, and if advised to build sanitary schoolhouses in the name of economy and good business, will probably say at once: "Our taxes are high enough already." So I am driven to the conclusion that unless we can get hygiene taught in the schools, that science will make no progress.

While it is true that when resistance is very low, perhaps one infectious organism may suffice to produce disease, still if we live rationally that condition will rarely happen. I therefore believe that we can rely on the fact that, as Dr. Rosenau has said, a certain number of infecting bacteria are required in order to produce disease. This opens a splendid field; it points to what might be called the new hygiene.

Dr. Joseph H. White, New Orleans: I think that education possibly does more good to the general public than my friend Dr. Hurty thinks. I know that you have to reach the children. In our New Orleans campaign of education, when we wanted every one to understand how yellow fever was propagated, we talked repeatedly to the children in the public schools. We employed for that work some of the best ministers of the city, men who were accustomed to talk to children and who knew how to handle children better than we did. We accomplished an enormous amount of lasting good by this education. You can and must appeal to the adult's pocketbook in every emergency in which diseases is to be fought. There is a logical way to show to the adult population of the community that disease means financial loss, as it invariably, inevitably does. Every man, even the hayseed Dr. Hurty tells us of, though he may not have sense enough to take in sanitary science, has the sense to take in financial loss. Dr. Rosenau's statement that a certain amount of infection was necessary to the propagation of disease is undoubtedly true. It has certainly been borne out in my experience with disease. Otherwise, how would it be possible with the imperfect work to obtain results? None of us are capable of absolutely perfect work, and yet with work done within 75 per cent. to 90 per cent. of perfection you will get the results you seek. All of us have seen direct exposure to contagious diseases without result. What can that mean but what Dr. Rosenau has stated, that it takes a certain percentage of infective material to generate the disease, and that one micro-organism alone does not necessarily propagate disease? His paper is of vast encouragement, it seems to me, to sanitarians in their fight against disease in assuring them they have not an absolute certainty of infection in every place where the organism has been, but that there is some chance of escape, some weakening of the enemy's lines. Otherwise the fight would be hopeless throughout.

Dr. H. M. Bracken, Minneapolis: Contact infection, so far as it relates to typhoid fever especially, is largely overlooked The history of the family one member of which came home ill with the disease and the other members became infected through the neglect of the attending physician, is far too common. Country typhoid fever is largely made up of contact cases, and the sooner this is generally recognized by the laity as well as by the profession the better it will be for all concerned. As to secondary or indirect infection, I think we have probably emphasized this too much in the past. We should place emphasis on the fact that we are to avoid the possibility of such infection rather than to attempt to confine such infection by quarantine. We should teach people how the infection is transmitted and thus prevent their carrying the disease to others. There are two methods used in the effort to educate the public along sanitary lines; one by talks, which do not accomplish much, and the other by practical demonstrations. I do not know how this educational work can be carried on better than by school inspection. If you try to teach a child how infection takes place your efforts may prove of little avail, for the child forgets. If the child is constantly seeing methods employed in school inspection he soon learns that certain diseases are supposed to be transmitted in certain ways, and when he grows up he remembers these things. I look for the time to come when school inspection will be recognized as of more importance in the control of infectious disease than quarantine.

Dr. Samuel McC. Hamill, Philadelphia: The present status of the milk question makes the encouragement of commercial pasteurization questionable; first, because the methods used are wholly unreliable, and, second, because it tends to discourage the rapidly spreading demand for clean milk which has resulted from educating the public. Unfortunately, in the present condition of the market milks we are forced to recommend some form of pasteurization. I am inclined to believe that by the home pasteurization of milk we shall accomplish as much for the protection of the public and do less harm to the clean milk cause than by pasteurization by the present commercial methods. It seems to me that as long as the practitioners of medicine and the departments of health are antagonistic to each other we shall accomplish very little. I happen to come from a city in which such conditions exist. The result is that we accomplish nothing of value. There is no cooperation. The recommendations of the Board of Health encounter antagonism on the part of the medical men and conversely everything proposed by the medical men is antagonized by the Board of Health. Both sides are at fault, but at present I think that the greater blame rests on the members of the profession. Physicians should adopt measures to prevent the transmission of disease through the medium of their own persons. Even now there are many who scoff at the use of a gown. It is not a matter of much difficulty to provide oneself with and wear protecting uniforms, and I can assure any man that he will gain and not lose in the respect in which the public will hold him and that he will be able to go from case to case with a much clearer conscience.

Dr. S. T. Armstrong, New York: Like the last speaker, I question Dr. Rosenau's position on pasteurization. New York City has had an active campaign in favor of pasteurization by certain well-intentioned private individuals, who were able to bring to their aid important advertising interests that made the daily press exploit the subject. The Board of Health has felt that pasteurization would limit and neutralize the work it was doing in the inauguration of proper cleanliness of dairies, so that pasteurization would become a detail for the consumer rather than the purveyor. In the hospitals with which I am connected in New York City I find it possible to secure very good milk by paying for it; it is simply a question of dollars and cents. At the present time the dairymen can not give clean potable milk for the price they receive from the purveyors. If milk with a low bacteria content is to be supplied, methods must be used in the dairy that will necessarily increase production cost; if cleanliness in barns, in cattle, in sterilization of utensils, in uniforms for employes, is demanded more must be paid for the milk. In the public institutions of New York City, to secure milk that will contain a bacterial content of less than 100,000 colonies during May, June, July and August, and less than 60,000 colonies during the other months of the year, we pay 6¾ cents for the summer and fall months and 7 cents during the late fall, winter and first spring months. Hospital officials have told me that if they had to pay such a price for milk it would increase the cost of supplies to the institution by many thousands of dollars a year. They were told that this was undoubtedly true; that they were giving their patients a culture of bacteria while I was trying to give them a food. The municipality should try to get for its citizens a food supply. Our best bacteriologists have informed us that pasteurization improves the milk only temporarily, and that shortly after that process it is a better medium than before; while pediatrists advise us that the nutritive value of such milk is lessened. The weight of evidence among those best qualified to speak is that commercial pasteurization does not meet the situation, and is not a prophylactic measure to restrict communicable diseases. Even in a hospital a member of the house staff will find a case of diphtheria developing in his ward, report it to the board of health, have the patient removed, and do nothing towards the immunization of patients in the vicinity of the one affected, and nothing for the nurse. It was necessary in the municipal hospitals of New York to rule that on the development of a case of diphtheria in a ward all patients and persons exposed were to be immunized by a protective inoculation of diphtheria serum. Hospital administration has a problem that confronts the general practitioner in a patient who has no clinical symptom of diphtheria, although the diphtheria organism is present. The board of health has no special interest in such cases, as, obviously, there is not sufficient accommodation in hospitals for communicable diseases to provide for the patients. The hospital must meet the condition, as far as the individual is concerned, by immunization. The patient should be separated from others in the vicinity by screens. As far as measles and scarlet fever are concerned, though we can not immunize for these, it is hoped that some measures will develop in the future that will afford protection. Whooping cough and chicken-pox are not regarded by the New York Board of Health as diseases to be cared for in hospitals for contagious diseases; consequently, provision must be made for such patients in general hospitals where there must be isolation rooms, as such an institution can take no chance in the matter, whatever be the attitude of the board of health. A physician in private practice would have to follow similar measures. Our tuberculosis patients are all isolated in wards for that disease alone. We have not isolated typhoid fever patients, although the matter has been under advisement.

Dr. Seneca Egbert, Philadelphia, Pa.: I am heartily in accord with what Dr. Hurty and Dr. White have said in regard to the adult. We can appeal directly to the adult, and, as Dr. White has indicated, especially through the pocketbook. I was startled the other day by some figures I saw in the mortality statistics of the U. S. Census Bureau for 1906. In the year mentioned we had over one thousand deaths from typhoid in our city, a death rate of about 70 to 100,000, three times as much as any city with a decent water supply should have, and this in spite of the fact that there is now a good water supply to certain sections of the city with a consequently lower mortality rate from typhoid fever in those sections. The bad water and other agencies causing typhoid practically means a death loss of $5,000,000 and over, an amount that will probably more than pay the interest and maintenance of the new filtering system now being constructed. When we can show to people the immense loss incident to preventable illness and death we shall get results in a sanitary achievement. I do not believe that you can make Butler, Pa., believe now that it is worth while to spend $200,000 for another typhoid epidemic. So far as altruism is concerned, it is not going to cut much figure with the ordinary adult, but if you make him see he is taxed more and that the annual expenses brought on him are increased by these epidemic diseases, he will give some thought to their causes and prevention. We must do a great part of our education in the school. I have remarked before to this Section that the census of 1900 shows that 30 per cent. of the population of this country is under fourteen years of age and almost 50 per cent. under twenty-four. That means that within ten years we can teach directly 50 per cent. of the population. Another ten years gives us 70 per cent. There is an opportunity to do as Dr. White has done in New Orleans, teach the children by word of mouth, by pictures, books and by practical experimental work in the study of the mosquito and the fly, etc. It is easy to catch a common house-fly, to have it walk over a dish of sterilized culture medium and to show two or three days afterward the tracks which the fly made and what they may indicate. A certain amount of the curriculum and of time should be devoted to this kind of training. School children are learning botany and zoology now in the schools. It would be just as easy to have them take up the study of prevention of disease. I believe the daily influence of school inspection by the medical examiner also has a tremendous influence in an educational way, and I venture to say that in Philadelphia there are many school children who are coming under the visitation of the school inspector and the visiting nurse who already know more about hygiene and sanitation than their parents know or ever will know. If we make people appreciate that, although it is practically impossible with a consumptive in the house, for instance, to get absolute disinfection, a relative and practical safety from infection can be achieved, I think it will encourage people. They read and constantly hear that many millions of bacteria are cast off by the consumptive in the day, so that it would seem a hopeless task to attempt to protect themselves against infection. If they realize that it takes a good many bacteria to infect them, as it does, they will have some hope of carrying on the work of disinfection. Every physician should have an abundant supply of circulars on infectious diseases at hand, and when he gets a case he should give a circular to the patient, for this tells him more than the average physician has time to tell him by word of mouth. If that can not be done in every state the physician should have a little slip with instructions regarding the case of infectious diseases and with instructions regarding general disinfection. The whole thing is so easy and practical that it is a wonder that it has not been more thoroughly and extensively practiced by the doctors than it has been. I think that preaching this question of prophylaxis, day in and out, in season and out, will eventually make the public realize the enormous economic loss due to preventable diseases.

Dr. Helen C. Putnam, Providence, R. I.: I have been in a number of cities recently visiting more than a hundred public schools where they have medical inspection. Medical inspection is on its trial both with physicians who are watching for results and with teachers who are watching with hope and with some criticism. Within six months I have been in a city where the medical inspector, when he wanted to examine a child's throat drew his pencil out of his pocket to depress the tongue, and when he examined another throat used the same pencil for the same purpose. I was in another school when a medical inspector wanted to see the condition of adenoids. He examined lightly with the finger on the back of the throat, wiped his finger on his handkerchief and within half an hour examined another throat with the finger, not having washed it meanwhile. Some teachers are sufficiently alive to hygiene to speak of this and of other unfortunate occurrences. This kind of medical inspection is doing harm. This bad work means a great deal, and it is the function of this organization to consider training of medical inspectors. We need, perhaps, training individual physicians in the matter of conscience; but we need very greatly the degree of Doctor of Public Health which shall be given for the satisfactory completion of a course including proper training in the inspection of schools.

Dr. Alexander S. von Mansfelde, Ashland, Neb.: A lesson was taught me on the second day that I was the first health officer of the city of Lincoln, Neb. On the first day I quarantined a man for smallpox and on the second day the man was on the principal street of the town exhibiting himself. I solved the question in this fashion: "You are a deputy sheriff of the county, I believe." "I am." "It is my opinion, sir, that the first lesson an officer should learn is to know how to obey the law himself. When you go home there will be a man with a shotgun watching your door and when you leave it in spite of that shotgun you and your physician will have plenty of time during your lifetime to pick the shot out of your skin and you will have learned well, sir, the lesson which I wish to inculcate in you." He went home and stayed there, you may be sure. I had no more trouble. There is an abundance of instruction on the care of contagious and infectious diseases. What we lack is the execution. I think that medical men should be examined for health officers not as to their brain capacity alone but as to the strength of their backbone. I fully believe in instruction of children in the schools; but how are we taking care of them? How are we as health officers looking out for the coming generation? Don't you know that over this great country of yours measles and whooping cough are not quarantined? Who on this floor but knows that the best breeding-ground for the flora of tuberculosis is the hotbed prepared by whooping cough and measles? You are sowing the seed broadcast, so that your followers in medicine will have a plentiful crop of tuberculosis to take care of as we have now. Why do you do it, I ask you? I have just passed in my city through an epidemic of variola. The moment there is suspicion of any one having come in contact with variola, however remote, he is put into quarantine and he and his family are to be vaccinated. I do not know whether it is fortunate or not, but the people exposed are usually not very plentifully supplied with means. I say: "If you will not be vaccinated you must provide for yourselves. If you will be vaccinated the city will take care of you." It works like a charm every time. The authorities and the people of my city have a standing invitation to ask for my resignation when they will not permit me to teach these lessons. They have not asked me for my resignation the last thirty years.

Dr. Ferd. C. Valentine, New York: Before this learned assemblage it is unnecessary to emphasize the ravages of venereal diseases. All know that 80 per cent. of the women who die of diseases of the reproductive organs die of gonorrhea innocently contracted. Most infections are acquired from husbands who thought themselves cured before marriage. What are the prophylactics thus far offered? Principally education, prayer, periodical examination, suppression of prostitution and personal prophylaxis. Most men when infected with venereal diseases will deplore their ignorance of the dangers of immorality. At other times these dangers do not interest them. Were mankind differently constituted the work of the American Society of Sanitary and Moral Prophylaxis would have had great results. General education, however, does not always make men receptive to instruction on venereal diseases. That such instruction does not reach the educated and intellectual classes is evident in the consultant's waiting room. I would not on this account deprive them of the education. Its results from the nature of things can come only with persistent work after several generations. Prayer as a safeguard has been fervently advocated by my friend, Howard A. Kelly, of Johns Hopkins University, as the only positive prophylactic. Relatively few, however, have the devotional trend, and but few of these are able to find in prayer a protection against the sexual impulse. The third means of prophylaxis that has been much advocated is in the periodical examination of prostitutes. It has proved a failure in the countries in which it has been practised for several centuries. Moreover, the practical benefits must ever be limited to the prostitutes, for certificates of sexual health tend to increase vice by the specious safeguard it pretends to give. Manifestly, it can not in any way exercise influence on the detriment disseminated by clandestine prostitutes. Suppression of prostitution by the strong arm of the law is likely to be even less effective than are the laws against murder and crimes generally. Personal prophylaxis would strike the majority of moral people as abetting lechery. On the other hand, an attempt to advise a man to use protective injections and washings must contend, among other things, with that peculiar mental bent which makes men averse to spending a penny for prevention and willing to spend dollars for cure. These facts, besides many others, which could be cited, do not justify abandoning the infractor of morals to his fate. To do so would be to abondon his wife and children, often to lives which are worse than death. Then arises the practitioner's best work, so to influence each of his patients that before considering marriage he will be in such condition as not to ruin in body and mind the health of the woman who entrusts herself, mentally and physically to him. The manner in which an examination to that end is to be conducted is the subject of a paper to be presented before this Section this afternoon.

Dr. Denslow Lewis, Chicago: I think it safe to say that one great means of prevention is the enforcement of publicity. Those who have followed up the work of the Section on Hygiene for several years past, those who have followed the trend of opinion regarding venereal prophylaxis, will remember that it is less than twenty years ago since the last speaker, Dr. F. C. Valentine, endeavored to refer to gonorrhea and was told: "This is a Christian country and a Christian association, and no such vile thing shall ever be brought before the Christian American Medical Association." At the Boston meeting, when I had the honor to serve as Chairman of the Section on Hygiene, Dr. Prince A. Morrow introduced a resolution to the effect that continence was not injurious to health. The resolution was referred to a committee which has now become the Board of Public Instruction on Medical Subjects. Last year, when serving as the delegate of the Section on Hygiene, I endeavored to get some action on Dr. Morrow's resolution, but it was finally tabled. In other words, the House of Delegates refused to go on record as saying that continence is not injurious to health. This being the case, I think that we should take some firm stand and assert that it is imperative to disseminate a knowledge of the truth. In view of the fact that the Board of Public Instruction on Medical Subjects now hesitates to consider gynecologic subjects and matters pertaining to sexual questions, because this board says in its report, submitted yesterday, that these can best be taken up through circular letters to physicians or by carefully prepared monographs by some first-class authority in the medical profession, it becomes necessary, it seems to me, to insist that every medical man should now come forward and advocate an immediate dissemination of the knowledge we possess. No first-class authority is needed to tell the truth about contagion. No hesitation is justifiable in withholding from the young a knowledge of the truth which may prevent disease and disgrace.

Dr. S. A. Knopf, New York City: One of the preceding speakers prayed that the time might come when all individuals who carry pathogenic micro-organisms in them should be isolated. That would mean the isolation of a good many of us who have the pneumococcus normally or carry the grip bacillus at the time of a grip epidemic. I think it would be wise if that prayer would be limited for the time being so as to include typhoid fever and the more dangerous contagious diseases and not all communicable diseases. Of course, the compulsory hospitalization of cases of measles would be the ideal, but in some communities at epidemic times it would mean a good deal of expense or hardship for the time being. I have had a little experience in educating the public—children and adults—and while I agree heartily with Dr. Hurty on the importance of educating the children I believe also in educating the adult. In New York, thanks to the efforts of Dr. Herman M. Biggs, we have educated the people, and the result has been a reduction of the mortality of tuberculosis of well nigh 40 per cent. That means a good deal. We are also trying to educate the children; we are getting out a catechism on tuberculosis, and we try to educate teachers in the schools. A few practical things are not taught or not taught often enough, which should be mentioned again and again. Grip, tuberculosis and pneumonia, I firmly believe are propagated just as frequently through drop infection as by any other means. I mean by "drop infection" the expulsion of microorganisms through the so-called "dry cough." There is no such thing as a "dry cough." A mirror held before the mouth will reveal that droplets are expelled during the cough. These droplets may contain the bacilli. So one of the first things to teach people who cough, no matter where, is always to hold the hand or handkerchief before the mouth. I am an enthusiast in all things pertaining to bacteriology, serums and vaccines, but we must still always pay attention to overcoming the physiologic poverty of our school children. Teach children to be clean, to breathe deeply often and to love fresh pure air. Tell them to teach this love for cleanliness and fresh air to their parents. I believe we should have no public school without shower baths and a swimming tank. It was my sad experience as attending physician to North Brothers Island to witness, on the day of the Slocum disaster, 400 little bodies taken from the water only a short distance from our island. Three-fourths of these children were drowned because they did not know how to swim. Is it not as important to teach swimming to our boys and girls in the public schools as to the pupils in high schools and colleges?

Col. William C. Gorgas, Ancon, Canal Zone: My experience with transmissible diseases, principally in the last fifteen years, teaches me to look on the sick man as the great transmitter of diseases from place to place. We can see now that it would be impossible for fomites to play much part. My ideas on this subject have been much affected by the radical way in which my views have been changed with regard to malaria and yellow fever. Fifteen years ago there was nothing more certain than that yellow fever was a disease transmitted principally by fomites. I had been educated in that belief, and had worked under that idea. About this time other mosquito-borne diseases were being discussed. I was thrown a great deal with Dr. Finlay, who had been maintaining the theory that yellow fever was transmitted by the mosquito. He then defended his position entirely by argument, but by most ingenious and plausible arguments based on the facts then known connected with the disease. I think, in general, that men who have worked a great deal in health matters, have charge of quarantinable diseases and have been accustomed to executive work, are inclined to be intolerant and to look on the accepted view as the only possible thing. This was our case. Dr. Carter and I were for two or three years with Dr. Finlay on a board whose duties it was to see all cases of yellow fever reported in Havana. I am afraid that we were rather inclined to be short with Dr. Finlay and to treat his idea with scant respect. From our plane of superior knowledge we were much inclined to pull his theory to pieces in a very unmerciful manner. After seeing the experiments on human beings, however, I was obliged at once to accept the theory that yellow fever could be transmitted by the mosquito, and after that I was rapidly forced to believe that, in nature, it was transmitted only in this way. I then had, of course, to drop all belief in the possibility of its transmission through fomites. This radical change in belief naturally made a strong impression on me. As time has gone on I have endeavored to follow up this subject, and I now believe that yellow fever is transmitted only by a sick person going into a community and infecting mosquitoes locally. The only other way of transmitting the disease from place to place would be by carrying infected mosquitoes from one place to another. Infected mosquitoes can be brought from one place to another in a test-tube, or a ship can get infected mosquitoes aboard at one port and carry them to another port, but I believe that actually this is very rare. This experience has affected my views with regard to malaria and other infectious diseases, and I am inclined now to look on the sick person as being the principal means of the transmission of these diseases and to believe that fomites play a very small part in the matter.

Dr. David L. Edsall, Philadelphia: I am much surprised to hear Drs. Egbert and Hurty speak as they did. The education of children is an extremely valuable and important measure, but not a perfect method. One reason is that much of the teaching of physiology and hygiene in the public school is very silly. Teachers must be educated before they can teach children properly. In the second place, a child forgets later on much that he learned in school and needs reiterated instruction throughout his whole early adult life in order to keep him in the right way. I think that we can do a great deal with the adults. The health officers and hygienists are at a considerable disadvantage in dealing with adults, whereas the general practitioner deals with them personally and can accomplish a great deal with many persons, though not with the most ignorant and obstinate. Many can be reached through altruism. We should as far as possible prevent communication with typhoid patients in order to limit the number of infection carriers whom we can't get at.

Dr. M. J. Rosenau, Washington, D. C.: In no sense do I underestimate the importance of obeying the laws of health, of improving the bodily tone and strengthening the vital forces, which are among our chief allies in the battle against infection. Certainly, my conclusions can not be understood as a plea to disregard the aggressive measures which sanitarians must use in their fight against the communicable diseases, and by no means can they be misunderstood as an excuse for carelessness. I fully appreciate the great importance and value of educating the public in public health matters. These matters were not mentioned specifically in my short paper, but that does not mean that I think they should be neglected. I confined myself simply to one single thought, and that is that as a rule it requires a certain amount of infection to produce disease. Tuberculosis should not be taken as an example to illustrate this point, for the reason that the balance between tubercle infection and health is so delicately adjusted that a slight lowering of the vital forces is frequently sufficient to be the determining factor; but in a large majority of diseases, such as measles, smallpox, whooping cough, scarlet fever, yellow fever and many others, an individual may fall victim to the infection, no matter how great his bodily vigor may be, I simply endeavored to make plain certain facts well known in bacteriology. These facts explain certain phenomena frequently observed by sanitarians. The lesson to be drawn is that, by adopting reasonable sanitary standards, we can save life and prevent much sickness while we are waiting for the millenium. There can be no conflict between the admirable views set forth in Dr. Edsall's paper and what I have said in regard to the relation of the amount of infection to reasonable sanitary standards.

Clinical Notes

PRACTICAL MICROMETRY IN THE CLINICAL LABORATORY

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While the medical student of to-day is made thoroughly familiar with the appearance of every microscopic structure, animal, vegetable or mineral, which is of practical importance to him either from the standpoint of diagnosis or otherwise, he is apt to have very little capability to appreciate microscopic magnitudes. We train him to search for various organized structures and to discriminate between objects which are characteristic of some diseased condition and unimportant objects, such as extraneous matter and artifacts, but we teach him very little of the size and nothing of the determination of the size of these microscopic structures. The result of this condition of affairs is seen in the case of objects which differ in size, but resemble each other to a certain extent in shape and general appearance. One is sometimes asked to confirm a diagnosis of *Strongyloides stercoralis* or some other intestinal parasite when the vegetable cells which have been mistaken for entozoan eggs are larger than any fluke-worm egg. Even an approximate determination of size would prevent such mistakes as this.

I have endeavored to devise a means of microscopic measurement which shall be simple, convenient, inexpensive and as accurate as is necessary for the present purpose, with the hope that it will be a definite help to the medical student in a direction in which aid is needed but is difficult to obtain.

The most accurate methods of micrometry, such as the photomicrographic method and the use of a screw micrometer eye-piece, are out of the question here, as is also the use of the camera lucida. The eye-piece micrometer with a fixed scale allows accurate measurements after being calibrated for the microscope, draw-tube reading, nose-piece and objective used, and ought to be a more popular accessory than it is at present. It could be supplied in medical schools along with the microscope which is furnished for the student's use, and would increase the amount invested in the outfit by only about 5 per cent. It does not need to be alternated with an ordinary eye-piece, but may be left permanently in the microscope, as the eye soon learns to ignore the scale when not in use as easily as it overlooks stray air-bubbles in the preparation examined.

A method which requires no additional attachments is the use of an ordinary graduated ruler laid on the table and viewed with one eye while the other observes the microscopic image. The two fields of vision are mentally superimposed, the ruler apparently lying across the image of the object. A scale with the different inches divided into sixths, eighths, tenths, twelfths, sixteenths and twentieths is said to be very convenient.[1] A previous calibration of the ruler by comparison with a stage micrometer, a microscopic scale of hundredths of a millimeter; or a knowledge of the magnifying power of the optical combination used is all that is necessary for making measurements. Aside from the difficulty in placing the ruler close enough to the optical axis of the microscope, however, many persons also find it difficult to keep the convergence of the eyes constant under such conditions, the result being that the two fields of vision shift laterally across each other in an irregular manner.

The method of micrometry which I propose consists essentially in the addition to the microscopic preparation of some insoluble substance which occurs in particles of comparatively uniform dimensions and of suitable size, a width of 25 to 50 microns being preferable for general use.

A large number of objects which suggest themselves for this purpose prove to be unsuitable when tried. Cotton fibers are always at hand, but vary too much in diameter. Starch grains are easily procured and by selecting the variety of starch any one of a considerable range of sizes may be obtained. Unfortunately, the different grains of any given kind of starch show decided variations in diameter. Many objects, such as tapeworm eggs, are of very uniform size, but either are difficult to procure in sufficient quantities or are substances likely to be present in the microscopic preparations examined. A suitable substance must be one which can always be recognized as something extraneous. Yeast cells, lepidoptera scales, molds, diatoms, confervæ, etc., must be rejected for similar reasons.

Two substances which appear more promising are the pharmacopeial lupulin and lycopodium. Each has grains of about the right size, and a perfectly characteristic appearance which could not possibly be mistaken for anything else. Lupulin grains vary in both size and shape after being kept for some time, but the lycopodium grains do not seem to deteriorate on keeping. They are practically uniform in size and are roughly spherical with a tendency to a four-sided flattening into a rounded tetrahedron. The material may be obtained from any drug store and is not apt to be adulterated with other substances. In examining a considerable number of specimens purchased in different localities, I have never seen a grain of pine pollen or any other foreign matter.

In order to obtain a quantitative determination of the variation in size of lycopodium granules, measurements were made, using an eye-piece micrometer, both of different specimens of lycopodium as purchased, and of the same specimen after being kept under different conditions. The figures given here are the last six sets of a series of measurements and represent three different samples, one of them as purchased, the same after being exposed to the air in a thin layer for four months, and after being carried in the pocket in a capsule for four months and for eight months.

32.8 plus or minus .18 micromillimeters.
33.5 plus or minus .21 micromillimeters.
33.6 plus or minus .21 micromillimeters.
32.9 plus or minus .22 micromillimeters.
32.8 plus or minus .23 micromillimeters.
33.4 plus or minus .27 micromillimeters.

The first number in each case is the average of twenty-five measurements of lycopodium grains spread on a glass slide by the method explained below and chosen in such a manner as to avoid any source of "systematic error" which might produce misleading results. The number following the plus-minus sign is the quantity which is known by the rather misleading name of the "probable error," and represents limits in excess and in defect of the average which have been so taken that the probability of another determination falling between these limits is just equal to the probability of its falling beyond them. It indicates the way the individual measurements "scatter" or cluster around the average. The figures given are maximum diameters of a maximum optical section of the lycopodium grain. This is usually from one of the apices of the tetrahedron to the middle of the opposite convex surface. While they undoubtedly show that the variations under different conditions are the result not merely of accidental variations, but of true differences in the size of the grains, they also show that for the present purpose the diameter of the lycopodium grain may be considered as being uniformly one-thirtieth of a millimeter or thirty microns. A few grains are sometimes seen which are perceptibly larger or smaller than the majority, but these are relatively infrequent and are easily detected when several grains are seen in the same field.

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[1] Hayden, Thomas: A Short Notice of a Ready and Simple Mode of Measuring Microscopic Objects. Dublin Quart. Jour. Med. Sc., 1855, xix, 119.

For practical use a few grains are scattered over the preparation to be examined, and any object of interest is compared with a lycopodium grain in its vicinity, an object half as wide measuring 15 microns, one twice as wide, 60 microns, etc. With a little practice one can easily determine whether an object is, for example, nearer 20 microns than 25 microns, or *vice versa*. The lycopodium grains are not always wetted with aqueous fluid, so that in the preparation they are sometimes seen surrounded by a layer of air, but the inconvenience of moistening them with alcohol or otherwise and keeping them in some fluid is not counterbalanced by the slight advantage of having them free from air bubbles.

The dry lycopodium is conveniently kept in a hard gelatin capsule, which is easily carried in the pocket so as to be always at hand when needed. The size known as the Number 1 or five-grain capsule is large enough to be handled without difficulty and not so large as to be liable to accidental crushing. If each capsule is filled about one-third full a hundred capsules will require only two or three drams of lycopodium and the cost of both is negligible.

In furnishing these capsules to a class of students in clinical microscopy, it will be necessary to give a few directions as to the best method of using them. Any attempt at pouring or shaking out a little lycopodium will not only use up an unnecessarily large amount of the material, but will deposit the grains in large, opaque masses in a very irregular manner. The "cap" of the gelatin capsule should be removed and its edge scraped against the edge of the other half of the capsule as they are held just over the microscopic preparation. In this way the thin layer of lycopodium adhering to the inner surface of the cap is shaken out as a fine dust-cloud which does not settle rapidly, but by gentle blowing may be easily sent against the moist preparation and distributed very uniformly over it.

The results of this method of making measurements are very striking. Students who have previously been unable to give even an approximate estimate of the size of an ordinary tube-cast, an echinococcus hooklet, a tapeworm egg, etc., quickly acquire a definite conception of the magnitude of such objects, and it is a very different kind of knowledge from that which results from the mere memorizing of a row of figures.

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MUSTARD PACKS IN TREATMENT OF CAPILLARY BRONCHITIS IN CHILDREN

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NEW YORK

Mustard has been in use as a counter-irritant for many centuries, but it is astonishing how few physicians are acquainted with its excellent properties as a counter-irritant in the treatment of capillary bronchitis and bronchopneumonia in infants and children.

Most doctors content themselves with the use of some patented, odoriferous kaolin or clay paste. These patented pastes have many disadvantages. In the first place, they hinder by their weight free respiratory movement; second, their action is entirely insufficient; third, they may cause a severe dermatitis by blocking up the openings of the sebaceous glands. I am acquainted with one case in which an erysipelas was directly traced to the application of one of these patented pastes.

The value of counter-irritants in the treatment of capillary bronchitis in children has been amply demonstrated. Mustard is one of the simplest and most active of counter-irritants and one to whose efficacy in this condition there is ample testimony. It is especially indicated when such dangerous symptoms as severe dyspnea, asphyxia, cyanosis and great general prostration arise. Up to the present time, when used for this purpose, it has been mostly applied in the form of a paste or a mustard water (Heubner). For the past thirteen years I have been using a method of my own device. Both my colleagues and myself are so convinced of its undoubted efficacy, and the method possesses so many advantages over other methods of counter-irritation, that I feel constrained to publish this method here.

Two hundred and fifty c.c. (half a pint) of water and 250 c.c. of alcohol are mixed in a large bowl; to this is added from 25 to 50 c.c. (1 to 2 fluidounces), depending on the severity of the case, of freshly-prepared spirit of mustard. The spirit of mustard is prepared according to the German Pharmacopeia (the volatile oil is the active principle of mustard):

Oil of mustard	1 part
Pure alcohol	49 parts

A large piece of flannel is well moistened with the mixture and the body of the child wrapped up from the neck to the knees. This moistened flannel is then enveloped in a dry sheet and the child is left in this pack until the skin is bright red, which point is usually reached at the end of fifteen to thirty minutes. The child is then taken out and wrapped and left for another half-hour in a pack moistened with a mixture containing one part of alcohol and two parts of water. At the end of this time the child is wrapped up in a dry sheet. In most cases one well-applied mustard pack will suffice to bring about a permanent improvement. Relapses, however, are of frequent occurrence, whereupon packs are renewed. It is not advisable to apply the pack more than once in twenty-four hours unless the indication is unavoidable. It is advisable that the physician apply the first pack himself, not only to determine the strength to be applied, but also for purposes of instruction to the parents or nurses. The effects of this mustard pack on the child are truly striking. The cyanosis disappears promptly, the dyspnea is relieved, the pulse improves considerably and the mental condition of the patient is notably brighter. The transition from a state bordering on collapse and one which in some instances may even be termed moribund, to a condition in which the clinical picture becomes immediately more roseate, is not, I venture to say, effected so rapidly and satisfactorily by any other therapeutic weapon at our command. Heubner of Berlin explained the beneficial effect of the application of mustard in these severe cases of capillary bronchitis as follows:

The lungs of children who have capillary bronchitis and bronchopneumonia show a very pronounced hyperemia and a dilatation of the blood vessels in the walls of the bronchi. The bronchial tubes themselves are entirely stopped up with secretion. The skin of these patients presents an extreme pallor. The hyperemia of the respiratory tract may be termed an inflammatory stasis of the blood in the lungs. The hyperemia caused by the counter-irritation of the mustard on the skin, therefore, opens up a new territory for the circulation of the blood. Hence, the quantity of circulating blood in the lungs is diminished in a given space of time, the work of the heart is reduced and the rapidity of the circulation of the blood in the lungs increased.

SUMMARY

The advantages of my method of applying the mustard pack in capillary bronchitis and bronchopneumonia of children are as follows:

1. It is surprisingly rapid in effect.
2. Its light weight does not materially hinder respiratory movement.
3. It can be applied without removing the enfeebled patient from the bed.
4. It is inexpensive.
5. It is clean.

224 West Twenty-Fourth Street.

REMEDY FOR THE PAIN OF INSECT BITES

PATRICK MOLONEY, L.R.C.P., L.R.C.S.

CAPE COLONY, SOUTH AFRICA

The bites of mosquitoes and various gnats, the stings of wasps, bees, etc., have often produced a considerable amount of pain and discomfort and even death has resulted as a consequence of such stings in human beings.

No effective remedy, as far as I am aware, has been recommended for the alleviation of the suffering caused by these insects. The flesh about mosquito-bites if irritated or rubbed very often suppurates and a considerable slough comes away.

For some time past I have used iodin crystals in saponated petrolatum, 30 to 40 grains to an ounce. A few drops of this is rubbed over a mosquito-bite with magical effects. I have also rubbed it over parts stung by wasps of various sorts and sizes. The pain of the sting was very quickly relieved. It seems to me it might be used, in addition to other measures, in cases in which one was bitten by a viper.

Therapeutics

PROPRIETARY PREPARATIONS VERSUS THE UNITED STATES PHARMACOPEIA AND NATIONAL FORMULARY PREPARATIONS

The following are criticisms of the exclusive use of the United States Pharmacopeia and National Formulary preparations:

1. If physicians were to confine themselves to these preparations, useful new drugs would never become known, and the medical world and its patients would thus be deprived of valuable remedies.
2. Many of the Pharmacopeia and National Formulary preparations are imperfect in their make-up, and are poor imitations of proprietary preparations.
3. Some products must be ordered by proprietary names, and hence consistency is broken in favor of certain firms.

There is no question that there are a few valuable drugs (not mixtures) that have no recognition in the Pharmacopeia and National Formulary. To avoid this omission, once in five, or perhaps better once in three years, there should be issued an addendum to the Pharmacopeia which should contain drugs found valuable by investigations made by the Committee on Revision of the Pharmacopeia. Drugs so recommended would be considered official and would be incorporated in the next Pharmacopeia. At present the Council on Pharmacy and Chemistry is investigating new drugs and putting its honest stamp of approval or disapproval on each. The value of such investigation and such recommendation is inestimable to the practicing physician.

There is no excuse for a large number of products produced by different firms which differ but slightly, if at all, in their chemical action or in molecular constituency. It would be obviously impossible to recognize all these drugs in the Pharmacopeia. Also if a physician tries several drugs or preparations which differ from each other *in name only,* and then, influenced by the ever-varying behavior of the same drugs with different individuals, reports that one preparation is far ahead, in its favorable action, of all the others, it can readily be seen that such medical reports are grossly deceptive, sometimes prejudiced, and often unwittingly absolutely untrue. This is the reason that one physician declares such and such a silver preparation, for instance, to be far better than all others, a second prefers another preparation of silver, and a third still another. Chemical analysis will show that these preparations are practically alike, and careful clinical investigations, *long enough continued,* will show that each of these preparations acts similarly to the others, provided that the dose of the active ingredient is the same. Likewise, the various iodin combinations which are said "to give no symptoms of iodism" are shown by chemical analyses to contain such small amounts of iodin that they could not give undesirable symptoms. In other words, if as small a dose of potassium or sodium iodid should be given as is represented by the amount of iodid in the recommended dose of the proprietary product, the absence of unpleasant symptoms would be the same.

On the other hand, when a physician uses every proprietary preparation or drug that is presented to him he will very soon, *by the variations in clinical experience and results,* unjustly condemn a splendid preparation offered him by one firm and laud a similar but inferior preparation offered him by some other firm. This is manifestly unjust to the pharmaceutical firm that produces the best preparation. The physician in general practice has no way of determining which of these preparations is the best. Consequently there should be some referee to determine this for him, and the Committe on Revision of the Pharmacopeia should be the court of appeal. In the meanwhile the Council on Pharmacy and Chemistry of the American Medical Association is presenting honest reports of the products offered it for investigation.

It is true that many National Formulary preparations, as well as some of the Pharmacopeial preparations, are imperfect, as, for instance, some of the organic iron preparations. If a physician does not think that he can get the results desired from the simple iron preparations, and wishes to order an organic preparation, an honest druggist should furnish him with the best preparation that can be bought. If the best preparation is made by a certain firm, the druggist should buy that preparation of that firm. It should not be necessary for the physician to specify. To put the druggist on his honor, a physician writing for any preparation that is not readily made by the pharmacist himself should write after the preparation "the best," and the druggist so trusted should furnish the best preparation and charge the patient what he must for the best.

With the splendid laboratory equipments of the large pharmaceutical firms, and with the scientific ability of their chemists, it would seem to be the duty of these firms to prove to the committees revising the National Formulary and Pharmacopeia how much better their preparations of Pharmacopeial and National Formulary combinations are than those now official. The official preparations should then be made according to the formula proved chemically and pharmacally to be the best, and all would be the same, and each druggist could buy of the firm with whom he traded, and the physician ordering that preparation could always expect the same product.

While this suggestion is idealistic and seems to partake of celestial perfection, still it is not only possible, but probable, that sooner or later such conditions will obtain. It resolves itself into the following propositions:

1. Every patient desires the best treatment that he can obtain.
2. Every physician will order the best preparations of drugs of which he has knowledge.
3. Every druggist will fill the prescription with the best preparation called for that he can buy.
4. Every pharmaceutical firm will furnish as good a preparation of the best drugs as can be obtained in any market, and each preparation so furnished will come up to the standard required by the official books, viz.: the United States Pharmacopeia and National Formulary.

The practicing physician is now confronted by two evils. If he specifies a particular make of a preparation in its original package the patient often receives therewith a mass of literature concerning other products made by the same firm and gratuitous instruction not only "how to take" this preparation and of the many things for which it is of value, but also is advised to prevent other conditions or diseases by taking other remedies which this firm produces. Even if the druggist removes this mass of literature and superfluous labels from the package, often the firm's name or the name of the preparation is imprinted in the glass, and to the patient it appears that he has paid perhaps $2.00 for an office visit to get a $1.00 bottle of "patent medicine." If, on the other hand, the physician orders the preparation removed from its original package and transferred to the druggist's bottle, there is the possibility, and it probably occurs not infrequently, that the patient will receive an inferior product substituted for the one ordered. This generally can not be discovered by the physician or the patient and, therefore, can not be prevented. Consequently a prescription calling for "the best" puts the druggist on his honor, and the patient is more likely to receive the best.

The above method of prescribing products difficult of manufacture applies to well-recognized preparations and not to mixtures such as cough, diuretic or hypnotic mixtures. Any ready-made preparation which contains a series of ingredients is simply like ready-made clothing and will fit the individual about as well. In other words, the patient is fitted to such a preparation and not the preparation fitted to the patient. If a physician can not write a prescription that is individualized to his patient, he should not practice medicine, but should instead take steps to prepare himself in this important branch of therapeutics.

If a physician desires to order a proprietary preparation of milk, laxative salt, disinfectant, antiseptic mixture, or cosmetic ointment or powder, he should not write a prescription for it. He should either tell the patient to obtain it, or write the name informally on any piece of paper, or on the back of his prescription blank. If this method is followed there is no prescription to be filled, the patient is not charged for the filling of a prescription, the patient knows that he is obtaining a proprietary article, and does not think that the physician has endeavored to humbug him by writing a formal prescription for something he could have readily obtained without a prescription.

Every physician should be pleased to meet a gentlemanly traveling salesman of a reputable pharmaceutical firm. He may investigate new drugs and elegant preparations, but he should never tolerate the presentation of a mixture which he should be better able to combine for himself to suit his individual patients. If a new drug is offered, synthetic or other, and the physician wishes to try it, he should *order it as the drug* and give it in capsule, powder or solution as he deems advisable. He should *never prescribe a preparation* of this new drug offered by the firm interested, as many times the activity has been accentuated by the addition of some very common and well-known active drug.

It should be repeatedly declared and understood by all that the best therapeutic work can be done only by the perfect cooperation of pharmaceutical firms, dispensing druggists and physicians.

DIVERTICULITIS

Surgeons are directing the attention of the profession to an inflammation of this second, but irregularly placed, "appendix" of the intestine, and it seems now to have been proved that not a few cases of unexplained abdominal pain and some instances of diffuse peritonitis are caused by inflammation of this structure. The symptoms of acute inflammation of Meckel's diverticulum are similar to those of appendicitis, except that the region of primary tenderness and pain is generally in the left abdomen. A diagnosis of localized inflammation in this region would call for the same treatment as that of acute appendicitis, viz.: absolute rest, local ice applications, gentle evacuents of the bowels and a liquid diet. Perhaps enemata other than that of small quantities of warm oil had better not be used.

The symptoms calling for surgical consultation and perhaps immediate operative interference are the same as in appendicitis, viz.: high temperature, rapid pulse, severe pain, a tumor and increasing leucocytosis. Perhaps, like appendicitis, a serious inflammation of this structure could occur without a leucocytosis, hence leucocytosis should be confirmatory and should not necessarily make a decision for or against operation.

Chronic inflammations, more frequently in the region of the sigmoid, probably occur oftener than has yet been noted. Gentle oil injections or small quantities of physiologic saline solution to keep the sigmoid and descending colon free from any stasis of feces would be the proper local treatment. A diet that did not cause intestinal indigestion and intestinal fermentation in the individual case would be the diet indicated. Small but sufficient doses of saline laxatives should be the laxative treatment, if such were needed. If pain and bowel discomfort continued or recurred in the same region of the abdomen, and localized tenderness was found on the patient's moving about and attending to his ordinary duties, operative interference should be considered.

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INDUSTRIAL HYGIENE: A NEGLECTED FIELD

We recently commented on George M. Kober's "Industrial and Personal Hygiene," which may be regarded as one of the first evidences that our country is at last entering on the exploration of what has previously been an almost completely neglected field. Indeed, Dr. Kober was impelled to make the above investigation by the statement of a German hygienist to the effect that the United States alone of all civilized countries could furnish no information on the subject of its industrial accidents and diseases.

It is almost a century since Great Britain and France began the study of dangerous trades and their consequences, and within fifty years most of the European countries had followed their example. There is now in all these countries a more or less complete system of legislation governing the dangerous trades, and all trades are listed as dangerous which are in any way deleterious to the health of the workers. Moreover, legislation follows the development of industry, for from time to time medical commissions are appointed to inquire into the possible dangers of new substances employed in the trades. For instance, a British commission has just reported concerning the poisonous effect experienced by workers in African boxwood, which was introduced into England not long since and is now extensively used in the manufacture of weavers' shuttles. In Germany a careful study has been made of the dangers attending the use of the newer anilin derivatives. France has turned her attention especially to the development of the lead trades and has published reports showing the increase in cases of lead-poisoning due to the enormous growth of the electrical industry. All these countries have periodicals devoted to the subject of industrial hygiene, and at the last meeting of the International Congress of Hygiene in Berlin no less than fifteen papers were presented dealing with the diseases and accidents of the industrial world.

When we turn to our own country the contrast is striking. We have statistics as to the mortality rate in the different trades but almost nothing as to the far more important feature, the morbidity rate. In the case of women wage-earners the uselessness of this one-sided information is strikingly shown, for according to the federal statistics women factory workers have a lower death rate than any other class of society, the truth being, of course, that few women die as factory workers. When death comes most of them have passed into the class of housewives. Nor do the mortality statistics give really accurate information, because the classification of the trades is not sufficiently discriminating. Thus, the men who work at the metal-polishing wheels are listed together with the men in other branches of the metal trades, and therefore the federal figures do not show the enormous death rate from pulmonary disease among these men which is revealed by an examination of the records of the Metal Polishers' Union. In the older countries not only the death rate but the injury to health caused by the trades is made the special object of study and of government control; and here we American physicians fall far behind our European contemporaries. The physicians of Germany, France, Great Britain and Switzerland have grown alert to the close connection between occupation and disease. In this country there is a space on the physician's history sheet for "occupation," but unless the connection is obvious it is too often overlooked. Take the lead trades, for instance. How many of us have any adequate conception of the wide use of lead and its salts in the different trades? In France it has been estimated that lead in some form enters into the manufacture of no less than 111 different articles, and the list includes some of the largest industries in this country, such as the rubber industry, the potteries, the manufacture of electrical appliances and of tinware. To most of us lead-poisoning is suggested only if we see a painter or a printer with wrist-drop or colic, while a French physician will look for arteriosclerosis or lead cachexia if his patient tells him that he is making storage batteries or handling soft rubber, and will suspect chronic lead-poisoning if he has a case of apoplexy in a working man.

There are signs, however, that we are beginning to wake up to a sense of our inferiority in the field of industrial hygiene. Dr. Kober's book is one sign; others are to be found in the work of the State Bureau of Labor and Industrial Statistics of Wisconsin, in the reports already issued by the State Board of Health of Massachusetts, in the appointment of a commission to study the dangers of industry in Illinois, and in the work of various lay investigators such as those employed under the Sage Foundation. The important thing to be emphasized is that in all work of this sort laymen must fall back upon the help of physicians; and they should have this help.

The investigator has inspected, we will say, a factory in which the ventilation is bad and the amount of fluff and dust excessive. He has found large numbers of the employés pale and unhealthy-looking. Unwilling to depend on his own impressions alone, he seeks out the physicians of the neighborhood and inquires as to the diseases most common among the mill hands. While he finds some practitioners who show that they have devoted thought to the connection between occupation and disease, he is likely to find many who have not done so. The latter may not know even in what part of the work their patients are engaged and for what dangers to look. Many will not realize that felt-hat workers handle skins treated with nitrate of mercury; that tin-platers are exposed to sulphuric acid fumes; that arsenical poisoning should be looked for in artificial flower-workers and lead-poisoning in women who stencil enameled signs. It is only by painstaking study of this kind on the part of men engaged in practice among working people and of men in charge of our great dispensaries and public hospitals that the groundwork can be laid for the science of industrial hygiene in the United States. Our problems are different from those of Europe. Machinery is used here far more generally than in the older countries, and in consequence the poisonous trades have been robbed of many of their dangers. "Phossy jaw" (necrosis of the jaw due to phosphorus-poisoning) is practically unknown in our match factories; file-making, which in England is carried on by hand and is one of the worst of the lead trades, is here done by machinery and is comparatively safe. On the other hand, this increased use of machinery is productive of ill as well as of good. Our accident rate is far above that of any other country, and nowhere is work done with such speed. European hygienists have begun to study the effects of overfatigue on the health of the workers, but the "piece-worker" in our factories attains a speed unknown to the workers in the older countries and must suffer a greater degree of fatigue.

More and more is urged the necessity of legislative control of the industries which are dangerous to the health of the workers, but such legislation should not be a mere copy of the laws of Great Britain or of Germany, but should be planned to meet the needs of our own situation; and this can not be done until the conditions of our industrial world have been studied by competent men.

AN OBJECT LESSON IN PUBLIC POLICY AND POLITICAL ACTION

An object lesson of deep significance to legislators, to the medical profession, and to the public in general has just received its finishing touches by the selection of Hon. Theodore E. Burton to succeed Hon. J. B. Foraker as United States senator from Ohio.

The lesson began a number of years ago in the fight to secure a national food and drug law. This measure, designed to secure good food for the well and safe medicines for the sick, was fostered by the American Medical Association. The entire force of its legislative organization, with actual membership in every county and actual influence in every school district in the United States, naturally espoused the cause of the people. On the other side were ranged highly capitalized interests, representing the adulterators of foods, the manufacturers of dangerous and enslaving drugs and the makers of low-grade whiskies.

The favorite method of the opposition was to assume an air of friendliness for the bill while offering amendments that would utterly destroy its force. When the bill was sent to the Senate in February, 1906, these tactics were adopted by Senator Money for the canning interest, Senator Hemenway for the "patent-medicine" interest, and Senator Foraker for the whisky interest, and later in the House by Representative J. H. Southard, from Ohio, for the proprietary medicine interest.

The attitude of these four men in particular was so disingenuous and in such flagrant disregard of the expressed will of the people as manifested by and through the entire medical profession that it amounted to an offense to every physician in the United States. So flagrant and contemptuous, indeed, was the offense that the moral force of the whole medical profession, especially of the states of Mississippi, Indiana and Ohio, was placed in the balance. In this country such a question can be tried out only in the political arena. In consequence, the attention not only of the medical profession, but of the people of those states, was called to the facts. The slow but sure process of molding public opinion by interviews, by heart-to-heart talks between physicians and their patrons, was at once actively inaugurated, and has been as actively maintained during the two years that have since elapsed.

Senator Money retired on account of ill health before the campaign against him could be made effective. The first congressman to feel the chastening rod was Representative Southard, of the Ninth Ohio District, who, under the active opposition of the physicians of his district, was defeated for re-election in 1908. In Indiana, the widespread opposition of physicians was powerless in the presence of machine methods to prevent the nomination of a Republican legislature favorable to Senator Hemenway's return. So Senator Hemenway's legislature itself was not elected, the opposition of the physicians contributing no little to the result.

In Ohio the nearly nine thousand physicians of the state, acting as a unit, in their house-to-house visits during two years, had so far molded public opinion against Senator Foraker that his connection with the Standard Oil Company, shown by Mr. Hearst, was unnecessary to crystallize an antagonistic sentiment. But when the senatorial campaign came on Dr. Charles A. L. Reed, chairman of the Committee on Medical Legislation of the American Medical Association, for the purpose of making the lesson more specific and more sure, himself entered the lists as a candidate for the office. He made a thorough canvass of his state and presented to the people their own cause as represented in still further perfected food and drug legislation, in the establishment of a national department of public health and in the enactment of other social and economic reforms. The proprietary medicine interest threatened to withdraw their advertising from newspapers that recognized his candidacy and in that way deprived the movement of much deserved publicity. Nevertheless, Dr. Reed's canvass was a success as an educational propaganda.

After the selection in caucus of Mr. Burton, who may be set down as an ardent friend of everything that is for the best interests of the public in the way of national legislation, Dr. Reed gave the press a statement, which commenced with the remark that he and his friends were entirely satisfied with the result, and which concluded as follows: "As for me, all I have to say is that three United States Senators and one Ohio Congressman who tried to ruin the pure food and drug bill have now all been eliminated from public life. It is a glorious clean-up. From this time on let no member of either branch of Congress imagine that he can thus disregard the welfare of the people and rely for immunity on the shortness of the American memory, the fancied remoteness of Washington or the relative inaccessibility of the *Congressional Record.*"

DISSOCIATION OF PERSONALITY AS A NEWS STORY

The remarkable case of dissociation of a personality described by Dr. Morton Prince[1] is well known to the medical profession. The subject is one that calls for careful investigation—in the interests of science at the hands of psychologists and neurologists, and in the interest of their potential patients at the hands of the profession at large. It is, however, an altogether different thing to publish the details of such investigations as a spice to whet the appetite for morbid curiosity of a sensation-loving public, as has been done recently by the publication of a story of the newspaper stamp made out of this case by a writer in the *Ladies' Home Journal.* Of course no one can prevent a "story" being made out of the contents of a book that can be purchased through any bookseller. It should be remembered, however, that this book is of a professional character and is of such a price as necessarily to minimize the likelihood of its being widely read outside of the clientèle for which it was written and is suitable. But we trust that the suggestion that the newspaper publication of this lurid story received the sanction of Dr. Prince, as might be inferred from the publication of Dr. Prince's portrait and the statement that it is based partly "on personal interviews with the author," is incorrect.

The determination of the medical profession to endeavor to remove the veil of mystery that from the earliest time has enshrouded medicine from the public at large, by enlightening it concerning the basic facts of medical science, more especially in relation to the prevention and early recognition of disease, can not reasonably be held to include the publication of the most intimate details of the life of a particular patient. The objections to such a course have been well expressed in a contemporary,[2] which, after pointing out that many of the statements are of the kind that would ordinarily not be told even to a close friend, and to the physician only under the conviction that it would go no further, denies utterly the right of the public to hear or to read such statements, and confesses that one's feelings on reading this article as published are much the same as if one were stealthily perusing a personal letter belonging to someone else. Even if it is not wrong, it is emphatically in the worst possible taste. It may be urged that Dr. Prince would hardly have published his book without the consent of the patient, and save in such a form as to preserve the patient's anonymity, and that this by implication justifies the use of the subject matter under the above described circumstances. The *Montreal Medical Journal* pertinently asks whether or not any scientific purpose is thus served. The subject of mental disease — and it may not occur to the public that this woman was insane merely in an extraordinary manner — is so difficult a subject to the best trained alienist that there is frankly no hope of a dabbler ever learning anything about it, and the cause of public education is no more helped by such an article than it would be by a dissertation on the subject of intrauterine deformities.

The fact of having themselves been born might be thought to give the public the right to ask to be enlightened on the latter, but the claim would hardly be allowed by any sane court. On the other hand, the same journal asks: "Can any harm be done by such an article?" and answers in the affirmative. The average American (of the United States or Canada) has of late been paying as much attention to introspection as is good for him or her. It is easily imaginable that many young women, seeing in some degree in their own minds parallels to the case here recited, may thereby have tendencies to hysteria if not to insanity stimulated; on the other hand, they may learn to excuse their acts by the supposition that they are in the grasp of a higher power, namely, the multiple personality. The precedent is in the highest degree dangerous, and we can only hope it will not be followed in the case of other similar sensational stories. There are two kinds of curiosity: that which is the basis of education, and that tending rather to prurience. The latter is already too common to need help from medicine.

DEATH BY ELECTROCUTION

The question of the efficiency of the execution of criminals by electric current is again being agitated in the east. The old claims are being made that the electric current does not destroy life, but that the real execution in these cases is death by postmortem examination, by burial or by some other extraordinary extraneous occurrence. For this reason it has been seriously proposed, according to the newspapers, to attempt to revive electrocuted criminals. One can hardly object to such a test on the ground of humanity, but the fact that electrocution is successful no serious-minded person who has looked into the subject can doubt. The few instances reported of individuals who have recovered after accidental exposure to electric currents of very high voltage are hardly pertinent to the case, and it is known that such accidents are usually fatal in spite of the differences of individual resistance and other conditions that might make the current less certainly deadly. These are properly guarded against in a legally conducted execution and the chances of survival are as remote as they would be after hanging, if, indeed, not more so. Many cases have been reported in which hanging proved ineffective, but how this could happen under modern conditions with physicians to test the efficiency of the method at the time, as is provided for in properly conducted legal executions, is not readily imaginable and still less so in the case of a properly conducted electrocution. Humanitarians who are so desirous to have the criminals, of all men, the ones to die painlessly, have little call to criticise the use of the electric chair.

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[1] Dissociation of a Personality, by M. Prince, New York; Longmans, Greene & Co., 1905; reviewed in THE JOURNAL, Feb. 16, 1907, p. 635.

[2] Montreal Medical Journal, December, 1908.

THE LAST PART OF THE HUMAN HEART TO DIE

Physiologists and clinicians are alike interested in the problem of the portion of the heart responsible for the initiation of its rhythmic impulses. Research in recent years has tended toward the localization of this primary automatic center either in the sinus region or in the great veins behind the sinus. This study in the human heart is complicated somewhat by the fact that the sinus region is not so well separated from the auricle or atrium as it is in the lower animals, on which much of the experimental work has been done. An interesting observation has recently been made by W. Koch.[1] This observer had the opportunity of examining the dying heart of a human fetus and of comparing the phenomena there with the dying process in the rabbit's heart. He finds that the part of the heart which continues to contract longest during the death process is situated, not at the root of the superior vena cava but in the wall of the coronary vein of the heart, a situation which in his opinion belongs embryologically to the sinus venosus. It will be recalled that Tawara, the Japanese investigator who worked with Aschoff, was able to follow the ramifications of the conducting muscle bundle to this region also. If these observations of Koch are confirmed they will strongly support the hypothesis that the sinus is the primary motor center for the human heart as well as for the heart of animals. It may be interesting in this connection to note that actual pathologic lesions have been reported in the sinus region of the heart in patients dying of chronic arrhythmia. Schoenberg[2] has examined about fifty hearts with especial reference to the condition of the junction between the musculature of the atrium and that of the superior vena cava. In five cases in which the arrhythmia was observed carefully during life Schoenberg demonstrated inflammatory changes in the region mentioned. He thinks that his findings are in favor of the theory that the stimuli for the contraction of the human heart originate at this sino-atrial junction.

Medical News

ILLINOIS

Receives Many Patients.—The annual report of Cook County Hospital for the fiscal year 1908 shows that 28,142 patients were admitted to the hospital. At the beginning of the year there were 1,145 patients under treatment, and at the close of the year, 1,322. The daily average number of patients during the year was 1,274, and the average daily cost for each patient was 99 cents.

Cocain Law Upheld.—The new cocain law was declared valid December 16, by the state Supreme Court in the first case referred to it since the act was passed by the legislature. The case at issue was a fine of $500 imposed on Frank and Paul Zito, druggists of Chicago, who were convicted in the lower court of having sold catarrh powder containing cocain. The Zitos contended that the powder was sold by a clerk, but the Supreme Court held the owners responsible. The law holds that cocain must not be sold in "patent medicines" or any form excepting on the prescription of a physician.

Society Meetings.—At the thirty-fifth annual meeting of the North Central Illinois Medical Association, held in Princeton, December 1 and 2, the following officers were elected: President, Dr. James F. Percy, Galesburg; vice-presidents, Drs. Franklin A. Turner, Sandwich, and Alfred E. Owens, Princeton, and secretary-treasurer, Dr. George A. Dicus, Streator.——At the annual meeting of Effingham County Medical Society, held December 8, Dr. Charles F. Burkhardt, Effingham (for the last four years secretary of the society), was elected president; Dr. Frank W. Goodell, Effingham, secretary; Dr. Henry Taphorn, Effingham, treasurer; Dr. George J. L. Haumesser, Shumway, delegate to the state society, and Dr. Joseph B. Walker, Effingham, a member of the medical defense committee.

Chicago

Contagious Diseases.—The contagious disease condition has not varied much in the past week, during which 728 cases were reported, distributed as follows: Scarlet fever, 229; diphtheria, 193; measles, 97; tuberculosis, 65; typhoid fever, 41; chickenpox, 36; pneumonia, 35; whooping-cough, 14; puerperal fever, 3; and minor communicable diseases, 15.

A New Journal.—The latest journalistic applicant for medical favor appears this month in Chicago. Its title is "*Hygiene and Diet, and How to Live.*" It is a monthly periodical devoted to sanitary food, clothing, shelter, and how to prolong life, is edited by Dr. Carl H. von Klein, and published by the Hygiene and Diet Publishing Company of Chicago.

New Sanitarium.—As the result of a year's work on the part of Jewish club women of the city, the Winfield Tuberculosis Sanitarium will soon be opened. The project was made possible by the gift by the president of the association, of a 17-acre tract at Winfield, Ill., on which there is a modern building of 36 rooms, which has been renovated and fitted with ample space for outdoor sleeping quarters.

Down-Town Relief Stations.—Plans are going forward rapidly for opening a series of emergency accident relief stations in the down-town district to be known as the Iroquois Memorial Stations. At the meeting between Health Commissioner Evans and Dr. George J. Tobias, president of the Iroquois Memorial Association, plans were discussed for remodelling the city property at 87 Market Street so that construction on the first station may be begun in May next, and turned over to the city on the sixth anniversary of the Iroquois Theater fire.

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[1] Ueber das Ultimum moriens des menschlichen Herzens: ein Beitrag zur Frage des Sinusgebietes, Beitr. z. path. Anat. u. z. allg. Path., 1907, xlii, 202.

[2] Schoenberg, S.: Ueber Veränderungen im Sinusgebiet des Herzens bei chronischer Arhythmie Frankf. Ztschr., f. Path., 1908, ii, No. 1.

The Death Record.—The total mortality for the week ended January 2 was 615, an increase of 133 over the preceding week, but a decrease of 50 as compared with the corresponding week of last year, the respective annual death rates being 14.41, 11.59 and 16.10 per 1,000. There was a considerable increase in the mortality for chronic diseases, especially nephritis, heart disease and consumption, while the mortality from pneumonia was markedly decreased. There were 80 deaths from pneumonia, 73 from heart disease, 68 from tuberculosis, 66 from nephritis, 39 from violence (including suicide), 32 each from cancer and acute intestinal diseases, 20 from diphtheria, 12 from scarlet fever, 8 from typhoid fever, 2 from influenza, and 1 from whooping-cough.

INDIANA

Society Meetings.—At the annual meeting of Clay County Medical Society, held in Brazil, December 17, the following officers were elected: President, Dr. Samuel G. Hollingsworth, Brazil; vice-president, Dr. Timothy M. Weaver, Staunton; secretary-treasurer, Dr. George W. Finley, Brazil; censors, Drs. T. Roy Cook, Bowling Green; George M. Pell, Carbon; and Harold J. Pierce, Cloverland.——At the annual meeting of Lake County Medical Association, held in Hammond, Dr. Alexander G. Schlicker, East Chicago, was elected president; Dr. William P. Alexander, Gary, vice-president; Dr. Eldridge M. Shanklin, Hammond, secretary-treasurer; Dr. L. Eleanor Scull, Hammond, censor; Dr. William F. Howat, Hammond, delegate to the state society; and Dr. Frederick W. Sauer, Indiana Harbor, alternate.

LOUISIANA

Personal.—The governor has appointed Drs. Andrew S. Reisor, Louis Abramson and James F. O'Leary members of the Shreveport board of health.——Dr. William L. Dickson has been appointed chairman and Drs. John J. Scott, William Dalzell, John Comegys and Thomas P. Lloyd members of the board of trustees of the Charity Hospital, Shreveport.——Dr. C. William Groetsch, New Orleans, has been appointed assistant coroner of Orleans parish, vice Dr. S. Fitzhugh Mioton, retired.——Dr. Willoughby E. Kittridge has been elected president, and Dr. Fulton Rogers, secretary, of the Napoleonville board of health.——Dr. Sidney P. Israel has been appointed surgeon with rank of major, and Drs. Frank J. Kinberger and Clarence P. May, captains and assistant surgeons in the Second Infantry La. N. G.——Dr. Richard O. Simmons, Alexandria, was painfully injured recently in a collision between his buggy and a wagon.——Dr. Lee C. George, Monroe, has been appointed division surgeon of the Iron Mountain-Missouri Pacific Emergency Hospital, Monroe.——Dr. George Rossner, Gretna, has been made president of the board of health of Jefferson parish, vice Dr. C. Milo Brady, New Orleans, appointed inspector of the State Board of Health.

MARYLAND

Baltimore Deaths.—For the week ended January 2, the deaths in Baltimore numbered 218, equivalent to an annual rate of 19.06 per 1,000. Pneumonia caused 32 deaths and consumption 26 during the week.

Banquet to Health Commissioner.—Dr. James Bosley, health commissioner of Baltimore, was tendered a banquet by the physicians and other attachés of the health department, December 29. Dr Thomas Richardson of the quarantine hospital presided as toastmaster.

Writers of Maryland.—In a list of authors prepared for the Baltimore *Sun* by Dr. Bernard C. Steiner, appear the names of six medical men, namely, Dr. Eugene Fauntleroy Cordell, author of the "Medical Annals of Maryland," "Historical Sketch of the University of Maryland," and "The Drs. Gustavus Browns of Lower Maryland"; Dr. Howard Atwood Kelly; Dr. Thomas McCrae, assistant editor of Osler's System of Medicine, and author of a work on "Cancer of the Stomach"; Dr. William Osler, regius professor of medicine at Oxford University; Dr. Leonard K. Hirshberg, author of "How to Feed the Baby," "Medical Fallacies," "Practical Bacteriology," and "Light as a Therapeutic Agent," and Dr. Pearce Kintzing, author of the "Science of Internal Disease" and "Long Life and How to Attain It."

Society Meetings.—At the annual meeting of Talbot County Medical Society, held in Easton, December 6, the following officers were elected: President, Dr. Charles H. Rose, Cordova; vice-presidents, Drs. Charles F. Davidson, Easton, and William S. Seymour, Trappe; secretary-treasurer, Dr. S. Denny Willson, Easton; censors, Drs. Clifford M. Stelle, Cordova, and Samuel C. Trippe, Royal Oak; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Philip L. Travers, Easton, and alternate, Dr. James A. Stevens, Easton. The society passed a resolution endorsing state care for the insane.——The Medical Club of Washington County, at its annual meeting, held in Hagerstown, elected the following officers: President, Dr. Augustus C. Maisch; vice president, Dr. F. H. Charles; secretary-treasurer, Dr. Samuel M. Wa[illegible]man, and curator, Dr. Luther H. Keller.

MICHIGAN

Society Meetings.—At the annual meeting of Chippewa County Medical Society (including physicians of Chippewa, Luce and Mackinac counties), held in Sault Ste. Marie, December 1, Dr. John J. Griffin, Sault Ste. Marie, was elected president; Dr. Henry E. Perry, Newberry, vice-president; Dr. James Gostannion, Sault Ste. Marie, secretary-treasurer, and Dr. George J. Dickinson, Sault Ste. Marie, delegate to the state society.——The annual meeting of Calhoun County Medical Society was held in Battle Creek, December 1, and the following officers were elected: President, Dr. George B. Gesner, Marshall; vice-president, Dr. Herbert A. Powers, Battle Creek; secretary, Dr. Arthur S. Kimball, Battle Creek; delegates to the state society, Drs. William C. Marsh, Albion, and William H. Riley, Battle Creek, and alternates, Drs. Samuel R. Eaton and M. A. Mortensen, Battle Creek.——Oakland County Medical Society held its annual meeting and banquet in Pontiac, December 2. The following officers were elected: President, Dr. Clark J. Sutherland, Clarkston; vice-president, Dr. Thomas E. McDonald, Holly; secretary-treasurer, Dr. John T. Bird, Clarkston; and censors, Drs. Edmund A. Christian, Nathan B. Colvin and Mason W. Gray, all of Pontiac.——At the annual meeting of Hillsdale County Medical Society, held in Hillsdale November 27, Dr. Silas B. Frankhauser, Hillsdale, was elected president; Dr. Ira J. Stoner, Ransom, vice-president; Dr. W. F. Waller, Frontier, treasurer, and Dr. Burt F. Green, Hillsdale, secretary.——An antituberculosis society was organized in Hillsdale, December 2, with Rev. N. E. Jerome, president; Dr. Walter H. Sawyer, vice-president, and H. C. Blackman, treasurer.——The annual meeting of Muskegon-Oceana County Medical Society was held December 4, in Muskegon. The following officers were elected: Dr. John F. Denslow, Muskegon, president; Dr. John D. Buskirk, Shelby, vice-president; Dr. Vernon A. Chapman, Muskegon, secretary (re-elected); Dr. Jacob Oosting, Muskegon, treasurer; Dr. George S. Williams, Muskegon, trustee; Dr. Frank W. Garber, Muskegon, delegate to the society, and Dr. John D. Buskirk, Shelby, alternate.

MINNESOTA

Personal.—Dr. James E. Moore has been made professor of surgery in the University of Minnesota, Minneapolis.——Dr. T. E. Villiers Appleby, St. Paul, is said to have been paid $175,000 in gold, in settlement of all claims by him against the estate of his late wife.

Asks Quadrupled Appropriation.—The State Board of Health announces that it intends to ask $100,000 to carry on the work of the department for the coming year. It wishes to establish branch laboratories at Mankato and Crookston, and also has to carry on the work of vital statistics imposed on it by the legislature.

McCormack Itinerary.—Dr. J. N. McCormack will lecture before the Ramsey County Medical Society, in St. Paul, January 11; before a public meeting in St. Paul, January 12; before the Hennepin County Medical Society in Minneapolis, January 13; before a public meeting in Minneapolis, January 14, and before the Southwestern Medical Society, January 15.

To Celebrate Union of Schools.—To celebrate the fact that the University of Minnesota has absorbed the last of the private medical schools of the state, so that the teaching is entirely in the hands of the college of medicine, the faculty of that department invited the faculty, the students, the medical alumni of the university, and the medical profession of the state to attend a unification meeting December 8. President Northrop presided and the principal address was made by Dr. Richard Olding Beard, head of the department of physiology, in which he gave a review of the history of the medical teaching in the state. Addresses were also made by Drs. Alexander J. Stone and Parks Ritchie, St. Paul, Drs. Frederick A. Dunsmoor, Charles A. McCollom and Jehiel T. Moore, Minneapolis, the governor of the state, and others.

MISSISSIPPI

Sentenced for Life.—Thomas J. Birdsong, a dentist of Hazlehurst, charged with the murder of Dr. Albert B. Pitts, is said to have been sentenced to imprisonment for life, December 15.

Personal.—Dr. T. H. Henry has been elected president and Dr. Robert S. Curry a member of the board of health of Columbus.——Dr. Edwin H. Caraway has been elected president of Long Beach.—Dr. William E. Moody, Lake, was shot and dangerously wounded in a quarrel December 15.

Vote for Public Health Bureau.—The Biloxi Commercial Club recently adopted resolutions asking the congressmen from Mississippi to vote in favor of the establishment of a public health bureau as outlined in the resolutions adopted by the House of Delegates of the American Medical Association at the Chicago session.

Society Meetings.—At the second semi-annual meeting of Clarksdale and Six Counties Medical Society, held in Clarksdale December 10, a resolution was adopted barring from membership in the organization any physician who should examine for life insurance for a less fee than $5. The following officers were elected: Vice-president for Tallahatchie county, Dr. W. A. Prince, Needmore, and censors, Drs. T. R. Montgomery, Mattson, and John S. Brooks, Robinsonville.——Jefferson County Medical Society, at its annual meeting held in Fayette December 12, elected the following officers: President and delegate to the state medical society, Dr. J. D. Shields, Church Hill; vice-president, Dr. Leon R. Harrison, Fayette, and secretary-treasurer, Dr. John V. McNair, Fayette.

MISSOURI

Fire in Hospital.—On December 20, fire caused damage to the extent of $15,000 to the Laywood Hospital, Sedalia, but all patients were removed in safety.

Personal.—Dr. James K. Graham, St. Joseph, formerly county physician, has been appointed a member of the board of commissioners to pass on the condition of the Buchanan county jail.——Dr. R. L. Gleason, St. Louis, has resigned from the staff of the City Hospital to accept an appointment in the Indian Service in Oklahoma.

Society Meetings.—At the meeting of the Grand River Medical Society in Chillicothe, December 9, the name of the society was changed to Grand River Medical Society of the Eleventh Judicial District. All members of the county societies of Linn, Livingston, Carroll and Chariton counties, numbering 105, were enrolled as members without further payment of dues this year. Officers for the ensuing year were elected as follows: President, Dr. Haynie M. Grace, Chillicothe; vice-president, Dr. Harry W. Tull, Carrollton; and secretary, Dr. John L. Burke, Laclede. The next meeting will be held in Carrollton.——The Rolla District Society held its sixty-seventh meeting in Rolla, December 3. Dr. Edwin L. Hume, Bourbon, was elected president; Dr. James C. Welch, Salem, vice-president, and Dr. William H. Breuer, St. James, secretary-treasurer.——At the annual meeting of Jackson County Medical Society, held in Kansas City, December 1, the following officers were elected: President, Dr. Franklin E. Murphy; vice-president, Dr. Eugene Carbaugh; secretary, Dr. Halsey M. Lyle; treasurer, Dr. William M. Reed; censors, Drs. Scott P. Child and Frederick T. Van Eman, and delegates to the state society, Drs. George B. Norberg, Charles C. Conover, Gordon A. Beedle, and Ernest F. Robinson, all of Kansas City.——At the annual meeting of St. Joseph-Buchanan County Medical Society, held December 9, the following officers were elected: President, Dr. John M. Doyle; vice-presidents, Drs. Joseph W. Ferguson and John I. Byrne; secretary, Dr. Charles Wood Fassett (re-elected); treasurer, Dr. John M. Bell (re-elected); censor, Dr. Wallace B. Deffenbaugh; delegate to the state society, Dr. Clarence A. Good, and alternate, Dr. Emmett S. Ballard, all of St. Joseph.

St. Louis

Communicable Diseases.—During the two weeks ended December 26, there were reported to the health department 386 cases of communicable disease, with 60 deaths, distributed as follows: Erysipelas, 13 cases, 1 death; smallpox, 2 cases; diphtheria, 133 cases, 11 deaths; scarlet fever, 53 cases, 3 deaths; typhoid fever, 13 cases, 4 deaths; cerebro-intestinal fever, 3 cases, 1 death; measles, 56 cases; chickenpox, 27 cases; whooping-cough, 6 cases, 1 death; and tuberculosis, 60 cases, 39 deaths.

Election.—At the annual meeting of the St. Louis Medical Society, December 26, the election of the following officers for the ensuing year was announced: President, Dr. Clarence M. Nicholson; secretary, Dr. Carroll Smith; members of the council, Drs. George Homan, Cyrus E. Burford, Robert M. Funkhouser and Henry C. Dalton; delegates to the state association, Drs. William W. Graves, John H. Amerland, John C. Morfit, George Homan, Thomas A. Hopkins, Herman L. Nietert, George C. Crandall and Vilray P. Blair; and alternates, Drs. Paul Y. Tupper, Walter Baumgarten, Walter C. G. Kirchner, Malvern B. Clopton, William E. Sauer, Frederick J. Taussig, Horace W. Soper and Jesse S. Myer. The proposition to increase the annual dues to $10 was defeated by a vote of 261 to 163.

NEW YORK

New York City

Harvey Society.—Prof. J. B. Leathes of the Lister Institute of Preventive Medicine, London, England, delivers the seventh lecture in the Harvey Society course at the New York Academy of Medicine, January 9, on "The Relation of the Liver to the Metabolism of Fat."

Memorial.—A movement has been begun to erect a new surgical building for the Presbyterian Hospital as a memorial to Dr. Andrew J. McCosh. A committee has been formed to raise funds among his patients and those who knew him as a friend. Allen Appleton Robbins, 304 Lexington Avenue, is secretary and treasurer.

Cornell Medical College to be Remodelled.—Plans have been filed for remodelling Cornell University Medical College. The improvements include the elimination of the present two-story amphitheater for physic and chemistry demonstrations, and making over the space on the third floor into a students' laboratory and that on the fourth floor into the main pathologic laboratory.

Low Death Rate.—For the week ended December 26, there were reported 1,278 deaths, and for the corresponding week of last year 1,691, the respective annual rates being 15.07 and 20.59 per 1,000 of population. There was a falling off of almost 200 deaths in tenement houses. One year ago influenza caused 63 deaths; whereas this year only 2 deaths were caused by this disease.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 26, 384 cases of tuberculosis, with 135 deaths; 393 cases of diphtheria, with 37 deaths; 369 cases of measles, with 12 deaths; 281 cases of scarlet fever, with 17 deaths; 41 cases of typhoid fever, with 2 deaths; 28 cases of whooping cough, with 3 deaths; 5 cases of cerebrospinal meningitis, with 4 deaths; and 204 cases of varicella—a total of 1,705 cases and 210 deaths.

Hospital Reports.—The annual report of the Presbyterian Hospital includes the gift of $1,000,000 from John S. Kennedy, although this gift was made after the close of the fiscal year. This magnificent sum is to be used for construction purposes and not to help out the current expenses. It is stated that the needs of the institution requires a larger expenditure than this. Architects are at work on plans for a new administration building. During the past year 43,220 persons were treated at the hospital, 210 more than the year before. The revenue for the year was $347,710 and the expenses $320,611. The actual hospital earnings were $92,801, an increase of over $8,000 over the year before.——The report of the Williamsburg Hospital shows a deficit of $2,056 and a total indebtedness of $10,294, and a committee of 100 citizens of Williamsburg has been formed to aid the institution.

OHIO

Personal.—Dr. J. Francis Coneffe has been appointed assistant physician at the Columbus State Hospital.——Dr. Darwin G. Palmer, Geneva,, has been appointed to succeed himself as a member of the State Board of Health.——Dr. Joseph A. Hall, Cincinnati, has been appointed to succeed Dr. John E. Russell, Mt. Vernon, deceased, as a member of the commission for the construction of the Lima State Hospital.——Dr. Corlies Keller has resigned as assistant superintendent of Longview Hospital, Cincinnati, and Dr. John Batte has been appointed his successor.——Drs. Francis H. Williams, Howard C. Sellards, Edgar O. McCall and James B. Ray, trustees of Hempstead Hospital, Portsmouth, have resigned.——Dr. Henry C. Houston, Urbana, has been elected dean and Dr. Asa C. Messenger, Xenia, secretary of the medical and surgical consulting staff of the Ohio Soldiers' and Sailors' Orphans' Home.——Dr. Theodore Bunge, Cincinnati, has been appointed assistant coroner of Hamilton County, vice Dr. Oliver P. Coe, elected coroner.

PENNSYLVANIA

Fire in Asylum.—A small fire occurred in the State Hospital for the Insane at Norristown, December 25.

Contagious Diseases.—A case of smallpox was discovered in Harrisburg, December 18.——New cases of typhoid fever are reported in Reading daily, but the number of new cases is decreasing each day. Since November 18, when the epidemic began, 654 cases have been reported, with 26 deaths.

Doctors Warned.—According to instructions issued by the State Division of Vital Statistics, suits will be brought against physicians who fail to make proper returns of births and deaths in every county. Instances have been found in Lancaster and Chester counties, where physicians have been remiss and they will be prosecuted. The reports made to the state authorities are so inadequate as to cause considerable trouble and frequent returns for correction are made.

To Safeguard New-Born Infants.—To guard new-born infants against blindness, State Health Commissioner Dixon has revived the state law against this misfortune and will urge its enforcement. This law passed June 26, 1895, is entitled: "An Act for the Prevention of Blindness," imposing a duty on all midwives, nurses and other persons having the care of infants and also on the health officer and fixing a penalty for the neglect thereof." A letter has been addressed to the physicians of the state calling attention to the existence of the act and the intention to enforce it. Township health officers have been notified as follows:

> Immediately on receiving notification from a midwife or nurse of the occurrence of a case of red or swollen eyes in a young infant you will inform the attending physician of the fact and will place in the hands of the midwife or nurse instructions from this department, explaining that she is to follow them only until a physician arrives to take charge of the case. If no physician has been employed you will urge upon the family the necessity for obtaining one, as otherwise the child may become permanently blind.

Philadelphia

Orphanage Quarantined.—On account of the prevalence of diphtheria, the Elkins Masonic Orphanage has been placed under quarantine by the board of health.

Land for Hospital.—The American Oncologic Hospital has purchased for $47,500 a plot of ground 250x234 feet at Fiftieth and Chestnut streets, on which to erect new hospital buildings. The cost of the new buildings will be more than $100,000.

Anti-Noise Crusade.—Orders have been issued by the police department to arrest on sight any person or persons who, directly or indirectly, are responsible for undue noises and disturbances in the vicinity of hospitals. Warning signs are to be placed about hospitals: "Preserve Peace and Quiet."

Medicine for the Poor.—The Bureau of Health, under the supervision of Dr. Joseph S. Neff, has planned to furnish medicines to the city's poor at cost, plus a minimum charge for compounding. It is the purpose of the department to establish druggists in every ward of the city where this service may be secured. The combined bids for the work, opened December 17, aggregated nearly $10,000.

Officers Elected.—At the annual meeting of the North Branch of the Philadelphia County Medical Society, the following officers were elected: Chairman, Dr. George M. Illman; clerk, Dr. Samuel P. Gerhard.——At the annual meeting of the Section of Otology and Laryngology, the following officers were elected for the ensuing year: Chairman, Dr. Arthur W. Watson; clerk, Dr. Ralph Butler.

Philadelphia Academy of Medicine.—The newly formed Philadelphia Academy of Medicine was granted a charter by the Court of Common Pleas, December 24. The organization is intended to admit to membership physicians from all schools of recognized medicine. The following officers have been elected: President, Dr. George H. Wells; vice-president, Leon T. Ashcraft; secretary, Ralph Bernstein, and treasurer, Jacob W. Frank.

Tuberculosis Plans.—The Committee on Program of the International Tuberculosis Exhibit has prepared a tentative program. Dr. J. Clinton Foltz is chairman of the committee and its members are Drs. Alexander C. Abbot, Louis A. Duhring, Robert G. LeConte, Henry R. M. Landis, W. M. Late Coplin, John F. Roderer and Martin J. Brumbaugh. The opening day, to be officially known as Philadelphia Day, will be held February 15. Addresses will be delivered by the governor, mayor, director of public health and director of public education.

Tuberculosis Campaign Completed.—A comprehensive plan has been arranged by the committee in charge of the International Tuberculosis Exhibit to be held in this city from February 15 to March 15, for bringing close to the people the knowledge of how tuberculosis can be prevented and cured. A course of daily lectures has been arranged and representatives of every class of men and women will speak in a practical way of how intelligent warfare may be waged against the disease. Special talks are to be given also in Polish, Italian, German and Yiddish.

Typhoid Outbreak.—In the last week of the year 97 new cases of typhoid fever were reported in the city. Of these, 23 were reported from districts not supplied with filtered water, while 74 cases appeared in filtered water districts. Of the latter, 67 were reported from the Torresdale district, 4 from Roxborough, 1 from Belmont, and 2 from that portion of the Forty-second Ward supplied with water from outside the city. The cause of the outbreak is not known and the health authorities do not believe that the water is responsible for the appearance of the disease.

Health Report.—The total number of deaths reported to the bureau of health for the week ended January 2, aggregated 516. This is an increase of 42 over the previous week and a decrease of 172 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 5; measles, 4; diphtheria, 14; consumption, 51; cancer, 18; diabetes, 4; apoplexy, 11; heart disease, 63; acute respiratory disease, 92; enteritis, 18; hepatic cirrhosis, 4; arterial sclerosis, 12; appendicitis, 8; premature birth, 13; congenital debility, 16; senility, 5; suicide, 5; accidents, 14; and marasmus, 3. There were 224 cases of contagious disease reported, with 20 deaths, as compared with 164 cases and 20 deaths reported in the preceding week.

Personal.—Dr. William W. Keen has been elected vice-president and Drs. George C. Stout and George McClellan have been elected to the board of governors of the University Club.——Dr. B. Franklin Royer has been elected a member of the staff of the State Board of Health.——Dr. Edward B. Gleason, for fifteen years clinical professor of otology, has been elected professor of otology in the Medico-Chirurgical College.——Dr. Thomas M. Rotch, professor of diseases of children in Harvard University, delivered an illustrated lecture in Jefferson Medical College Hospital, December 28, on "The Roentgen Ray as a Factor in the Enforcement of the Laws Relating to Child Labor."——Dr. Brooke M. Anspach has been made assistant in gynecology at the University of Pennsylvania.

VIRGINIA

Society Meeting.—At the annual meeting of Petersburg Medical Faculty, held November 20, Dr. J. Gordon Rennie was elected president; Drs. W. Preston Hoy and Joseph M. Burke, vice-presidents; Dr. Julian R. Beckwith, corresponding secretary; Dr. Leverette S. Earley, secretary-treasurer, and Drs. William H. Crockford, Franklin H. Hains, William E. Harwood, and Edwin J. Nixon, court medical.

Personal.—Dr. I. F. Lewis, professor of biology at Randolph-Macon College, has returned from Europe.——Dr. Emory W. Peery, Rural Retreat, sailed for Europe, November 28.——Dr. Albert S. Priddy, superintendent of the Southwestern State Hospital, Marion, has resigned.——Dr. George T. Myers, Norfolk, has been commissioned in the medical corps of the Virginia State Militia, and assigned to duty with Battery B., First Battalion, Virginia Artillery.

GENERAL NEWS AND COMMENT

Scientific Temperance Federation.—This organization held the second annual meeting at its headquarters, 23 Trull street, Boston, on December 8. The annual report summarized the outlook for the antialcohol movement from the scientific standpoint, reviewed the special investigations made, and the work accomplished by the federation in disseminating this and other information. The latter work is done largely by means of loan exhibits of colored charts and diagrams and stereopticon slides, aided by the federation's organ, the *School Physiology Journal* and its *Press Circular*.

Action on Animal Experimentation.—At the recent meeting of the American Association for the Advancement of Science, held in Baltimore, December 28 to 31, the following preamble and resolution were adopted:

> From time to time attempts, fostered largely by erroneous statements and accusations and false sentiment and prejudice, are made in some parts of the country to enact specific legislation prescrib-

ing the conditions under which experiments on animals may or may not be performed.

Animal experimentation has been of incalculable benefit to medical science and art, the progress of which is absolutely dependent on experimental methods, as are all the physical and natural sciences.

No abuse of the practice of animal experimentation in the country has been shown to exist to warrant specific legislation relating to the general subject of prevention of cruelty to animals.

Resolved, by the American Association for the Advancement of Science, that the unrestricted performance by proper persons of scientific experiments on living animals is essential to the maintenance and progress of medicine and biology.

Dr. David Starr Jordan of the University of California was elected president of the association, and the next meeting will be held in Boston.

International Congress on Chemistry.—The Seventh International Congress of Applied Chemistry will be held in London, May 27 to June 2, 1909. The honorary president is Sir Henry Roscoe, the active president Sir William Ramsay; William Macnab is general secretary and Thomas Tyrer and C. Wightman are treasurers. Dr. Harvey W. Wiley, Washington, D. C., has been appointed chairman of the American committee. All who are interested in promoting the applications of chemistry are eligible for membership. The price of membership is one pound for men and fifteen shillings for women. Remittance may be made to Dr. Wiley, who will forward it. Those intending to present papers should write to the chairmen of the section to which the paper belongs. There are eleven sections; a list, with names and addresses of chairmen, is obtainable from Dr. Wiley. Those who can not attend will be amply rewarded for membership by receiving the several large volumes of the publications containing the latest ideas and discoveries. The Proceedings of the Fifth Congress consisted of four volumes containing articles by experts on all branches of applied chemistry, the Proceedings of the Sixth Congress numbered seven large volumes.

Ankylostomiasis Among Recruits in the Southern States.—Captain Joseph F. Siler, Medical Corps, U. S. A., has recently made a most interesting report to the Surgeon General of the Army on some observations made at the recruit depot, Fort Slocum, N. Y., to determine the existence and extent of ankylostomum infection among recruits. He had observed that the recruits from the southern states, notably Virginia, the Carolinas, Georgia and Florida, had, in the majority of instances shown a poorer degree of physical development than was the case of the recruits from the more northern states. It had been noted that the weight, chest development and general physique of these recruits, while seldom so poor as to cause rejection, had been noticeably below the general average. They appeared to be poorly nourished and slightly anemic, though marked symptoms of any kind were usually absent. During the past two months he examined the stools of nineteen recruits from southern states with the somewhat surprising result that it was found that sixteen out of the nineteen examined, or 84 per cent, harbored the parasite. Three of these cases were held up during the incoming physical examination as being suspicious of ankylostomum infection. The remaining sixteen cases were not specially selected, but happened to be admitted to the hospital from time to time, suffering from vaccinia and other minor complaints. In view of the large number of recruits drawn from the southern states, and the ease with which a cure may be effected in cases of ankylostomiasis, a circular letter has been sent to all medical officers calling their attention to Captain Siler's report and directing them to investigate the matter in the army at large and report the results of their observations.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 19, 1908.

Consumption Made a Notifiable Disease Among the Poor

For some time there has been considerable discussion among those interested in public health as to whether tuberculosis should, like other infectious diseases, be made notifiable. The main objection is that if notification were adopted the unfortunate sufferer would be treated as a pariah and be unable to obtain work or household accommodation, while the sanatoriums for such a prevalent disease are quite inadequate for all who are affected. As in all public health matters the tendency, however, is toward increasing stringency of regulations and opinion in favor of notification is growing. Compulsory notification being impossible in the present state of the law, many municipalities have adopted voluntary notification, i. e., they request doctors to notify to the health officer under pledge of secrecy cases of tuberculosis under their care with view to sanitary inspection and disinfection of the patient's residence. An important new departure has just been made by the local government board. An order has been issued to the local authorities which will come into force on New Year's Day. All "poor-law cases"—persons relieved by the municipalities in consequence of their poverty—in which tuberculosis exists will be notifiable. The medical officer of a poor-law establishment must within 48 hours of recognizing symptoms of the disease notify the district health officer of the case. In like manner a district medical officer must report a case in a patient whom he is attending at home. Further, the superintending officer of a poor-law establishment must notify the place of destination of any person suffering from tuberculosis who is leaving the institution.

The Feeding and Medical Treatment of School Children

After a prolonged controversy, the London County Council has decided to devote $50,000 derived from the taxes for the provision of meals for underfed school children. Previously, meals have been provided for such children by charitable subscriptions, but these have been found inadequate. The question of the medical treatment of school children has also been under consideration. Certain recommendations of a special committee have been given in a previous letter.

King Edward's Hospital Fund for London

King Edward's Hospital Fund for London has received this year, after deduction of expenses, $780,000 for distribution among the hospitals of the metropolis. This includes the munificent donations of $500,000 from Lord Mount-Stephen and $50,000 from Lord Iveagh. The fund has allocated to the hospitals, convalescent homes and sanatoriums for consumption $700,000—an increase on last year of $95,000. During the past 10 years the amount of the fund has steadily increased. Not only does the Fund distribute this large sum, but it also exercises, in virtue of its power of giving or withholding, a useful control over the expenditure of the hospitals. It has done much to promote the economical management of hospitals. It issues to its subscribers and to hospital officials an annual statistical report on the expenditure of the institutions which apply to it for grants. The hospitals are grouped in classes and the average expenditure per bed of each class on provisions, salaries, etc., is given. Those institutions which exceed the average cost per bed have their attention directed to economizing. In 1903 the total of these excesses amounted to over $200,000 in 16 hospitals, where the average expenditure on the items dealt with was $472. By 1906 this average had fallen to $447—a saving of $25 per bed on some 5,000 beds. In other groups of hospitals, particularly children's hospitals, a saving of as much as $35 per bed was effected. The total saving from the more economical administration is estimated at from $150,000 to $200,000 per annum. The system of hospital accounts was also found to be faulty, and an eminent accountant, who is honorary auditor of the Fund, has devised a uniform system of accounts which has been adopted by all the hospitals which receive grants.

The Royal Society of Medicine

The Royal Society of Medicine, which has recently been formed by the amalgamation of the principal medical societies of the metropolis, has celebrated its first annual dinner, which was attended by the presidents of the Colleges of Physicians and Surgeons, the Director-General of the Army Medical Service and men representative of science, literature, law and the government. The toast of the society was proposed by Mr. Birrell, Chief-Secretary for Ireland, in a speech worthy of the occasion, illuminated by the wit for which the author of "Obiter Dicta" is famous. In replying, the president, Sir W. S. Church, made a gratifying report of the progress of the society, which now numbers 2,215 fellows and 959 members and possesses a library of 100,000 volumes. The society is representative not merely of London but of the British Empire. Of the fellows and members 1,780 live in London, 1,174 in the provinces and 220 are scattered over the face of the world.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 17, 1908.

Reform in Medical Studies

The authorities are now considering the reorganization of the medical curriculum, discussed in The Journal, Sept. 19, 1908, page 1023. The plan outlined fixes the length of the period of study for the diploma of doctor of medicine at five years, exclusive of the preparatory year necessary to obtain the P. C. N. (certificate of physical, chemical and natural studies), instead of four years. It is proposed to keep a separate record-book for each student, in which examination marks, credits, diligence, etc., will be recorded. This book must be submitted at all examinations, under penalty of nullification of the results of the examination.

The course leading up to the degree of M.D. will comprise didactic, technical (laboratory), and clinical (hospital) instruction. The hospital course will be obligatory, nine months each year, during the five years of study. At the end of each course the student is to be examined by the chief of the service to which he is attached. Examination on practical studies will be held at the end of each of the corresponding courses of study, with a final yearly examination.

Free Medical Services for the Police

It has long been the custom in France to give the gendarmes and their families free medical attention. It is really not the gendarmes who profit by the generosity of the physicians, but the government, which ought to provide medical care for the police, as it does for soldiers. Up to the present, the war department has been accustomed merely to address a complimentary letter of thanks to the physicians who have for years attended the gendarmes gratuitously. Now, however, there is a movement among the medical profession against this exploitation of the profession for gratuitous services. Thus the medical syndicate of the Louhans district has unanimously decided that physicians are not bound to attend any public functionaries free of charge. The syndicate has accordingly informed the superintendent of police that free medical care will no longer be given to the gendarmes and their families. There is reason to believe that this movement will soon spread.

Regulation of the Sale of Eye-Glasses

At its last general assembly, the General Syndicate of French Oculists voted to ask for a modification of the law of 1892 on the practice of medicine; namely, that the diploma of doctor of medicine shall be required of those who fit convex, concave, cylindrical or spherocylindrical glasses by refraction; and that opticians be forbidden to sell eye-glasses, mounted in any kind of frame, without a physician's prescription. Everyone breaking the law will be subject to prosecution on that ground without prejudice to any prosecution for damages which a purchaser may institute for harm suffered from incorrectly fitted glasses.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Dec. 16, 1908.

Ernst von Leyden Foundation for Cancer Research and the Campaign Against Cancer.

Ernst von Leyden, still untiring as an organizer in spite of his 77 years, recently summoned a representative meeting of state officials, members of the German Central Cancer Research Committee, financiers and representatives of the medical and daily press to discuss ways and means to further the anticancer campaign. The meeting was held at his residence, and it was decided, on Orth's motion, to add to the present German central committee an executive board to collect a fund to support and enlarge the existing institutes for cancer research (in Berlin, Frankfurt a. M. and Heidelberg), and add to their number, the fund to be entitled the "Ernst von Leyden Foundation for Cancer Research and the Campaign Against Cancer." We may now expect a lively agitation in favor of this new measure, and our wealthy countrymen will see with alarm that there is already another call on their purses for benevolent purposes. To what extent the collection will be successful in these times of financial depression and of multiplied demands for social institutions remains to be seen.

The Chair of Physiology in Berlin

The chair of physiology is left vacant by the resignation of Professor Engelmann. My surmise that Rubner, until now professor of hygiene, would appear as a candidate for the place has become a fact. According to my information, there is the greatest probability that Rubner, to whom the chair of physiology has been offered, will accept the place. This change in his department of teaching would not be surprising, for Rubner's life work has been done especially in the field of physiology. Even the hygienic investigations that have appeared from the hygienic institute under his direction have shown a strong physiologic stamp. There is a certain uneasiness regarding his successor in the chair of hygiene. Those investigators who are occupied with general hygiene and are not simply bacteriologists, are very thinly scattered throughout Germany, for nearly all hygienists have come from the school of Koch or of his pupils, and as Robert Koch can hardly be regarded as a general hygienist, but more especially as the representative of bacteriology, epidemiology, or the methods of control of epidemics, all his pupils are specialists in this field, but research regarding the hygiene of air, water, clothing, food, etc., has been carried on, at least in Prussia only, in Rubner's institute. There is danger, therefore, that Rubner's place will not be filled by a scientist who will follow his lead. The choice of a bacteriologist for the place is less important, since Berlin already possesses in the Institute for Infectious Diseases a model institution for bacteriologic research. Among the candidates, Professor Kirchner, a member of the medical department of the Prussian Ministry of Education, has been mentioned. He has been striving for a long time to reach a regular professorship in hygiene, but, although Kirchner has done good service in his present position, this has been in the direction of legal and governmental measures against epidemics.

In a scientific way he has accomplished practically nothing, and also as a teacher (he is professor extraordinary of hygiene in this university and teaches social medicine) his success is very small. The addresses which he has given in the Berlin Medical Society have been dry and monotonous. Personally, he is not popular even with his associates in office. From all these circumstances it is not strange that the newspaper mention of his name has called forth general opposition. Fortunately, the rumor appears to have no basis; at least so far as I can learn, neither the faculty nor the ministry approve calling Kirchner as the successor of Rubner; it is much more likely that Flügge, the Breslau hygienist, will be selected.

Death of von Rindfleisch

The noted Würzburg pathologist, Prof. E. von Rindfleisch, died December 6, at the age of 72. Two years ago he resigned his professorship, which he had held since 1874. Rindfleisch was one of Virchow's most important pupils until he became assistant in the physiologic institute at Breslau in 1860, and professor a year later. In the same year he was made prosector in the University of Zürich, where he remained until 1865. He then went to Bonn, and from there in 1874 he went to Würzburg. His work was at first mainly in cellular physiology and pathology, but later he devoted himself especially to the study of tuberculosis. His most important literary work is his "Treatise on Pathological Histology." His "Elements of Pathology" is also very popular. With Virchow, he accepted the neovitalistic theory, which, as is well known, assumes the existence in the living organism of a special vital force outside of the physical and chemical forces. In this matter he took the side of his old teacher in the discussions between Virchow and Haeckel.

School Physicians for the Higher Schools

On this question, to which I referred in a previous letter, Professor Leubuscher, the director of the system of medical inspection of schools in Saxe-Meiningen, gave his views in an address delivered here a few days ago. In his opinion the objection that school physicians for the higher schools are superfluous, because in the better situated families a family physician is employed, is distinctly erroneous, as in his experience even in the higher schools diseases have been discovered by the school physicians which have escaped the notice of the parents and of the family physicians. Three defects especially are discovered in the higher schools: Shortsightedness, defective heart action and nervous and mental defects.

The first, as well as the third of these defects, is connected, according to Leubuscher, with school attendance and the consequent nerve strain. The pupils are overburdened. He claims that in order to attain the object of education the plan and methods of instruction, must be changed, the authorities cooperating with the school physicians. The classes should be arranged in the forenoon, so that the afternoon shall remain entirely free for the scholars' recreation and home work. It is further necessary to do away with the final test examination (Abiturienten-Examen). This change was demanded at the last congress for school hygiene by both physicians and educators. Weighing of graduates by the lecturer had shown that during the last six weeks before the examination they lost on an average three pounds in weight.

Pharmacology

Chemists' Certificates and Proprietary Medicines

Some time ago we pointed out that the chemists' certificate used by the exploiters of hydrocine, "hyperoxidized hydrocarbon," did not furnish a correct statement of the composition of this nostrum. Recently we noted that the chemist's analysis on the label for uriseptin did not correctly indicate the composition of that article.

The *Druggists' Circular*, October 19, editorially discusses the value which should be attached to chemists' certificates when used to exploit proprietary remedies. As an explanation of the disparity sometimes noted between the published analysis of proprietary medicines and the facts, a conversation overheard by the writer of the editorial is given. A manufacturer accosted a chemist, an old friend, in a breezy, hail-fellow-well-met way, and, during the conversation, incidentally remarked:

"By the way, professor, I'd like to have your certificate of analysis of my preparation."

"Certainly," said the professor, "I'd be glad to make an analysis for you, and I won't charge you much, either. Send me a package as soon as you like."

"Oh, never mind the price; I'll pay you well; and don't bother about the sample, either; I have a certificate of analysis here in my pocket" (producing it), "and all you need to do is to sign it."

The chemist looked straight into the eyes of the manufacturer for an embarrassing second, and then calmly informed him that he had selected the wrong man. The brazen manufacturer, not to be so easily silenced, retorted:

"Oh, come off, now; they all do it; you know they do, and you might just as well pocket the fee as to see it go to the next man."

Presumably the fat fee went into the pocket of the "next man," and no doubt the latter's name is now going all over the country in the advertisements attached to a certificate of purity which druggists and the public are expected to accept as if it were gospel.

As another kind of deception which tends to bring discredit to chemists' testimonials is mentioned the practice of publishing a certificate as to the quality of goods, written by a chemist who is connected with their manufacture, such connection being carefully concealed by the advertiser of the product. This form of deception has, as its counterpart, the practices of the manufacturer of proprietary remedies who has the degree of M.D. and who as a physician writes glowing articles as to the value of the remedy which he as a manufacturer sells to his "colleagues," the doctors.

The Formula for Glyco-Thymoline

UPPER JAY, N. Y., Dec. 5, 1908.

To the Editor:—Will you please inform me where I can find the formula for Glyco-Thymoline? M. E. PROCTOR, M.D.

ANSWER: We can not! Had "a" formula instead of "the" formula been asked for, we could have referred to various advertisements of this preparation. For instance, in the *Boston Medical and Surgical Journal* we find "a" formula as follows:

Sodium	24
Boric Acid	4
Benzoin	4
Acid Salicylic	0.33
Eucalyptol	0.33
Thymoline	0.17
Betula Lenta	0.08
Menthol	0.08
Pini Pumilionis	0.17
Glycerin and solvents	q. s.

In the *Texas State Journal of Medicine* of the same date we also find "a" formula which varies to such an extent with other "formulas" that the editor of this journal, Dr. Chase, refused longer to carry the Glyco-Thymoline advertisement.

Benzo-Salicyl. Sod.	33.33
Eucalyptol	0.33
Thymol	0.17
Salicylate of Methyl, from Betula Lenta	0.16
Pini Pumilionis	0.17
Glycerin and solvents	q. s.

In the *New York Medical Journal* of December 5, there is "a" formula which is similar to the one in the Texas journal, except that it has added to it:

Menthol	0.08

Examination of the preparation in the chemical laboratory of the American Medical Association showed that it contained no boric acid, but instead borax; that salicylic acid was not present as acid, but as its sodium salt; that benzoin instead of being present in comparatively large quantities, was practically absent, and sodium benzoate was in its place; that the compound "benzo-salicyl. sod." was absent, and there was instead, a mixture of sodium benzoate and sodium salicylate.

The results obtained in the Association's laboratory are corroborated by the work of Dr. J. Kochs (*Apotheker-Zeitung*, 1907, xviii, 169). Dr. Kochs states that Glyco-Thymoline is an alkaline solution containing potassium carbonate, sodium benzoate, sodium salicylate, borax, thymol, menthol, glycerin and alcohol.

The published formulas, therefore, disagree, not only among themselves, but with the facts. When purchasing proprietary preparations with such fickle formulas, "you pay your money" for the preparation—"and take your choice"—of formulas.

Correspondence

The Medical Profession and John H. Rauch

CHICAGO, Dec. 19, 1908.

To the Editor:—I have read with a great deal of interest the communications from Dr. George Homan and Dr. J. F. Percy, appearing in THE JOURNAL, December 5 and December 12, paying tribute to the memory of John H. Rauch, and calling attention to the conspicuous work done by Dr. Rauch during the time of his connection with the Illinois State Board of Health. I was particularly impressed with the suggestion of Dr. Percy that the record of Dr. Rauch's great achievements be put in some permanent form by the Illinois State Medical Society, "of which he was an honorable and conspicuous member."

In their eulogies of Dr. Rauch, neither Dr. Homan nor Dr. Percy has exaggerated the importance of Dr. Rauch's work, nor the debt which the medical profession and the people of Illinois owe to him for the establishment of the sanitary, medical educational and public health affairs of Illinois on a sound foundation, and for the enactment and conscientious enforcement of the state's medical practice laws. The name of John H. Rauch was known, and the man revered, wherever the importance of sanitary science was appreciated, and it is very doubtful if the United States could have produced, at the time of the greatest activity of this noted sanitarian, a man who in his peculiar lines was his superior or even his equal.

But the recognition of meritorious service is frequently long delayed. The ingratitude of the people toward public servants is well-nigh notorious. The memorializing of the works of John H. Rauch by the medical profession or by the people of Illinois, comes so late, and is in such sharp contrast with the attitude toward him when he was serving the medical profession and the people, as to excite comment from those who are familiar with Rauch's career in public life.

Dr. Rauch has been dead for fourteen years. During his last few years he was crushed by the ingratitude of those he had so faithfully served. He died a broken-hearted man. According to the conventions of life, that was the time for memorials and for tributes; but even then they would have come too late to bring him consolation in the hour of his greatest need. The time for action by the people, by the medical profession, and by the Illinois State Medical Society, of which he was an "honorable and conspicuous member," was during the period when Rauch was being attacked and hounded by a thousand enemies, among the laity and the medical profession, too, enemies he made through his conscientious efforts to carry out the provisions of the medical practice act of Illinois

It is a matter of common knowledge that Dr. Rauch was forced from his place on the State Board of Health on account of his activities in enforcing the medical practice laws as he thought they should be enforced, and it is generally known that for the same reason, he was compelled to resign the secretaryship of the board. The attacks on Dr. Rauch were not made from ambush nor from under cover—the newspapers of the day (1889-1891) contained the details of the battle, and the people and the medical profession were fully advised as to what those opposing him proposed to do. Yet few voices were raised in Dr. Rauch's defense, and no organized effort was made to support him. Regardless of the splendid service he had rendered, forgetful of his personal sacrifices in money, time and health, his untiring zeal, his wonderful knowledge and his recognized ability, Rauch was permitted to be unseated and discredited, while the medical profession and the people constituted themselves as interested spectators, without even raising a cry for fair play. Nor is it satisfactorily shown that members of the medical profession were not to be found in considerable numbers among Dr. Rauch's persecutors.

I can not resist the conviction that, had the medical profession manifested the interest in Dr. Rauch's support in his time of trial that they now do in memorializing his virtues and his greatness, the people of Illinois could have continued to avail themselves of his masterly service and counsel, and his life might have been completed without its tragedy.

It is true, as pointed out by Dr. Homan and corroborated by Dr. Percy, that "Illinois has not yet, in recognition of Dr. Rauch, her adopted son, done the amende honorable." But by the same token, it is questionable whether it is the consensus of medical opinion of the present day that reparation is due to Rauch's memory, or whether his presence on the State Board of Health was as deeply felt by the entire medical profession as it now appears to Dr. Percy. Indeed, it is but a short time since a prominent officer of the Illinois State Medical Society stated, in an address before several members of that organization, that "the State Board of Health had never been in touch with the medical profession of Illinois at any time," while another officer, almost as prominent, declared, at the same meeting, that "the relation of the organized medical profession and the State Board of Health has never been close as it should be." It is to be lamented that there could not have been a spirit of cooperation between the organized medical profession and the State Board of Health at the time that Dr. Rauch was compelled to pay a severe penalty for having conscientiously performed his duty—for having remained steadfast in his purpose to bring about better medical conditions in Illinois.

I am heartily in sympathy with any movement to impress on the present generation the splendid pioneer work of Dr. Rauch. The memory of Rauch will live in the minds of the sanitarians and educators of the nation as long as the Illinois State Board of Health shall live, for it was to this organization that Dr. Rauch gave the best of his creative genius, his most serious thought and his most intelligent efforts.

GEORGE W. WEBSTER,
President Illinois State Board of Health.

Illness of the Emperor of China

YALE MISSION HOSPITAL,
CHANGSHA, CHINA, Nov. 28, 1908.

To the Editor:—I send a translation of a document which has just come to hand, concerning the nature of the illness to which the late Emperor Kwang Hsu of China succumbed. It may be of interest to your readers to see the sort of statement that entirely satisfies the intelligent Chinese, and which would be an ample description of the objective symptoms in any given patient. How the failure to bring about the recovery of the emperor resulted for the attending physicians is reported in the newspapers which state that all the men whose names appear in the translated statement, "are degraded two steps in rank each, for having carelessly prescribed for his majesty the emperor," and in addition, five other physicians, all holding important medical posts in the government "are ordered to be cashiered for having carelessly prescribed for his majesty, but are allowed to remain at their posts to redeem their errors."

"THE ILLNESS OF HIS MAJESTY THE EMPEROR KWANG HSU OF CHINA.

"The Edict of the Empress Dowager of China, on the 21st day of the 10th moon, 34th year of Kwang Hsu [i. e., Nov. 14, 1908], declareth:

"Beginning with the early fall of last year, and from that time on, the imperial person was unwell, and I therefore commanded the Tartar generals, the viceroys and the governors of each province to endorse and recommend physicians of skill. Subsequently there were received communications from the Tartar generals, viceroys and governors of Chih-li, Liang-kiang, Hu-kwang, Kiang-su and Chekiang, which were followed by their sending with endorsements Ch'en Ping-chün, Ts'ao Yuan-heng, Lü Yung-pin, Chou Ching-t'ao, Tu Chung-chün, Shï Huan, Chang P'eng-nien, and others, who came to the capital to institute treatment But the remedies and treatment used by them have not been seen to be of avail as yet. Very recently, the yin and the yang principdes [i. e., the natural forces, yin being the female element and yang the male element in Nature] have again been failing and his entire being has become diseased. His chest is filled up (dyspnea); his stomach is refractory; his trunk and limbs have been sore and painful; his appetite has gradually failed; whenever he moved or turned, his respiration has been embarrassed and coughing induced. In addition, he has had feelings of numbness, cold and alternating feverishness; at night he has been unable to sleep; his spirits are utterly exhausted, and it is with difficulty that he continues to live at all.

"My heart has therefore been deeply concerned and even excited, and I again commanded the officials of all the provinces to pick out and recommend physicians of wide experience and training, whether holding official appointment or not, and to send them in great haste to the capital to attend his majesty and to institute treatment. If they had been able to accomplish any improvement, then I should have rewarded them in the highest degree, and also recognized with favor the kindness of those who recommended them.

"Let this be proclaimed widely as an imperial edict."

It is to be hoped that the new era which will be ushered in with the passing away of the remarkable woman, the Empress Dowager, will see new impulse given to the study of scientific medicine in China. The field is immense.

Allow me to add a word as to my personal appreciation of THE JOURNAL. I wish we had your help in the fight against "patent medicines" in China. It is a question whether or not the opium habit was much worse than the habit, now being contracted, of using limitless amounts of "patent medicine" with high-colored labels on the bottles and high-sounding words in the accompanying circulars.

EDWARD H. HUME.

Defects of Esperanto as an International Language

NEW YORK, Dec. 8, 1908.

To the Editor:—A letter recently appeared in THE JOURNAL greatly extolling Esperanto. Please allow me, as an expert on this language, to present the other side of the question. Esperanto is not fit for an international language because it contains too many intrinsic defects.

1. The alphabet of Esperanto contains letters not possessed by any printing press and therefore rendering very expensive the publication of Esperanto works (ĉ, ĝ, ĥ, ĵ, ŝ). The use of an h instead of the "roof" is not genuine Esperanto and renders the language more hideous to the eye than it is now.

2. Esperanto, especially in every-day phrases, has an abominable sound due to the great frequency of the harsh sibilants (ĉ) and of the endings aj, oj, uj. Almost unpronounceable sounds (ĥ) and combinations (sc) also occur, such as *ĉio tio ĉi*, "all this"; *ĉiujn tiujn kiujn*, "all those whom."

3. Esperanto is very illogical in its word-formation. Here are a few examples: *Kuraĝa*, "courageous," forms the noun *kuraĝO*, "courage," while the similar adjective *brava*, "brave," derives the noun *bravECO*, "bravery." From the verb *kombi*,

"to comb," the instrument *kombILO*, "comb," is derived, while to the similar verb *brosi*, "to brush," belongs the noun *brosO*, "brush," as the instrument. *IrADO* from *iri*, to walk, means "continued walking," while fos*ADO* from *fosi*, "to dig," means "digging," without any idea of continuation or duration.

The philologic absurdities of Esperanto have been incontestably demonstrated by Dr. L. Couturat in his excellent study, "Etude sur la Derivation en Esperanto." The reader is referred to this work for other innumerable examples.

4. The vocabulary of Esperanto is lacking in internationality. The most frequently occurring words are entirely arbitrary and render the language unintelligible without previous study even to expert linguists, who read and understand other artificial languages almost at sight.

5. Esperanto is extremely poor in root words. This has led to the adoption of many idiotisms and of absurd compounds, as the verb *el-paroli*, which ought to mean "to speak out," but is used for "to pronounce."

6. Owing to the introduction of the accusative case with extremely frequent application, and to the declension of the adjective, which is changeable according to case and number, Esperanto is too difficult for persons of average education and especially of English nationality. Most Esperantists of this country, after having devoted several years to the study of Esperanto, are unable to write a few lines correctly or to speak the language.

That Esperanto is not fit for an international language has been proclaimed by the Committee of the Delegation for the Adoption of an International Auxiliary Language. This committee, composed of great scholars of international renown, convened at Paris in October, 1907, and rejected all artificial languages, Esperanto in its present form included. It adopted, however, a system presented by Marquis L. de Beaufront, the greatest authority on Esperanto, its inventor not excluded. This system, subsequently perfected and enlarged by the Constant Committee of the Delegation, is now known chiefly as Ilo, which means "international language" by its initial letters. Ilo is as much superior to Esperanto as the latter is to the defunct Volapük. It is not simplified Esperanto, for it has in common with the latter only a part of the conjugation, the ending of noun, adjective and adverb, and a few affixes. Everything else in Ilo is common to almost all modern artificial languages.

The New York Esperanto Society, the pioneer society in this country devoted to an international language, at its meeting of October, 1908, adopted Ilo, and at the November meeting the resolution was passed unanimously to assume the title "New York Ilo Society."

Evidently Esperanto is already undergoing the same fate as Volapük. But the Esperantists spread all kinds of false reports about Esperanto's "wonderful" growth. One "fidelulo" speaks of 55 Esperanto journals, not mentioning those that have long disappeared, as the *Medicina Revuo*, etc. Another relates that "Esperanto is taught in the public schools of many lands." Fortunately for their pupils, it is merely a dream. Two thousand people in the United States are said to be speaking Esperanto fluently and correctly. A dozen would have been an exaggeration, and these have adopted Ilo, etc. But even if all these reports were true, they would not prove anything, for Volapük could really show such successes, and yet it died because of intrinsic defects. Esperanto is following it into oblivion for similar reasons.

Dr. Max Talmey.

Founder and first president of the New York Esperanto Society, now New York Ilo Society.

Dangers in Food Adulterations

Philadelphia, Dec. 31, 1908.

To the Editor:—Food Inspection Decision 101, of the United States Department of Agriculture, states that "The department has not changed the position outlined in Food Inspection Decision 89. Pending the determination by the referee board of the wholesomeness or unwholesomeness of benzoate of soda, its use will be allowed under the following restrictions: Benzoate of soda, in quantities not exceeding 0.1 per cent., may be added to those foods in which generally heretofore it has been used. The addition of benzoate of soda shall be plainly stated on the label of each package of such food."

Food Inspection Decision 102 of the same department, signed by three cabinet officers, Messrs. Cortelyou, Secretary of the Treasury; Wilson, Secretary of Agriculture; and Strauss, Secretary of Commerce and Labor, states that "until further notice, vegetables greened with copper salts, but which do not contain an excessive amount of copper, and which are otherwise suitable for food, will be allowed entry into the United States, if the label bears the statement that sulphate of copper or other copper salts have been used to color the vegetables. Food Inspection Decision 92 is amended accordingly."

These decisions, as every practising physician must know, are fraught with great danger to the public health. There is considerable difference between the effects of any poison or irritant given in a few experiments in the laboratory, and those of the same poison taken continuously over long periods, even in small quantities.

I have not the slightest doubt that sodium benzoate (and especially the commercial of synthetic sodium benzoate) taken in foods more or less continuously, will derange digestion and set up irritative and degenerative changes in the gastroenteric mucosa. Similarly, I have no doubt that copper salts will cause chronic nephritis and it is possible that pathologic changes in the blood and in the nerves may also be originated in this manner.

If the medical profession is to make its voice heard in defense of the public health, and if the Food and Drugs Act is not to be nullified by "interpretation," it is high time that a flood of indignant protests from medical men throughout the United States shall sweep in on the secretaries of the Treasury, of Agriculture, and of Labor and Commerce.

S. Solis Cohen.

[Comment: We heartily endorse the appeal of Dr. Cohen to the medical profession to protest against these decisions, which, we understand, were adopted against the protest of Dr. Wiley.—Ed.]

Graduate Work in the Elementary Branches

To the Editor:—In common with thousands of other middle-aged practitioners, I have often felt the need and lack of up-to-date knowledge in the primary branches of medicine, viz.: chemistry, physiologic chemistry, histology, pathology, and bacteriology. Like others, I read and continue to buy the latest editions of books on practice, surgery, obstetrics, gynecology, dermatology, etc. We read and partially digest these works until we are satiated with fact and theory, and difference of opinion. But we are conscious all the time that our ground work in the fundamental principles of medicine is sadly deficient as we received it twenty or thirty years ago. Most of us are so situated that we can not take the time for a year's work at school as it would necessitate giving up practice for that length of time, which means a loss of a good portion of it.

Now, with the proper text-books, a good microscope, and a small home-fitted-up laboratory, it would be possible for physicians, in leisure moments, to dig out much information, and especially when two or three could work together and could enlist the cooperation of some younger colleagues. I believe that this work would be very interesting and profitable, much more so than going over and over the same old things in the so-called higher branches.

The first and most formidable objection is that nearly all the text-books used are too complicated and difficult for the class of men under consideration. If there were a series of books more elementary than those advertised in the medical journals, or if some competent teachers would recommend a set of books which might be read before taking up the larger works, many physicians would be glad to take up these studies in their leisure time. If The Journal A. M. A., which gives us almost everything else under the sun which we can utilize in practice, could help us along this line I believe that the profession would be greatly benefited.

H. F. Ballard, M.D., Cullom, Ill.

Book Notices

Diseases of the Nervous System. By Alfred Gordon, A.M., M.D., Associate in Nervous and Mental Diseases, Jefferson Medical College. Cloth. Pp. 487, with illustrations. Price, $2.50. Philadelphia: P. Blakiston's Son & Co., 1908.

Since Dr. Gordon insists in the preface that he is presenting a practical work for the man in general medical practice, it is fair to judge his book from this viewpoint. Now a practical book, as we conceive it, must definitely offer the reader a working knowledge of its subject—and there arises a difficulty in discussing diseases of the nervous system. The diagnostic signs and symptoms are so often complicated and variable, as the result of the intricate mechanism involved, that a short and so-called practical statement of the facts too often leads only to bewilderment in diagnosis and so defeats its own purpose. The two-page large-type statement of the clinical findings in multiple sclerosis, for instance is so entirely inadequate, especially in the light of the well-known fact that in the great majority of early cases there is no development of the series of symptoms which Dr. Gordon says is constantly present, that it, together with many other of his chapters, has little actual practical value. The practical thing in nervous diseases certainly is to diagnose early and correctly, and that can rarely be accomplished through neurologic short cuts. On the other hand, one finds passages that are not as correct as they might be. "It is a remarkable fact that an aphasic preserves the power of singing" (p. 113) is certainly not to be taken in the universal sense of Dr. Gordon's words. The whole chapter on aphasia is neither so clear nor so free from debatable points as the expressed aims of the author's preface would warrant. The statement (p. 209) that in Friedreich's ataxia "the knee-jerks are abolished, but Babinski's sign is present," would be very misleading to the general practitioner who might find a case in which the reverse was true. And again the same might be said of the unmodified statement (p. 250) that reactions of degeneration in the muscles are characteristic of progressive muscular atrophy. The entire story of electric reactions, both normal and pathologic, we are sure from comparison with other works, might be told much more clearly and succinctly. We are afraid that Dr. Gordon set himself an inordinately difficult task and that it still remains a fact that the larger works on nervous diseases are the most practical, especially for the man who knows least of the subject, and who therefore can not read between the lines.

A Manual of Obstetric Technic. By Joseph Brown Cooke, M.D., Adjunct Professor of Obstetrics in the New York Polyclinic Medical School and Hospital. Cloth. Pp. 253, with illustrations. Sixth Edition. Price, $1.25. Philadelphia: J. B. Lippincott Co., 1908.

This book is practical, especially that part dealing with normal labors. The author differs from many authorities, however, in advising Cesarean section as practically a last resort. It is generally acknowledged that Cesarean section offers better prospects for both mother and child than the mutilating operations. Cooke emphasizes the difficulties attending the operation and states that it is necessary to have four assistants and two trained nurses. As a matter of fact, even in country districts, there are more men capable of doing an abdominal operation, and of assisting at one, than there are men able to do difficult obstetric operations through the vagina without seriously injuring the mother, and it is unfortunate that this author advises every young physician to carry a basiotribe.

Manual of Psychiatry. By J. Rogues de Fursac, M.D., Formerly Chief of Clinic at the Medical Faculty of Paris. Translated by A. J. Rosanoff, M.D., Second Assistant Physician, Kings Park State Hospital, N. Y. Second Edition. Cloth. Pp. 406. Price, $2.50. New York: John Wiley Sons, 1908.

This belongs to the class of handy manuals in which no elaborate attempt is made to cover and illustrate the subject in all its aspects, but rather to convey a concise yet comprehensive view of the main facts of mental disorders. The principal changes from the earlier edition, besides a general revision of the text and the author's additions in the second French edition, are an extract from Prof. Adolf Meyer's paper on dementia præcox, and a number of notes by the translator, one of which is a description of the technic of lumbar puncture.

The first chapter, on etiology, is fairly full, though the subject is not treated at too much length, and one cause at least, that plays a part in American statistics of insanity, namely, isolation, is not mentioned. The omission is the more notable, as this cause is mentioned by other French authors, such as Regis, as of some importance. The section on symptomatology is very satisfactory, and that on examination of patients even more so, for a work of this kind. While the plan of history-taking is offered as incomplete and subject to modification, as in fact all such schemes must be, it would, if adopted as to its general plan, give an excellent case history, far better than the usual asylum records afford. The translator's notes on psychotherapy and after-care are timely supplements to the section on treatment. Fursac adopts in the main the ideas of Kraepelin as to classification, though he admits that the syndrome of dementia præcox is a rather indefinite one, and he also holds to the French conception of systematized delusional insanity. The descriptions of the special forms of insanity recognized cover the subject as well as could be expected in a work of this compass. The references to European (especially French) literature are numerous, but those to English and American writers are few. This, however, is so common in continental works on psychiatry as scarcely to be considered remarkable.

The translator has done his work well, both in giving a readable translation and in the bracketed additions to the text. There seem to be very few typographical errors; one, however, may be mentioned as rather notable—the reference to "Thomas D. Quincey's" description of the euphoria of the opium-eater.

Estimation of the Renal Function in Urinary Surgery. By J. W. Thomson Walker, M.B., C.M. (Edin.), F.R.C.S., Hunterian Professor of Surgery and Pathology, Royal College of Surgeons of England. Cloth. Pp. 273, with illustrations. London: Cassell & Co., 1908.

The first part of this volume is devoted to the estimation of the total renal function. The symptoms of failure of renal functions are considered and the examination of the urine described. Not only are the old chemical methods considered and their value estimated but such physical methods as cryoscopy, electric resistance and surface tension are fully described and their value estimated by Walker's experience and by the recorded experience of others. Walker values the methylene blue test highly. He says: "This test, I believe, is one which is more trustworthy than the quantitative examination of the urea or the appearance of general symptoms of renal inadequacy." He also attaches value to the phloridzin test. Nevertheless, he discusses and appreciates fully the limitations of the tests. The book contains many brief records of cases supporting the conclusions reached. The second part treats of the estimation of the function of one kidney. The history of the various methods is given and the best are fully described and illustrated. This book is well written and well illustrated. The subject-matter is of great importance, not only to the operating surgeon, for whom it is especially written, but to the practitioner who is selecting cases for the surgeon. The whole subject is adequately and judicially considered.

Surgery of the Rectum. By Fred C. Wallis, B.A., M.D., B.C. Cantab., F.R.C.S., Surgeon to the Charing Cross Hospital. Cloth. Pp. 168. Price, $2.00 net. New York: William Wood & Co., 1907.

According to the author's preface this little book "is intended to present the surgery of the rectum of the present day in a practical and condensed form to young surgeons and practitioners, who are," Dr. Wallis believes, "now beginning to take a serious and practical view of the ailments of this part of the body." The book is in reality an exceedingly exclusive and dogmatic presentation of the surgery of the rectum according to the views of Dr. Wallis, and these are, in some instances, peculiar. In the first chapter we find anorectal ulceration described as the "cause of fissure in ano. It is the cause of all ischiorectal, pelvirectal, submucous and subtegumentary abscesses, and as a natural sequence, it is the cause of all fistulæ, which are, so to speak, the residue of these abscesses. All tubercular fistulæ and those extensive ulcerations which proceed from them are due to the same cause." A little care in proofreading might have prevented the appearance of such paragraphs as the following: "Hemorrhage from the rectum is one of the worst forms of recurrent hemorrhage that occurs, because unless, sometimes, even when proper precautions have been taken, the hemorrhage continued steadily until quite an alarming amount of blood has been lost, and *suddenly* the patient shows signs of this and may rapidly die."

The statement on page 58 that the ultimate results of the ligature operation for hemorrhoids "are extremely good" is hardly consistent with that on page 62: "Recurrence is not an unusual thing after an operation by ligature. I do not say that if the operation is thoroughly carried out such a thing is likely, but in my own experience it is not uncommon for such recurrences to happen."

The book has a certain value, as has any report of personal experience, and parts of it are quite clear and to the point, but in view of the general carelessness of style, sweeping assertions and peculiar views on pathology displayed in its pages, it is not likely to take the place of any of the standard works on this subject.

A TEXT-BOOK OF BOTANY AND PHARMACOGNOSY. By Henry Kraemer, Ph.B., Ph.D., Professor of Botany and Pharmacognosy, and Director of the Microscopic Laboratory, in the Philadelphia College of Pharmacy. Third Edition. Cloth. Pp. 850, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott & Co.

That the second edition of this book, which appeared but a few months ago, is now followed by the third, shows that the book has met with general favor. Professor Kraemer is known as a scientist who is thoroughly practical, and so this book, while distinctly scientific, is yet of great value to those interested in the study of crude drugs. Professor Kraemer's ideas in this matter may be gained from the following incident: At a recent meeting there was under discussion the definition of the word "drug." Professor Kraemer, when asked how he defined this word to his classes, stated that he and his classes were too busy to bother with definitions, that they just studied the many drugs and this kept them so busy that no time for the study of definition was left. In view of the wide use of powdered drugs, a chapter on the recognition of powdered vegetable drugs and foods is of especial value. In this chapter a comprehensive scheme for the recognition of unknown drugs is given.

THE ART OF NATURAL SLEEP. By Lyman P. Powell, Rector of St. John's Church, Northampton, Mass. Cloth. Pp. 92. Price, $0.90. New York: G. P. Putnam's Sons, 1908.

The Emanuel Movement is responsible for a deluge of literature in the form of books, magazine articles and miscellaneous contributions to newspapers. While a lot of rubbish is appearing, a considerable portion of this literature is sensible and conservative, and therefore will do good rather than harm. Among the latter is this little book on insomnia and its treatment by suggestion. It is written for the layman; hence we ought not to expect to find—and do not find—in it much that relates to the basic physiologic facts underlying the cause of the condition when that cause is other than worry. The physician who has had fair, average experience in general practice will read of the remarkable cures recorded here with a sort of amusement—there are no failures, or practically none; it is all so very easy. Such a physician will realize the difference between treating those who come to one's library inspired with religious hope, emotional and receptive, and treating the average man and woman in the every-day frame of mind, and weighed down by great or petty care and discouragements.

LEITFADEN DER HYGIENE. Von Aug. Gärten, O. Ö. Professor der Hygiene und Direktor des hygienischen Institutes der Universität Jena. Fifth Edition. Paper. Pp. 654, with illustrations. Price, 7.60 marks. Berlin: Verlag von S. Karger, 1909.

The fifth edition of this treatise retains the good points of the earlier editions and is well brought up to date. Gärtner's "Hygiene" is a good example of the compendious German handbook. It deals with all of the most important hygienic questions of the day and gives a well-balanced view of such problems as water-supply and sewage-disposal, the hygiene of dwellings, clothing and diet, school hygiene, industrial hygiene, and the infectious diseases. Gärtner is of opinion that bovine tuberculosis is not one of the most important sources of human infection. In the section on methods for isolating the typhoid bacillus no mention is made of the malachite green medium which many recent investigators have found especially useful. Gärtner does not lay as great stress on the rôle of house-flies in spreading typhoid fever as most recent writers on the epidemiology of typhoid have done. A valuable glossary by Dieudonné of terms used in current discussions of immunity concludes the volume.

THE AIR AND VENTILATION OF SUBWAYS. By George A. Soper, Ph. D., Member of American Society of Civil Engineers. Cloth. Pp. 244, with illustrations. Price, $2.50. New York: John Wiley & Sons, 1908.

This volume is the outgrowth of studies carried on by Soper on the air of the New York subway. It includes a discussion of the characteristics of good air and bad air, the bearing of subways on health, methods of ventilating subways, the air of European subways, and especially the air of the New York subway and the health of New York subway employés. It is in the main clearly and accurately written, and is a valuable contribution to the subject of which it treats. Occasionally a somewhat loose statement is noted, as on page 77, where the death rate among the employés in a London subway is compared with the death rate for the whole London population. Soper concludes his own thorough study of the conditions in the New York subway with the statement that the most objectionable feature of the air was the dust, which consisted chiefly of angular particles of iron. No direct injurious influence, however, on the health of the employés could be traced, perhaps because the subway had been in operation but a short time when Soper's observations were made.

CLIMATIC TREATMENT OF CHILDREN. By Frederick L. Wachenheim, M.D., Chief of Clinic, Children's Department, Mount Sinai Hospital Dispensary, New York. Cloth. Pp. 400. Price, $2.50. New York: Rebman Co., 1907.

We are not aware that there is as yet any other treatise on this subject; the present work is a worthy pioneer. Wachenheim has condensed a vast amount of information on the important subject of climate into a manual which will prove generally serviceable to others as well as to the pediatrist. A general bibliography, a list of authors quoted and a carefully detailed index add materially to the value of the book.

USE AND CARE OF THE MICROTOME. Bausch & Lomb Optical Co., Rochester, N. Y. Paper. Pp. 32. For gratuitous distribution.

This little booklet is worth the attention of the user of the microtome. The descriptive matter and the advice are interesting and valuable.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

ADDRESSES OF FOREIGN WRITERS ON DEMENTIA PRÆCOX

MARION, OHIO, Dec. 26, 1908.

To the Editor:—1. I am desirous of learning the correct names and addresses of the following men: A. Gialelli, Kraepelin, Stransky, Freud, Bleuler, Neisser, Masselon, Meyer, Marro. All these men have written on the subject of dementia præcox and I am anxious to communicate with them.

2. Is there any directory which will give me the addresses of foreign physicians who are quoted in American journals?

CARL W. SAWYER.

ANSWER.—1. The following are some of the addresses desired:

Dr. A. Giannelli, Manicomio di S. Maria della Pieta, Rome, Italy.

Adolph Meyer, Pathological Institute, Office, Ward's Island, New York City.

Dr. E. Kraepelin, University of Heidelberg, Germany.

Dr. S. Freud, University of Vienna, Austria.

Dr. E. Bleuler, University of Zurich, Switzerland.

Dr. E. Stransky, I psychiatrische Klinik, Vienna, Austria.

Dr. R. Massalongo, University of Padua, Italy.

Marro, we are unable to identify. Antonio Marro has written on psychiatry. A letter would probably reach him through his latest publisher, Schleicher frères, Paris.

2. The addresses of authors are given in the foreign journals as in those of the United States. Lacking this information, one will find of service the following books (obtainable through any bookseller who handles foreign works):

"*Biographisches Lexikon*," published for $8.00 net, by Urban and Schwarzenberg, 38 Dorotheenstrasse, Berlin, N. W., Germany.

"*Minerva Jahrbuch der Gelehrten Welt*," by Dr. Karl J. Trübner, Strassburg, Germany; price, $3.50.

"*Spemanns goldenes Buch der Gesundheit*," published by W. Spemann, Berlin.

For an occasional communication one may enclose a letter to one of the scientific information bureaus in Berlin or Paris, enclosing an international exchangeable postage stamp coupon, requesting the bureau to forward the letter to the addressee. One should give sufficient information for the identification of the one it is desired to reach. THE JOURNAL occasionally receives such a letter from abroad with the request that we supply the address and forward it. The information bureaus referred to are:

Die ärztliche Auskunftei im Kaiserin Friedrich-Hause, 2 Luisenplatz, Berlin, N. W., Germany.

Bureau de renseignements scientifiques, à la Sorbonne, Paris, France.

Both have been written up in the news columns, the latest description having appeared Oct. 3, 1908, page 1167.

CORSET FOR GASTROPTOSIS—NO-LOOP METHOD FOR GASTROENTEROSTOMY

HOLLYWOOD, CALIF., Dec. 6, 1908.

To the Editor:—1. Please describe Landau's corset and pad attachment for gastroptosis referred to in Boas' "Diseases of the Stomach," page 343.

2. Where can I find a description of the no-loop method of gastroenterostomy referred to by Dr. Mayo in THE JOURNAL, Aug. 15, 1908, page 557?

A. B. C.

ANSWER.—1. Boas' "Diseases of the Stomach" gives the following descripton of Landau's and Bardenhauer's abdominal corset: The abdominal corset advanced by Landau and more or less suitably modified by others . . . . consists of a heart-shaped tin plate which carries two springs connecting with an elastic belt. Practicable and applicable for all forms of displacement of abdominal organs is Bardenhauer's bandage. It consists of two springs enclosing the crests of the ilium and finding there support and resting place. These are connected at the symphysis by a spring. From this there radiate broad pieces of metal or whalebone inserted in the linen, leather or rubber parts of the band which are protected at the upper end with a belt. The appliance may be procured from dealers in instruments.

2. Dr. Mayo's no-loop method of gastroenterostomy was described in THE JOURNAL, Sept. 22, 1906, p. 912.

INFORMATION REGARDING TEACHERS ABROAD

OAKLAND, CALIF., Dec. 5, 1908.

To the Editor:—Can you give me the names and addresses of men in charge of clinics in London, Paris, Berlin and Vienna, with whom I may communicate regarding postgraduate work?

J. L. LOHSE.

ANSWER.—Write to the following men in London, and to the officers of the Anglo-American Medical societies on the continent:

London: Secretary of the London Post-Graduate Association, West Wing, Examination Hall, Victoria Embankment, London.
Dean of the Northeast London Postgraduate College, Tottenham, London, N.
Dean of the West London Postgraduate College, Hammersmith Road, London, W.

Paris: Dr. Leonard Robinson, honorary secretary and treasurer of the Continental Anglo-American Medical Society, 1 Rue d' Agnesseau, Paris, France.

Berlin: Dr. James H. Honan, President of the Anglo-American Medical Association, 73 Lutzöwstrasse, Berlin.

Vienna: Anglo-American Club Café Polyclinica, opposite Allg. Krankenhaus, Vienna.

ILLUMINATION OF THE EYE

MICHIGAN CITY, IND., Nov. 3, 1908.

To the Editor:—I am conducting some experiments in both retinoscopy and ophthalmoscopy, and ask: Should the relative situation (both distance and angle) of lamp and mirror in indirect retinoscopy and ophthalmoscopy ever be changed?

FREDERICK BOOTH.

ANSWER.—In indirect ophthalmoscopy the position of the light and the angle of reflection are immaterial so long as one is able to obtain the red reflex. The distance of the mirror from the eye, will, of course, depend on the refraction of the eye. In any event, both should be so placed as to obtain the clearest image of the fundus. In retinoscopy, the case is somewhat different; much depends on whether a plane or a concave mirror is used. If a concave mirror, the light should be placed just above the patient's head, and the examiner should sit directly in front of the patient at a constant distance of three feet. When using the plane mirror it is conducive to the best results to have the source of light as near the mirror as possible in order to obtain the greatest intensity of illumination. Since, however, the rays of light are always reflected in a direct line from a plane mirror regardless of the distance between the patient and the examiner, it is really immaterial what this distance is. In any case the angle of reflection need not be taken into consideration.

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of December, 1908:

ALABAMA

Springfield, T. J., Ensley.

ARIZONA

Beauchamp, H. K., Phoenix.

ARKANSAS

Bean, W. B., LaGrange.
Johnston, O. J. T., Floral.
Scott, F. M., Paragould.

CALIFORNIA

Friedlander, David, San Francisco
Lucchetti, V. F., San Francisco.
Thompson, E. E., Sisson.
Weber, P. H., Winthrop.

COLORADO

Lockard, L. B., Denver.
Moses, Homer C., Colorado Springs.
Perkins, P. H., Colorado Springs.
Tucker, Bernley, Colorado Springs.

DISTRICT OF COLUMBIA

Greene, W. P., Washington.
Pyles, R. A., Anacostia.
Reede, E. H., Washington.

FLORIDA

McDuffee, T. M., Manatee.

GEORGIA

Ansley, W. S., Decatur.

ILLINOIS

Brandon, P. E., Chicago.
Dieckmann, Ernest, Herrick.
Estel, G. A., Jacob.
Ewing, J. B., Chicago.
Hays, L. M., Chicago.
Hunter, A. H., Staunton.
Kittermann, P. G., Chicago.
Lederer, Arthur, Chicago.
Montgomery, C. S., Stockland.
Morrill, E. S., Chicago.
Parsche, T. W., Chicago.
Taylor, J. L., Springfield.
Van Hageman, Silas, No. Chicago.
Waterman, A. H., Chicago.

INDIANA

Carter, Amos, Plainfield.
Custer, A. T., Linton.
Fosler, D. W., Indianapolis.
Gordon, C. W., Ft. Wayne.
Harper, W. Q., Seymour.
Kessinger, W. V., Sandborn.
Miller, L. C., Twelve Mile.
Murphy, M. G., Morgantown.
Myers, C. L., Covington.
Rebard, E. E., Shelburn.
Robinson, F. C., Martinsville.
Told, H. J., Florence.
Wells, G. M., Indianapolis.
Whiting, U. G., New Harmony.

IOWA

Leonard, A. H., Mitchellville.
Middleton, G. M., Davenport.

KANSAS

Miner, E. A., Independence.

KENTUCKY

Creech, C. B., Middleburg.
Edwards, D. S., Ludlow.
Garvin, M. L., Horse Cave.
Grasser, E. T., Louisville.
Gunn, J. S., Adairville.
Hill, J. W., Frankfort.
Kercheval, C. K., Ashland.
Martin, W. W., Reynolds Sta.
O'Hara, C. D., Williamstown.
White, W. C., Louisville.

LOUISIANA

Brock, J. L., Franklinton.

MARYLAND

Barnes, F. M., Jr., Towson.
Goldsborough, W. W., Greensboro.
Hooker, D. R., Baltimore.
Knight, L. W., Baltimore.

MASSACHUSETTS

Bossidy, J. C., Boston.
Coffin, F. H., Haverhill.
Cutter, I. T., Boston.
Dascombe, O. L., Waltham.
Derrick, J. S., So. Groveland.
Howland, G. L., Boston.
Vrooman, E. M., Cummington.

MICHIGAN

Allen, T. R., Ionia.
Benson, J. C., Flint.
Bradley, H. N., Bay City.
Campbell, D. A., Detroit.
Corney, E. J., Durand.
Curtiss, W. L., Benton Harbor.
Davison, R. J., St. Louis.
Felshaw, C. P., Holly.
Freeland, O. H., Mason.
Gale, H. M., Bay City.
Gardiner, S. E., Mt. Pleasant.
Gould, Jefferson, Fenton.
Hill, H. C., Benton Harbor.
Jenne, B. H., Otisville.
Kelly, C. M., Grand Rapids.
Lee, F. J., Grand Rapids.
MacNaughton, P. D., Calumet.
McKinzie, J. C., New Buffalo.
Parker, I. E., Dryden.
Perry, H. E., Newberry.
Rothschild, Douglas, Rockland.
Scott, W. A., St. Johns.
Shaw, R. G., Detroit.
Sibley, H. A., Pontiac.
Sprague, W. B., Palmyra.
Taylor, W. H., Flint.
Westgate, C. H., Weston.
Whitmore, R. C., Quincy.
Wiley, F. C., Pinneboy.

MINNESOTA

Blanchard, H. G., Waseca.
Dougherty, J. P., Wabasha.
Johnson, C. H., Austin.

MISSISSIPPI

Chilton, C. M., Gunnison.
Glass, S. W., Dublin.
Welch, B. Z., Wool Market.

MISSOURI

Anderson, J. N., Conway.
Kimbrough, J. S., St. Louis.
Lyman, H. W., St. Louis.
Moore, W. L., Truxton.

MONTANA

Anderson, A. E., Butte.
Shore, W. B., Gardiner.

NEBRASKA

Decker, R. F., Byron.
Swoboda, F. J., Jr., Brainard.

NEVADA

Hamilton, G. B., Reno.
West, F. M., Lovelock.

NEW HAMPSHIRE

Buckley, J. J., Milton.

NEW JERSEY

Granelli, M. S., Hoboken.
Lindenbaum, Henry, Hoboken.
Mathews, W. J., Hoboken.
Pindar, D. B., Hoboken.
Spath, G. B., Hoboken.

NEW YORK

Adelson, Jonas, New York City.
Fisher, R. H., Spencer.
Geis, N. P., Brooklyn.
Harrigan, A. H., New York City.
Hirschfield, Cilie, New York City.
McKeown, Patrick, Long Island City.
Schermerhorn, J. R., Schenectady.
Schloss, O. M., New York City.
Shaul, J. W., Keuka Park.
Spalding, A. M., New York City.
Squires, C. A., Binghamton.

NORTH DAKOTA

Clark, Ira D., Harvey.

OHIO

Biggs, A. L., Lorain.
Fall, H. V., Custar.
Groschner, C. B., Toledo.
Hayford, H. S., Cleveland.
Jacob, N. F., Whitehouse.
Jacoby, G. W., Savannah.
Loewenthal, Noritz, Cleveland.
Parker, C. B., Gallipolis.
Penberthy, J. P., Bryan.
Semans, E. M., Delaware.
Vigor, W. C., Plain City.
Whisler, R. D., Benton Ridge.

OKLAHOMA

Murdoch, L. H., Okeene.

PENNSYLVANIA

Alexander, I. Hope, Pittsburg.
Baudy, E. R., Philadelphia.
Brinkmann, Leon, Philadelphia.
Coulter, J. C., Mosiertown.
Dale, P. H., Center Hall.
Davidson, A. J., Philadelphia.
Davidson, W. J., McKees Rocks.
Dubbs, R. L., Philadelphia.
Steel, J. M., Huntington.
Stout, P. S., Philadelphia.

TENNESSEE

Eblen, W. H., Wind Rock.
Hibbitts, J. B., Union City.
Meredith, A. O., Pikeville.
Patton, E. W., Litton.

TEXAS

Brown, W. D., Texla.
Hamilton, W. S., San Antonio.
Hays, A. R., Ft. Worth.
Nichols, P. C., Sylvester.
Russell, P. S., Batson.
Walker, J. H., Sylvester.

UTAH

Calderwood, W. R., Salt Lake City.
Logan, Z. G., Ophir.
Smedley, R. C., Salt Lake City.
Smith, R. J., Collinston.
Wilcox, C. F., Salt Lake City.

VIRGINIA

Frazer, J. D., Za.
Watts, S. H., Charlottesville.

WASHINGTON

Edwards, J. W., Port Townsend.
Lind, C. O., Seattle.
Newell, R. I., Spokane.
Prencel, J. E., Spokane.

WEST VIRGINIA

Jackson, J. A., Ronceverte.
Robertson, G. C., Clendenin.
Snyder, O. H., Edgarton.

WISCONSIN

Coon, G. E., Milton Junction.

WYOMING

Phifer, F. W., Wheatland.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 2, 1909:

Hartnett, E. H., capt., granted leave of absence for 4 months, with permission to return to the U. S. via Europe.

Lewis, W. F., major, granted an extension of 10 days to his leave of absence.

Hart, W. L., first lieut., granted leave of absence for 10 days.

Humphreys, H. G., capt., granted leave of absence for 7 days.

Reasoner, M. A., first lieut., ordered from San Francisco, to Fort Caswell, N. C., for duty.

Davidson, W. T., capt., sailed from San Francisco, for Manila, P. I., returning from leave of absence in U. S.

Pinkston, O. W., first lieut., granted leave of absence for 7 days.

Rhoads, T. L., capt., leave of absence extended 2 months.

Faultleroy, P. S., major, ordered to Ft. Benjamin Harrison, Ind., for duty, on return from Cuba.

Church, J. R., major, ordered to rejoin proper station, Ft. Robinson, Neb., on return from Cuba.

Allen, J. H., capt., ordered to Ft. Monroe, Va., for duty on return from Cuba.

Bevans, J. L., capt., ordered to A. G. H., San Francisco, for duty with Co. B, H. C., on return from Cuba.

Thomason, H. D., capt., ordered to Ft. Douglas, Utah, for duty on return from Cuba.

Tefft, W. H., capt., ordered to Ft: Baker, Cal., for duty on return from Cuba.

Hartsock, F. M., major, ordered to Ft. Meade, S. D., for duty on return from Cuba.

Johnson, R. W., major, ordered to St. Louis to take charge of the medical supply depot at that city, on return from Cuba.

Lemmon, Robert, M. R. C., when relieved from duty at Ft. Caswell, N. C., ordered to Ft. Howard, Md., for duty.

Tyler, G. T., M. R. C., ordered from Ft. Jay, N. Y., to Ft. H. G. Wright, N. Y., for temporary duty.

Anderson, E. A., M. R. C., ordered to accompany Third squadron, Fifth cavalry, from Ft. Wingate, N. M., to San Francisco.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 2, 1909:

Riggs, R. E., P. A. surgeon, detached from duty with marines in Cuba and ordered home to wait orders.

Biello, J. A., asst.-surgeon, detached from duty with Pacific fleet, and ordered to duty at the Naval Hospital, Mare Island, Cal.

Duhigg, J. T., asst.-surgeon, detached from the Navy Yard, Mare Island, Cal., and ordered to duty with the Pacific Torpedo Fleet.

Lowndes, C. H. T., surgeon, orders to the Navy Yard, Mare Island Cal., revoked; ordered to continue treatment at the Naval Medical School Hospital, Washington, D. C.

Kindleberger, C. P., surgeon, ordered to the Navy Yard, Mare Island, Cal., and to additional duty in command of the naval medical supply depot.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 30, 1908:

Brooks, S. D., surgeon, granted 15 days' leave from Dec. 26, 1908, on account of sickness.

Stimpson, W. G., surgeon, detailed as member of a revenue cutter service retiring board at Port Townsend, Wash., Jan. 9, 1909.

Oakley, J. H., P. A. surgeon, detailed as member of a revenue cutter service retiring board at Port Townsend, Wash., Jan. 9, 1909.

Cofer, L. E., P. A. surgeon, granted 7 days' leave from Dec. 24, 1908.

Grubbs, S. B., P. A. surgeon, on expiration of leave, to proceed to San Juan, Porto Rico, for duty as chief quarantine officer, relieving Passed Assistant Surgeon M. H. Foster.

Foster, M. H., P. A. surgeon, on being relieved by Passed Assistant Surgeon S. B. Grubbs, to proceed to New York, and report to the chief medical officer, Ellis Island Immigration Station, for duty.

Foster, A. D., P. A. surgeon, granted 11 days' leave from Dec. 23, 1908.

Collins, G. L., P. A. surgeon, granted 1 day leave, Dec. 27, 1908.

Sweet, Ernest A., P. A. surgeon, directed to proceed to Boston, and report to medical officer in command for temporary duty.

Fauntleroy, Charles M., asst.-surgeon, relieved from duty at Marine-Hospital, New Orleans, and directed to proceed to New Orleans Quarantine Station for duty and assignment to quarters.

Preble, Paul, asst.-surgeon, orders directing him to report to medical officer in command at Baltimore, revoked. Directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Bowers, Paul E., acting asst.-surgeon, granted 7 days' leave from Dec. 25, 1908.

Wright, F. T., acting asst.-surgeon, granted 5 months' leave from Dec. 23, 1908, without pay.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 1, 1909:

SMALLPOX—UNITED STATES

Arkansas: Texarkana, Nov. 22-28, 3 cases.
California: Los Angeles, Dec. 5-12, 1 case; San Francisco, Dec. 12-19, 1 case.
Illinois: Belleville, Dec. 13-20, 3 cases.
Indiana: Lafayette, Dec. 19-21, 1 case, 1 death.
Kansas: Topeka, Dec. 5-12, 7 cases.
Maine: Canadian Border, Dec. 12, present.
Mississippi: DeSoto, Nov. 1-Dec. 22, 135 cases.
Montana: Nov. 24-Dec. 15, 9 cases.
New Hampshire: Hinsdale, Dec. 23, 6 cases; West Chesterfield, 1 case; Westmoreland, 1 case.
Ohio: Cincinnati, Dec. 11-18, 5 cases.
Texas: Gonzales County, Oct. 1-19, present; Laredo, Dec. 26, 2 cases; San Antonio, Nov. 28-Dec. 19, 6 cases.
Washington: Spokane, Dec. 5-12, 1 case.
Wisconsin: LaCrosse, Dec. 5-19, 4 cases; Manitowoc, Dec. 12 19, 4 cases; Milwaukee, Nov. 21-28, 3 cases.

SMALLPOX—FOREIGN

Algeria: Algiers, Nov. 1-30, 20 deaths.
Brazil: Bahia, Oct. 31-Nov. 14, 51 cases, 2 deaths; Santos, Oct. 1-31, 26 cases, 11 deaths.
Canada: Kingston, Dec. 5-12, 2 cases.
Ceylon: Colombo, Nov. 1-7, 25 cases, 4 deaths.
China: Shanghai, Nov. 14-21, present.
France: Marseilles, Nov. 1-30, 1 death; Nantes, Nov. 22-29, 2 cases; Paris, Nov. 21-Dec. 5, 6 cases, 1 death.
Italy: Florence, Nov. 23-30, 2 cases.
Java: Batavia, Oct. 3-10, 2 cases; Nov. 1-14, 2 cases.
Malta: Nov. 21-28, 1 case on ship.
Portugal: Lisbon, Nov. 28-Dec. 25, 1 case.
Russia: Riga, Nov. 28-Dec. 5, 3 cases; St. Petersburg, Nov. 17-24, 6 cases, 4 deaths.
Spain: Barcelona, Nov. 27-Dec. 5, 3 deaths.

YELLOW FEVER

Barbados: Dec. 29, 2 cases, 2 deaths.
Brazil: Bahia, Oct. 31-Nov. 6, 1 death; Manaos, Nov. 21-28, 2 deaths.
Ecuador: Guayaquil, Nov. 21-28, 2 deaths.
Martinique: Fort de France, Nov. 21 28, 2 cases, 1 death.
Mexico: Itzineal, Dec. 6-12, 2 cases, 2 deaths; Maxcanu, 2 cases, 1 death; Merida, 3 cases, 1 death; Vera Cruz, 3 cases.

CHOLERA

India: Rangoon, Nov. 7-14, 6 deaths.
Russia: General, Nov. 7-14, 419 cases, 189 deaths.

PLAGUE

Australia: Brisbane, Nov. 1-7, 1 case.
Brazil: Bahia, Oct. 30-Nov. 14, 3 cases, 7 deaths; Rio de Janeiro, Nov. 8-15, 7 cases, 3 deaths.
Ecuador: Guayaquil, Nov. 21-28, 1 death.
Egypt: General, Nov. 1-21, 7,416 cases, 5,569 deaths; Bombay, Nov. 18-24, 5 deaths.
Indo-China: Cholen, Oct. 18-24, 5 cases, 5 deaths.
Turkey: Bagdad, Nov. 7-14, 4 cases, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Little Rock, Jan. 12. Secretaries: Regular, Dr. F. T. Murphy, Brinkley; Homeopathic. Dr. P. C. Williams, Texarkana; Eclectic, Dr. A. J. Widener. Little Rock.

DISTRICT OF COLUMBIA: Washington, Jan. 12. Sec., Dr. George C. Ober, 210 B. St., S. E.

ILLINOIS: Coliseum Annex, Chicago, Jan. 18-20. Sec., Dr. J. A. Egan; Springfield.

NEW MEXICO: Santa Fe, Jan. 11. Sec., Dr. J. A. Massie.

OKLAHOMA: Chickasha, Jan. 12. Sec., Dr. Frank P. Davis, Enid.

SOUTH DAKOTA: Sioux Falls, Jan. 13-14. Sec., Dr. H. E. McNutt, Aberdeen.

VERMONT: Montpelier, Jan. 12-14. Sec., Dr. W. Scott Nay, Underhill.

WISCONSIN: Milwaukee, Jan. 12-14. Sec., Dr. J. V. Stevens, Jefferson.

Medical Education and Nostrums, Second Letter

The following is the second of a series of letters issued jointly by the Council on Medical Education and the Committee on Medical Teaching of the Council on Pharmacy and Chemistry:

To Medical Teachers:—This letter treats of the conditions which, with your aid, we seek to remedy.

The prescribing of secret or semisecret remedies, pharmaceutical "specialties," and other mixtures of various types under fanciful names has become quite general. This thoughtless practice has led, directly and indirectly, to numerous and most serious evils. We would call your attention to the following:

Ignorant, Biased and Irresponsible Instruction: The physician has largely abandoned to pharmaceutical manufacturers his privilege and duty of prescribing. These manufacturers have gradually come to presume to advise us in therapeutics as well as in materia medica. It is obvious that such advice is not disinterested, and that it therefore is unreliable.

Therapeutic Progress Impossible: So long as the experience of clinicians is mainly restricted to nostrums of which they know little beyond the highly colored prospectuses of the manufacturers, therapeutics can not advance.

False Security: Dangerous drugs have been lauded by nostrum-makers under euphonious names which are not at all suggestive of their potent ingredients, and the physician is thus beguiled into the use of excessive amounts of dangerous and habit forming substances. Chloral, under the name of Bromidia; Acetanilid in the guise of Antikamnia, and many other poisons, are thus often used in dangerous, if not fatal doses, such as no careful physician would prescribe under their official names. With new products, manufacturers emphasize claims of superior safety which often do not survive a more extended experience. Heroin, Atoxyl and Isopral point a lesson worth learning.

Self-Medication: The prescribing of nostrums leads almost inevitably to self-medication. The patient usually learns the name of the nostrum prescribed, and thereafter buys it without further medical advice, and recommends it to his acquaintances who suffer from similar symptoms. The whole sequence of evils, of imaginary diseases, neglected ailments, drug addictions, and fatal poisoning, etc., follows in natural order. The layman hesitates to tamper too much with a genuine prescription, but he has not the same wholesome fear of a ready-made preparation. Many of the so-called "patent medicines" of to-day were originally "ethical." Their use has been popularized by physicians.

Pseudoscience, arrest of progress, direct and indirect danger to the patients—these are the main evils with which the medical profession is confronted.

Indiana October Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination reports the written examination held at Indianapolis, Oct. 27-29, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 59, of whom 53 passed and 6 failed. Nine reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent
George Washington Univ	(1907)	88
Hering Med. Coll	(1908)	90
Rush Med. Coll	(1894) 80; (1908)	92
College of P. and S., Chicago	(1908)	82, 89
Chicago Coll. of Med. and Surgery	(1908)	80, 83, 86, 87
Northwestern Univ. Med. School	(1908)	82, 85
Illinois Med. Coll	(1908)	75
Hahnemann Med. Coll., Chicago	(1908)	83, 83
Indiana University	(1908)	79
Medical Coll. of Indiana	(1904)	85
Louisville and Hosp. Med. Coll	(1908)	75, 79, 80, 83, 83, 85, 90, 91
University of Louisville	(1908)	85, 86, 87, 87, 89, 89, 90
Kentucky School of Med	(1907) 89; (1908)	77, 81, 83, 90, 90
Kentucky University	(1906)	85, 90
Hospital Coll. of Med., Louisville	(1907)	86
Louisville National Med. Coll	(1908)	89
University of Michigan	(1908)	83, 88, 90
University and Bellevue Hosp. Med. Coll	(1908)	94
Western Reserve University	(1908)	86
Medical College of Ohio	(1908)	89
Miami Med. Coll	(1906)	84, 90
Eclectic Med. Institute, Cincinnati	(1908)	81
Medico-Chirurgical College, Philadelphia	(1906)	91
Jefferson Med. Coll	(1863)	81

FAILED

College.	Year Grad.	Per Cent
Jenner Med. Coll	(1907)	68
Eclectic Med. Coll. of Indiana	(1908)	56
Louisville and Hosp. Med. Coll	(1908)	72
Kentucky School of Med	(1907)	71
University of Louisville	(1908)	60
St. Louis Coll. of P. and S	(1907)	63

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Colorado School of Med	(1895)	Kansas
Bennett Coll. of Ecl. Med. and Surg	(1907)	Illinois
College of P. and S., Chicago	(1899)	Wisconsin
Rush Med. Coll	(1897)	Minnesota
Kentucky School of Med	(1906) (1907)	Kentucky
Medical School of Maine	(1897)	New Hamp.
University of Michigan	(1906)	Michigan
Meharry Med. Coll	(1901)	W. Virginia

Nevada November Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, Nov. 2-3, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. Five reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Cooper Med. Coll	(1906)	89.5
College of P. and S., San Francisco	(1908)	89.5
California Med. Coll., Eclectic	(1903)	82
College of P. and S., Los Angeles	(1908)	79.5
Western Reserve University	(1886)	87.8
University of Zurich, Switzerland	(1902)	84

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Rush Med. College	(1900)	Wisconsin
Central Coll. of P. and S., Indianapolis	(1897)	Indiana
Minneapolis Coll. of P. and S	(1897)	Minnesota
College of P. and S., Baltimore	(1896)	Minnesota
College of P. and S., New York City	(1871)	Iowa

Rhode Island November Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Nov. 5-6, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 13, of whom 9 passed and 4 failed. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Yale University	(1906) 80: (1907)	84.3
Baltimore Med. Coll	(1908)	83.1
Harvard Medical School	(1907) 84; (1908)	83.8, 90.3
Dartmouth Medical School	(1888)	80
Cornell University Med. Coll	(1903)	92.4
University of Pennsylvania	(1905)	89

FAILED

College.	Year Grad.	Per Cent.
Baltimore Med. Coll	(1907)	69.1, 74.8
Tufts Coll. Med. School	(1908)	77
Laval University, Quebec	(1905)	53*

* Did not complete examination.

Miscellany

Method for Determining Age of a Blood Spot.—In a communication in the *Archives Gén. de Médecine*, March, 1908, A. Lecha-Marzo confirms the assertion of A. Florence that a drop of blood on a weapon can be examined as instructively under the microscope as if it were on an ordinary cover glass, if examined by strong artificial light. Even if the drops are invisible to the naked eye, the blood corpuscles stand out with their distinct outlines and characteristics. Three years ago Marzo called attention to the differential importance of crystals of iodo-hematin as a means of determining the presence of blood. Later he proposed a method based on treatment of the spot with chlorin water, pyridin and ammonium sulphate, to reveal the presence of hematin. In order to determine the age of a blood spot Tomellini uses a color scale made by letting drops of blood from a wound, bleeding both arterial and venous blood, fall from a height of about four inches on a white cloth, making all the drops of the same size. He then recorded the tint of the drops at the end of an hour, four hours, four days, a month, a year, etc. The sunlight was not allowed to fall directly on the drops. His color scale shows twelve types of tints giving the color of a drop of blood at different periods. Marzo has improved on this method as follows for still more exact determination of the age of a blood spot. When a spot of blood is submitted to him in a forensic case he compares it with the Tomellini table and notes the type with which it corresponds. At the same time he draws a drop of blood from his finger and deposits it on the cloth or article bearing the suspicious spot. The cloth or article is then placed in the spot whence it was taken and the former conditions reproduced as perfectly as possible. The fresh drop is then examined from time to time until its tint comes to approximate that of the type recorded, when the interval can be safely stated as the same as that between the first shedding of the blood and the discovery of the crime by the police.

Of course the findings are not mathematically correct, but they give an approximate of the truth which is liable to prove useful in some circumstances. The police must be instructed that the control blood spot has to be made under the same conditions as the primary spot, and consequently that it is important to have an unstained scrap of the linen or cloth brought for the purpose, and every effort made to reproduce the conditions of light or darkness, etc.

Gelatin as an Anesthetic and as a Hemostatic.—L. J. Facio of Buenos Aires publishes in the *Semana Medica*, Nov. 5, 1908, an account of a number of cases not only of aneurism, but also of other affections in which he was able to arrest the pain by daily subcutaneous injection of a small amount—not more than 25 c.c.—of a 1 per cent. solution of gelatin. The pain was constantly attenuated by the first injection, and disappeared completely after the second or third. With an aneurism the effect is more marked than that of morphin. In pleurisy, articular pains, progressive paralysis, etc., the effect was less pronounced than that of morphin, but it lasted much longer. There were no by-effects of any consequence observed in his experience, and the local pain is slight when these small amounts are injected. The anesthetic action occurs promptly and lasts for twenty-four hours at least, and sometimes for three days, or even longer. Chaput advocates the more extensive use of gelatin as a preliminary or supplement to operations to prevent or arrest hemorrhage. His communication was published in the *Bull. de la Soc. Méd. des Hôp. de Paris*, Nov. 26, 1908. Instead of opening the wound again in case of severe secondary hemorrhage he raises the part, raising the foot of the bed by 30 cm. after a laparotomy, covers the region with an ice bag, injects physiologic salt solution under the skin or into a vein, and then injects into the thigh 500 gm. of a 1 per cent. solution of gelatin. He relates a number of examples to show the remarkable benefit from this method. If the hemorrhage recurs, the wound must be opened, the clots removed, and the oozing vessels ligated, after the hemorrhage has been arrested by repeating the above measures. He advises the use of gelatin in this way in every case of ruptured tubal pregnancy. If operative intervention becomes necessary, the patient is then in good condition for it. Marfan found gelatin useful, given internally, in a severe case of hemorrhagic purpura. Chaput explains the secondary hemorrhage as the result of liquefaction of the clot under the action of bacteria from without, possibly entering by way of the drain.

Italian Congress for Tropical Medicine and Hygiene.—One of the communications at this congress, held at Rome in October, was from Caccini, discussing the high mortality from tuberculosis among Italian immigrants at New York. He emphasized the necessity for lectures, in Italian, on hygiene and prophylaxis in the Italian quarters, where the immigrants can learn how to protect themselves against disease. Their ignorance of the language renders them unable to take advantage of the prophylactic measures already instituted in New York. Mozzetti related a recent interesting experience with vaccination in Abyssinia. There was danger of an epidemic of smallpox, and at the request of the native authorities he vaccinated several thousands, almost the entire population, with the usual technic. The native authorities, however, decided that this was not enough, and the people were vaccinated again by the customary method of variolization, inoculating pus taken from a smallpox patient. The inoculations, however, failed to produce the slightest disturbance or symptoms in the previously vaccinated persons, not one showing any effect from the variolization while all those previously unvaccinated developed the usual mild attack of variola. Nothing could have been more conclusive, and the people of Abyssinia, at least, are fully convinced of the magic power of vaccination, and the natives from the countries beyond are now asking for the animal lymph vaccine. Rosati called attention to the great danger in Italy from returning tuberculous emigrants. Between 600 and 700 return to Italy every year, and they are allowed to proceed unmolested to their former homes where they are liable to spread infection. He mentioned instances of places where tuberculosis had been unknown until thus imported. The congress adopted resolutions along these lines and adjourned to meet at Naples in October, 1909, when Prof. A. Celli will preside. Celli and Rho are the representatives of the society in the International Association for Tropical Medicine.

International Prevention of Criminal Abortion.—The French Obstetric Society, at its recent annual meeting, Paris, October 8 to 10, appointed a permanent committee to study ways and means to be suggested to the public authorities for the prevention of criminal abortion. The committee includes nine of the prominent obstetricians of France, besides the officers of the society, and Treub of Amsterdam, Bossi of Genoa, Guzzoni of Messina, and Keiffer of Brussels. Resolutions were adopted stating that, while it was not within the province of the society to discuss the subject on social, moral or religious grounds, yet it felt the urgent need for warning and calling attention to the great frequency and extreme gravity of the accidents consequent on criminal abortion, whatever the methods employed or the precautions observed. Statistics establish that in the large majority of cases long and serious local affections follow; that in two-thirds of the cases very serious affections develop, menacing life, entailing incapacity for work for months, years or permanently, and that the survivors are left infirm. Death usually spares women delivered normally at term, but carries off at once or not long afterward 6 per cent. of the women delivered by abortive practices. Recent statistics from the lying-in hospitals of the large cities show further that these practices destroy prematurely about a third of all the products of conception. The appeal for concerted action in this line was made by Bossi of Genoa, who delivered an address on the subject. Doléris, the president of the society, testified that at Paris 25 per cent. of the deliveries in the hospitals were the result of criminal abortive practices, and that the morbidity of the criminal abortions amounted to 66 per cent. and the mortality to 6 per cent. This discussion of prophylaxis against abortion was mentioned in the "Paris Letter," Nov. 7, 1908, page 1613.

Marriages

Harry E. Mock, M.D., to Miss Golda Taylor, both of Chicago, December 25.

James A. Long, M.D., to Miss Alice G. Rust, both of Frederick, Md., December 19.

Julia C. Barrow, M.D., and Robert P. Eckles, both of Sardis, Miss., December 10.

Joseph M. Asher, M.D., to Miss Louise Teller Schlesinger, both of Philadelphia, December 21.

Lewis C. Sampson, M.D., to Mrs. Ida Frances Gallagher, both of St. Joseph, Mo., December 24.

Henry J. Kohlmann, M.D., to Miss Phoebe Edna Skidmore, both of Brooklyn, N. Y., Sept. 4, 1905.

Claude B. Williams, M.D., Elizabeth City, N. C., to Miss Rennie Buxton, of Jackson, N. C., December 23.

Lloyd Emerson Matter, M.D., Lake Geneva, Wis., to Miss Charlotte Grace Haines, of Chicago, December 24.

Chester A. Wright, M.D., Cayce, Ky., to Miss Blanche Thelma Freeman, of Alexander, Ky., December 13.

Frederick M. Barney, M.D., U. S. Army, to Miss Isabelle D. Melville, of New York City, at Fort McHenry, Md., December 16.

Stephen Ellsworth Smith, M.D., Grantville, Kan., to Mrs. Emma B. Moulton, of Holton, Kan., at Grantville, December 13.

Deaths

Alfred Russell Goodrich, M.D. Berkshire Medical College, Pittsfield, Mass., 1846; a member and in 1879, president of the Connecticut State Medical Society; formerly principal of the Deerfield, Mass., Academy; a member of the General Assembly of Connecticut in 1870; for three terms comptroller of the state, and for two terms state treasurer; president of the local school board for more than thirty years; a member of the board of health and a trustee of the public library; died at his home in Vernon, December 20, from senile debility, aged 90.

Isaac McClellan Tittsworth, M.D. Medical College of Ohio, Cincinnati, 1889; a member of the American Medical Association; and for several years president of the Jefferson County (Tenn.) Medical Society; for many years local surgeon at Mossy Creek, Tenn., for the Southern Railway Company; representative in the legislature in 1905; a member of the local board of U. S. Pension Examining Surgeons; died at his home in Jefferson City, December 20, from cholelithiasis, aged 56.

Francis Marion Morgan, M.D. Washington University, Baltimore, 1869; a Confederate veteran; physician to the Norfolk county jail; ward physician of Berkley and coroner for several terms; formerly surgeon to the Norfolk and Southern Road, and health officer of Portsmouth, Berkley and Brambleton; died at his home in Norfolk, Va., December 25, aged 62.

Benjamin C. Stevens, M.D. University of Michigan, Ann Arbor, 1873; a member of the American Medical and Kankakee Valley medical associations; once president of the Cass County (Ind.) Medical Society; for eight years county physician and for one term coroner; died suddenly from angina pectoris, at his home in Logansport, December 22, aged 58.

Samuel Hart, M.D. Bellevue Hospital Medical College, New York City, 1867; major and surgeon of the Sixty-third, Fifteenth and Seventy-fifth Ohio Volunteer Infantry during the Civil War, and at its close given the brevet rank of lieutenant-colonel; for fifty-six years a practitioner of Marietta, Ohio; died at his home, December 21, aged 78.

Joseph Bernard Anderson, M.D. Fort Worth (Texas) University, 1907; a member of the Oklahoma State Medical Association; for six months superintendent of Fort Worth Hospital, and later a practitioner of Enid, Okla.; died in San Antonio, Texas, December 14, from pulmonary tuberculosis, aged 35.

Arthur Sanford Cheney, M.D. Yale Medical School, New Haven, Conn., 1893; formerly a practitioner of New Haven, but for two years in the United States consular service, and American consul at Messina, Sicily; was killed in the earthquake which destroyed that city, December 29, aged 39.

Jacob Wilber Velie, M.D. Geneva (N. Y.) Medical College, 1852; one of the most valued members of the Chicago Academy of Sciences, of which he was successively secretary, curator and taxidermist; died recently at the home of his son, in St. Joseph, Mich., aged 79.

Frederick E. Maxcy, M.D. Medical School of Maine, Brunswick, 1879; a member of the Maine Medical Association and Medical Association of the District of Columbia; died suddenly at his home in Washington, December 25, from cerebral hemorrhage, aged 55.

I. Nutt Plummer, M.D. Medical College of Ohio, Cincinnati, 1872; a member of the Indiana State Medical Association; surgeon in the Army during the Civil War; died suddenly at his home in Shoals, Ind., December 23, from cerebral hemorrhage, aged 70.

Samuel Ramsey Seawright, M.D. Indiana Medical College, Laporte, 1849; coroner of Tippecanoe County, Ind., in 1882, and in 1893 president of the State Board of Health; died at his home in Lafayette, December 20, from senile debility, aged 84.

Frederick Lawrence Joyce, M.D. Harvard Medical School, Boston, 1903; for two years an interne in St. John's Hospital, Lowell, Mass.; but later a practitioner of San Francisco; died recently in Monrovia, Cal., from tuberculosis aged 30.

Samuel Reed Dunn, M.D. Jefferson Medical College, Philadelphia, 1867; health officer of Washington County, Miss.; formerly a member of the State Board of Health; died at his home in Greenville, December 20, from heart disease, aged 66.

Robert William Nelson, M.D. Jefferson Medical College, Philadelphia, 1846; a member of the Medical Society of Virginia; city physician of Charlottesville, Va.; died at his home December 22, from cerebral hemorrhage, aged 86.

Percy Eugene Eagan, M.D. Kentucky School of Medicine, Louisville, 1897; of Coal River, W. Va.; was struck by a train while crossing the railway track near that place, December 24, and died a few hours later, aged 34.

Bayard Taylor Wise, M.D. Ohio, 1850; of Indianapolis; surgeon of the Fifth Iowa Volunteer Cavalry during the Civil War; died in the Deaconess Hospital, Indianapolis, May 16, from cirrhosis of the liver, aged 73.

David C. Eisbein, M.D. University of Buffalo, N. Y., 1878; a member of the Medical Society of the State of New York; and a veteran of the Franco-German war; died at his home in Buffalo, December 24, aged 64.

Elijah Glendenning, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1865; a member of the Iowa State Medical Society; died at his home in Lineville, December 17, from pneumonia, aged 76.

Charles Allen, M.D. Georgetown University, Washington, D. C., 1861; for several years a ward physician of Washington, D. C., died from cerebral hemorrhage at his home, December 24, aged 73.

James Valorous Lewis, M.D. Geneva (N. Y.) Medical College, 1861; for 47 years a practitioner of North Norwich, N. Y.; died at his home, December 23, from pneumonia, aged 78.

James G. Wheeler, M.D. Cincinnati College of Medicine and Surgery, 1881; of Broughton, Ill.; died in the Evansville (Ind.) Sanitarium, December 18, from cancer of the stomach, aged 61.

James Ross Reed, M.D. University of Pennsylvania, Philadelphia, 1896; of Conemaugh, Pa.; died in Mercy Hospital, Pittsburg, December 22, from pneumonia, aged 34.

John Kincaid, M.D. Philadelphia, about 1845; a practitioner of Rome, Ga., for more than fifty years; died at his home, September 5, from the effects of a fall, aged 86.

James Hollis Ward, M.D. Ohio Medical University, Columbus, 1901; of Columbus, Ohio; died at his home near Gahanna, Ohio, December 25, from tuberculosis, aged 36.

Albert J. Tuggle, M.D. Atlanta (Ga.) Medical College, 1890; a member of the Medical Association of Georgia; died at his home in Lagrange, Ga., December 24.

John C. Bostick, M.D. Bennett Medical College, Chicago, 1881; an eclectic practitioner of Benton Harbor, Mich.; died at his home, December 29, from cerebral hemorrhage, aged 50.

Edward Ingham Wood, M.D. Albany (N. Y.) Medical College, 1865; died at his home in Stillwater, N. Y., November 27, from angina pectoris, aged 55.

Archibald C. Hoss, M.D. Jefferson Medical College, Philadelphia, 1875; died at his home in Jonesboro, Tenn., December 23, from pneumonia, aged 55.

Wendelle C. Boyd, M.D. Harvard Medical School, Boston, 1893; died at his home in Linneus, Maine, in August last, after an illness of two years.

Newton Sewell, M.D. Atlanta (Ga.) Medical College, 1881; died at his home in Tecumseh, Okla., December 25, from cerebral hemorrhage, aged 55.

Moses W. Caverly, M.D. Medical School of Maine, Brunswick, 1853; died at his home in Brentwood, N. H., December 23, aged 81.

August F. Volkmann, M.D. University of Halle, Germany, 1850; died at his home in West Baltimore, Md., December 18, aged 77.

Sigmund Bloch, M.D. University of Vienna, Austria, 1876; died at his home in Muskegon, Mich., December 19, aged 63.

Enoch C. Hartrum (License, Ohio, 1896); died at his home in Rocky Fork, Ohio, December 21, from kidney disease.

Robert Boyd, M.D. Harvard Medical School, Boston, 1868; of Linneus, Maine; died in June last from nephritis.

Samuel Hood, M.D. London; died at his home in Crete, Ill., February 28, from senile debility, aged 92.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month

General Subject for the Month: Surgery of the Stomach and Intestines

First Weekly Meeting

ANATOMY

Stomach

Surface Markings.—Location of orifices, greater and lesser curvatures. Relations to wall when full and empty.

Relations.—Above, externally, posteriorly, anteriorly. Cardia, fixation, relations. Pylorus, fixation, relations, relation to cardia. Greater curvature, length, relations, variations, blood vessels. Lesser curvature, position, relations, attachments, blood vessels.

Lymphatics.—(a) Lesser curvature, number, portion drained; (b) greater curvature, number and location of glands, portion drained; (c) fundus.

Small Intestines

Surface Markings.

Duodenum.—Length, position, shape, relations of each portion, peritoneal relations. Duodeno-jejunal fossa (Treitz).

Jejuno-Ileum.—Length, limits; diameters, thickness and vascularity in different portions; mesentery, mesentric attachment of intestine, omentum. Intestinal wall, serous, muscular, submucous and mucous layers. Glands of mucosa. Blood vessels, superior mesenteric and branches. Difference in blood supply of stomach and intestines. Lymphatics and nerves.

Large Intestines

Surface Markings.

Cecum.—Location, size, relations, types, peritoneal, relations, structures, ileocecal valve, Gerlach's valve.

Vermiform Appendix.—Location, developmental characteristics, length, size, structure, "abdominal tonsil." Mesoappendix, shape, attachments, contents. Ligament of Clado, attachments, contents. Blood vessels, artery and branches, variations. Lymphatics: (a) Ileocecal into mesenteric glands, (b) ceco-appendicular into retrocolic glands, (c) through Clado's ligament in female. Nerves, localization of pain.

Colon.—Size, length, limits, fixation, portions, flexures, capacity. Characteristics, bands, sacculations, appendices epiploicæ. Difference in structure from small intestine. Blood vessels, nerves and lymphatics.

Surgery of the Stomach

GASTRIC AND DUODENAL ULCERS

Perforations

Perforation of Gastric Ulcer.—Varieties: Acute, subacute, chronic. Diagnosis: Remote and immediate history, pain, shock, pulse, temperature, respiration, sweats, facies, vomiting, rigid abdominal muscles. Changing symptoms in reaction. Peritonitis later. Indications and contraindications for operation. Operation: Incision, closure of perforation, toilet of peritoneum, flushing, drainage, indications for gastroenterostomy. After-treatment, posture.

Perforation of Duodenal Ulcer.—Acute or chronic. Direction of escaping fluid in acute cases suggests appendicitis. Varying pathology in chronic cases, encysted abscess, perforation of adjoining viscera, general peritonitis. Operation: Closure of perforation, or drainage.

Reference Books for the Month

Moynihan: Abdominal Operations.
Kelly and Noble: Abdominal Surgery.
Keen: Surgery.
Bryant and Buck: System of Surgery.
von Bergman-Bull: System of Surgery.
Robson and Moynihan: Diseases of the Stomach and Their Surgical Treatment.
International Text-book of Surgery.
Dennis: System of Surgery.
Douglas: Surgical Diseases of the Abdomen.
Gould: Operations on the Intestines and Stomach.
Bryant: Operative Surgery.
Grieg Smith: Abdominal Surgery.
Fowler: Surgery.

Society Proceedings

COMING MEETING

Medical Society of State of New York, Albany, Jan. 26.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Eighteenth Annual Meeting, held at Minneapolis, Dec. 29 and 30, 1908

The President, Dr. W. W. Grant, Denver, in the Chair

Officers Elected

The following officers were elected: President, Dr. A. L. Wright, Carroll, Iowa; first vice-president, Dr. J. F. Percy, Galesburg, Ill.; second vice-president, Dr. William D. Haines, Cincinnati, Ohio; secretary-treasurer, Dr. Arthur T. Mann, Minneapolis. Omaha, Neb., was selected as the place for holding the next annual meeting; time, Dec. 20-21, 1909.

Value of Enterostomy in Intestinal Obstruction

Dr. John P. Lord, Omaha, Neb.: The general mortality after operation for intestinal obstruction is probably from 50 to 80 per cent. According to Elsberg, in only about 10 or 15 per cent. of cases entering Mount Sinai Hospital, New York, is the condition still to be considered a good one; and 54 died out of 100 patients entering three of the large hospitals in New York during 1906. The extreme conditions commonly met require too much anesthetic, too much surgery and too much time for successful surgical relief by the radical intervention too commonly resorted to. Until earlier diagnoses are made, and more prompt surgical intervention is resorted to, enterostomy by the Senn or Kader principles should be done to drain the toxic contents of the intestine and to stop the absorption of these ptomains, although an effort should be made to relieve the effects of distention on the intestines, and its hindrance to respiration. It relieves conditions which, if allowed to continue, become rapidly fatal. It meets the indications without necessarily killing those who are extremely ill. It is not a last resort. Done in the modern way, it is not formidable, nor very objectionable, in the face of so serious an affliction. Inanition, formerly feared, skin excoriation, and the necessity for a secondary operation, are all eliminated by the present methods. Liquid nourishment, stimulants and cathartics may be administered with valuable results. Irrigation and drainage and the use of the Moynihan tube may also be accomplished before the wound is closed, and may also be used to a limited extent afterward. The necessity for a radical secondary operation is sometimes obviated by this "tide-over" procedure, because of the subsidence of peritonitis, the consequent infiltration, the paralysis, and even the angulation which was due to overdistention; the improved results from this procedure justify its more extended use. It is not so formidable as to preclude its use by general practitioners, who have had hospital training and possess surgical instincts. The coming generation of physicians can be more depended on to make earlier diagnoses and to possess the skill to relieve most surgical emergencies. The mortality from intestinal obstruction is, therefore, to be lowered in the near future.

DISCUSSION

Dr. William D. Haggard, Nashville: I think if we would heed the lesson of this paper, we would be able to transfer some of the desperate cases from the death class to the live class. There is not a surgeon who has not had the mortifying experience of a tremendously high mortality attending the hopelessly delayed cases of intestinal obstruction. If we can operate on these patients quickly under local anesthesia, by enterostomy, I am certain that we will be able to save a larger proportion of them primarily.

Dr. J. F. Percy, Galesburg, Ill.: In 1902 I opened the abdomen of a physician's son in a case of delayed appendicitis. I did it at the request of the young man, and I found there the condition that is embraced in the title of this paper—a condition where everything was black, and I recognized that there was something besides opening the abdomen for drainage to be done in the care and cure of these patients. My next such patient, about a year afterward, was brought into the hospital in a moribund condition. He was cyanotic. I directed my anesthetist to put cold water on the mask because the man was near dead, and I wanted one or two members of the family in the room, so that if he died on the table there would not be any question as to responsibility on part of the operator. I made a quick opening in the right iliac region and grasped the first piece of intestine that presented, fastened it, and opened it. The patient remained in a semiconscious condition for three weeks, but made an operative recovery. Two or three months afterward, when he became tired of the persisting fistula I operated and resected sixteen or eighteen inches of the intestine, after which he made a perfect recovery. I have had four cases of that kind since 1903, and all of the patients have recovered by that treatment.

Dr. R. C. Coffey, Portland, Ore.: The mortality from intestinal obstruction is doubtless 50 per cent. less than it was two years ago, and this is due to two or three things. First, the family physician recognizes that acute distension of the abdomen, which can not be accounted for in any other way, is to be looked on with grave suspicion. Second, we have learned that a paralyzed bowel, distended, in which ecchymotic spots are developed on the intestine above, is dangerous, and will not empty itself, even though the constriction is relieved. One of the most important things in dealing with these cases of intestinal obstruction is to keep everything possible out of the stomach, as in the Ochsner treatment for appendicitis, in order to prevent the formation of gas; second, the injection of fluids from below by Murphy's proctoclcisis.

Dr. F. Gregory Connell, Oshkosh, Wis.: There can be no question as to the advisability of performing enterostomy in severe cases of intestinal obstruction. In a case in which there is obstruction of the bowel, and a laparotomy is done and the obstruction relieved, when shall we do enterostomy, and when shall we close the abdomen and allow the patient to get well? If enterostomies are done unnecessarily, the mortality rate will be higher than is necessary. This point should be emphasized, and I bring it up for the purpose of receiving enlightenment. In cases of acute intestinal obstruction, we should emphasize the necessity of infiltration anesthesia, because of the danger of the patient drowning with the vomited matter on the table, in case a general anesthetic is used.

Dr. James E. Moore, Minneapolis: When shall we do enterostomy, and when shall we do a radical operation in these cases of acute intestinal obstruction? We have to depend on the judgment and experience of the operator who has the case in charge. I think it would be equally objectionable to undertake to do radical operations in all these cases as to do enterostomy in all cases, because a fecal fistula is a very uncomfortable thing for the patient, and it does not enhance the reputation of the surgeon. Also, it will necessitate an operation later, which is not free from danger. At the beginning of surgery for this condition, the mortality rate from intestinal obstruction was stated by Treves to be 95 per cent., and yet there are men in every community who will treat these cases to-day just as they were treated in the days before Treves was born; they will wait, wait, wait, and their mortality rate is 95 per cent., just as it was many, many years ago. We will reduce the mortality of intestinal obstruction considerably by, first, operating in these cases early, and, second, by using advanced methods of technic.

Dr. Frederick A. Dunsmoor, Minneapolis: I wish to report briefly a case that is rather unique. The patient is a girl who has been operated on three times for obstruction of the bowel. I operated on her a year ago for acute appendicitis from which she made a good recovery. Six months later she was operated on again by a colleague in my absence for acute intestinal obstruction, which was perfectly relieved. Later, while skating, she was seized with pain, and was operated on, the operation disclosing obstruction at the upper part of the ileum, and by liberating bands and separating adhesions I was enabled to establish perfect patency of the intestinal tract. Two weeks later, I was called to see the girl again for obstruction of the bowels, with enormous dilatation of the entire small intestine. The intestine was filled with the same kind of fluid that has been described in cases of acute dilatation of the stomach. There were three quarts of this black fluid, which was largely made up of bloody substance at the time. I succeeded in establishing normal patency of the bowel, and while the patient is not in the best condition at this time, she is still alive. She has a fistula.

Dr. A. L. Wright, Carroll, Iowa: I wish to speak from the standpoint of a patient. In March I had my first attack of appendicitis. Within eight hours from the onset the appendix had ruptured, and I made arrangements to have it removed. The appendix was removed within fifteen hours from the onset of the first symptoms of any trouble in my right flank. Following the operation, I had septic ileus, and for four or five days suffering was intense; the abdomen had been packed open, but not until a ligature was placed about the appendix for closure did I get relief, which was prompt. I wish, therefore, as a recent sufferer, to urge opening up the bowel, if the patient is in such a condition that further operative interference is unwarranted, by using a sharp-pointed scissors and giving vent to the contents, as I think by so doing we will save a much larger percentage of these patients.

Dr. Clifford U. Collins, Peoria, Ill.: The remarks of Dr. Connell have raised a question in my mind with regard to the drowning of these patients in the fecal vomit. A few years ago, when Dr. E. Wyllys Andrews published his paper, I saw a case in which the material which came from the mouth was greatly in excess of any quantity that could be contained in the stomach. Probably under the influence of the anesthetic the pylorus became relaxed and a vast quantity of material was forced into the stomach by the combined pressure below. If that is the case, it occurs to me that washing out of the stomach as a preliminary to anesthesia would prevent that trouble. Since then I have operated on patients in the reverse Trendelenburg position, allowing gravity to keep the intestinal contents from escaping, and so far that trouble has been obviated.

Dr. Van Buren Knott, Sioux City, Iowa: Enterostomy has lowered the mortality from intestinal obstruction, but it has by no means eliminated it. From the general trend of the discussion, it would seem that enterostomy in these cases, no matter how late it is performed, in the hands of a good surgeon, is a life-saving procedure. That is by no means my experience, I have had many cases in which enterostomy has been done, yet the patients have died just the same. While the mortality in my experience has been greatly reduced by enterostomy, it has not been done away with. Multiple enterostomy with drainage has proven valuable in my hands.

Abscess of the Brain

Dr. W. H. Magie, Duluth, Minn.: I recently had two cases of brain abscess and here I desire to make a plea for a more thorough and systematic exploration of the brain in suspected cases. From the experience, observation and study of these cases, I am satisfied that, as a rule, the surgeon of ordinary experience is far too timid in his exploration of the brain in suspected abscess. These cases are absolutely hopeless unless the abscess is located and drained. Knowing this to be the fact, we are justified in undertaking almost any operative procedure in our efforts to locate and drain such abscesses. I remember the late Dr. Fenger demonstrating what he termed his systematic exploration of the brain for suspected abscess before the Section on Surgery and Anatomy of the American Medical Association at its session in St. Paul in 1901. I was surprised at the time with what seemed to me his reckless disregard for the brain. He used a skull to demonstrate his method, with numerous trephine openings, through which he introduced his trocar or aspiration needle, passing it first in one direction, then another, if pus was not found, until the entire hemisphere has been explored. I am now of the opinion that his method is the proper one, and that we are more apt to err on the side of caution than otherwise. I am determined that in future my exploration shall be sufficiently exhaustive that abscesses like the last two will not be overlooked, believing that exploration of the most searching character is not only justifiable, but demanded, in order that the lives of, at least, some of these unfortunates may be saved.

Indications for Obliterative in Contradistinction to Reconstructive Endoaneurismorrhaphy

Dr. J. W. Frick, Kansas City, Mo.: I believe that in the vast majority of cases the radical obliterative endoaneurismorrhaphy is the operation to be preferred for the following reasons: 1. The procedure is definite, thorough and radical. 2. No plastic work in diseased tissue is required, such work being notoriously uncertain. 3. In a majority of cases the sac configuration and intrasaccular conditions will preclude plastic work. 4. In reported cases, in which apparently either method might have been employed equally well, the obliterative method has been more satisfactory and shown greater freedom from untoward sequelæ, such as recurrence, hemorrhage, thrombosis, or gangrene. 5. A pathologic aneurism is a malignant degeneration in a vital structure. The diseased vessel can no longer be depended on and deserves obliteration. The technic of intra-aneurismal surgery resolves itself into several distinct essential steps: 1. Preliminary hemostasis. To accomplish this is more or less difficult, according to the situation of the aneurism. Esmarch compression of the main artery above, and temporary, direct compression above and below are variously used. A bloodless field is almost a *sine qua non*. 2. Free opening of the aneurismal cavity to permit a careful survey of the interior of the sac before deciding on the plan of procedure. 3. Intrasaccular suture of orifices. 4. Obliteration of cavity by sutures. 5. Closure and drainage. The after-treatment of these patients is usually simple, only one or two points being worthy of comment. The part operated on is best immobilized by some suitable fixed dressing in a position of relaxation. This prevents tension on the vessel wall longitudinally, and also allows free play for the establishment of a collateral circulation. Drainage should be removed early, as soon as its purpose is served.

DISCUSSION

Dr. John P. Lord, Omaha, Neb.: I was greatly interested in the work of Dr. Matas from the first, as well as in the work done by others, and have been looking for cases that were suitable for the Matas procedure. I have had two cases of popliteal aneurism, but when I came to consider the feasibility of treatment by this method, and began to look up the subject, I found that both of these patients were poor subjects for surgical exploitation. The arteries were generally sclerosed; the arterial tension was high, while the kidneys were not in a good condition. One patient was a man of 60. When one looks over the literature, he becomes impressed with the wisdom of John Hunter and the value of his procedure of ligation of the femoral artery. He is likewise impressed with its simplicity and the ease with which the operation is borne by the patient. I resorted to ligation in both of my cases, the patients did well, made good recoveries, and are still living. I am not fully convinced of the advantage of doing aneurismorrhaphy in all cases of popliteal aneurism. It does not appeal to me. I am still to be convinced of its desirability, as we know there have been failures and very anxious periods in the treatment after such an operation.

Subserous Appendectomy

Dr. E. M. Sala, Rock Island, Ill., reported four cases in which he resorted to the removal of all the appendix except its serous coat, thus avoiding disturbing adhesions of the appendix to other viscera. He believes the method has a permanent place in surgery, and is the operation of choice in certain forms of adherent appendix. He concluded his article practically as follows: 1. The vermiform appendix may be shelled out of its peritoneal covering or serous coat. 2. The remaining serous coat can not cause a recurrence. 3. This method of dealing with an appendix, which is glued to other important structures, avoids the disagreeable sequences of loosening up strong adhesions, and in many cases may preclude subsequent operations, which are always embarrassing to the operator, and a misfortune to the patient.

DISCUSSION

Dr. John P. Lord, Omaha, Neb.: I have availed myself of this procedure in suitable cases, and am reminded of one patient on whom I operated eight years ago, following a technic similar to the one that has been described. In this case a young surgeon had operated for an hour and a half in trying to deliver the appendix, and by this means I was enabled to deliver it from the bottom of the pelvis. This procedure is valuable in that it saves lots of trouble and lessens danger.

(*To be continued*)

CHICAGO MEDICAL SOCIETY

Regular Meeting, held November 11, 1908

The President, **Dr. Alfred C. Cotton**, in the Chair.

The Bismuth Paste Treatment in Ear, Nose and Throat Affections

Dr. Joseph C. Beck read this paper, which appears in this issue, page 117.

DISCUSSION

Dr. Henry Gradle: I have had two cases of dacryocystitis in which the results from the use of bismuth paste were satisfactory. In one the cure was effected more rapidly than could have been obtained by other methods. In the other, a cure was nearly effected, when the patient left the city and has not returned since. I have treated two cases of persistent discharge from the middle ear, one after a radical operation, the other after a simple mastoid. In both of these cases the treatment was a total failure. On mechanical principles the treatment does not appeal to me as applied to the complicated and labyrinthine system of spaces adjoining the nose, various sinuses, or spaces surrounding the middle ear.

Dr. A. J. Ochsner: I have employed this method in about twenty cases of old tuberculous sinuses. The possibility of application of bismuth paste in these cases is so great and the proportion of satisfactory results from it so large, that I look on it, in appropriate cases, as the most important advance in surgery that we have had during the past two years. I have applied the mixture in practically every part of the body, with the exception of some special parts, like the nose. I have had patients with old empyemas communicating with a bronchus, operated and reoperated on many times, and within six or eight weeks healing has taken place, and has been permanent, by the use of the bismuth mixture. I had a case of fistula leading down to the pancreas from a gastrectomy, which persisted in discharging, and which healed after a few weeks following injection of the bismuth mixture. I have had cases of prostatectomy, with persistent fistulas, that were treated with the bismuth mixture with satisfactory results. I have had two cases of tuberculous sinuses leading down to tuberculous kidneys, in which a cure was effected. One of the patients has gained forty pounds since the first injection.

Dr. Emil G. Beck: From the standpoint of general surgery, I believe that in the after-treatment of acute mastoid disease the bismuth paste will be used instead of a dressing. When my brother began to treat these cases with bismuth paste I knew he would have some good results, but had no idea that the method would be applicable to so many conditions as he has reported. I warned him in the beginning not to use the paste in any of the accessory sinuses, fearing that through some anatomic abnormality the paste might enter the cranium and produce compression. However, he has shown by a large number of cases that no bad results have ensued, and will not follow, provided one is familiar with the anatomy of the parts and the technic of the method. The method deserves a fair trial by others in the class of cases reported.

I desire to thank Drs. A. J. and E. J. Ochsner, who have done so much toward informing the medical profession of the value of this method. More than to anyone, I am indebted to my brother, Dr. Carl Beck, who has not only guided me in my experiments, but who first employed and advised me of the bismuth vaselin injections for diagnostic purposes, the method which eventually proved to be of such great therapeutic value.

Dr. J. H. F. O'Neill: One dose of yellow vaselin injected into a guinea-pig will reduce the bacteria in the intestines from 30 to 40 per cent. This has been proved by experimental work. Perhaps bismuth paste has the same effect on bacteria in the sinuses.

Dr. William L. Ballenger: I have used bismuth paste in about twenty-five cases in the last two months, all of which have been ethmoidal except two, and these were a frontal sinus case and one antrum case. I have not used it in any ear cases, nor in any cases except as a postoperative treatment. Frankly, I have not been able to notice any advantage from this treatment over the methods formerly used. I am still persisting in its use and am trying to perfect my technic, hoping by so doing to get better results. I am not impressed that there is any particular advantage in this treatment, except in the mastoid cases, over other methods. For instance, in chronic mastoid cases in which a radical mastoid operation has been done, of which Dr. Beck reported a number of cases, we are accustomed to expect a cure from a single operation. Dr. Beck effects his cures by use of the bismuth paste. The question arises whether he would not obtain these cures without the use of bismuth. Recently I did a turbinectomy, with partial removal of the ethmoid, filled the nose full of paste, put in an anterior plug of cotton to retain the paste, and the patient had a severe hemorrhage. This is the only case in which I have had hemorrhage follow the use of the paste.

Dr. A. H. Andrews: I have had two postoperative sphenoid cases, two cases of disease of the antrum of Highmore and a number of radical mastoids, in which I have used the bismuth paste. In these the results were satisfactory. I have had a number of other cases, not postoperative, in which I used bismuth paste, but in which I was not able to obtain satisfactory results. I have not injected bismuth paste in chronic suppuration of the middle ear, because I have been afraid to do so

Dr. J. Rawson Pennington, Chicago: Judging from apparent results in treating nineteen patients with rectal fistula with this paste, I consider it a valuable discovery. In fourteen of the nineteen patients whom I have treated the discharge has ceased and the fistulas are closed, and, to the best of my knowledge, the patients are well. In one I passed a probe through the external opening, which was near the anus, upward and backward between the rectum and sacrum to a point about opposite the promontory of that bone. I question whether any surgical operation looking to a complete division of that tract would have been justifiable. Moreover, the man also had an abscess in the left groin which probably communicated with this fistula, though it was not demonstrated. About three ounces of the paste were injected into the fistula at one sitting. It is now closed, and the patient has had no discharge from it for more than two weeks.

Dr. Joseph Beck: I have treated 319 cases, embracing a variety of conditions, without any ill results. I have treated a large number of cases of hypertrophic rhinitis and of tonsillar affections, yet I have had no ill effects from the treatment. I have used vaselin alone, and so have others, and have failed to get any effect from it, either in nose or ear suppurations. I think that when Dr. Ballenger perfects his technic he will get better results. The glass syringe ordinarily used to force the bismuth paste into the nose will not enable one to reach the cavities. Such a syringe is valueless in treating the sinuses. Patients should not be allowed to walk after the injection of bismuth paste, because in so doing the bismuth drops into the throat, and therefore hemorrhage occurs. I place my patients in bed after operation with bismuth, and the next day the bismuth is removed, and there is no hemorrhage. I have not had hemorrhage in any of my cases in which I have used bismuth as a dressing.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-first Annual Session, held in St. Louis, Dec. 15-17, 1908

(*Continued from page 68*)

Suprapubic Prostatectomy

Dr. Arthur Dean Bevan, Chicago: Suprapubic enucleation of the prostate has the widest field of usefulness. It is practically applicable to all cases of prostatic hypertrophy, in which prostatectomy is indicated. It gives full and complete information of not only the prostate, but the bladder and its contents. It does not injure or interfere with the musculature and nerve supply of the perineum and structures controlling continence. It carries with it little risk of injury to the rectum; it is seldom followed by incontinence, fistula or stricture. The disadvantages claimed against it are greater mortality and necessity of longer residence in hospital. I feel confident that there are fewer complications after the suprapubic than after the perineal operation. While I do not belittle the various operations of perineal prostatectomy, or the excellent work done by the surgeons advocating this route, my conclusion is that the suprapubic operation is preferable to other methods which have been advocated.

DISCUSSION

Dr. J. Garland Sherrill, Louisville: I have had experience with all methods of operating for the removal of hypertrophied prostate, and while admitting that there is a slightly greater mortality from the suprapubic method, I am firmly convinced that the end results from this method are better than by any other method.

Dr. Charles H. Mayo, Rochester, Minn.: There is a field for both suprapubic and perineal prostatectomy. In some cases, if the patient be examined by rectum it will be found that the prostate is close to the finger; and such a prostate is easily enucleated by the perineal route. In another case the prostate gives a great deal of trouble, although it may not be much enlarged. It is located high up, and is small and hard, causing obstruction at the internal meatus by a prostatic bar or a middle lobe. If there is complication with stone or other foreign body in the bladder, and the patient is septic, such a case can be dealt with by the suprapubic route.

DR. CHARLES E. BOWERS, Wichita, Kan.: Four years ago I reported twelve consecutive cases of suprapubic prostatectomy without a death. Up to date I have done 47 operations suprapubically for enlarged prostate; but a short time ago I abandoned the suprapubic for the perineal route in a case of carcinoma of the prostate, but did not succeed with the infrapubic route. Of this number (47 suprapubic operations) I lost two patients, one dying a few hours after the operation. One died from carcinoma.

DR. BRANSFORD LEWIS, St. Louis, Mo.: While I am partial to the perineal route for the removal of enlarged prostate, I think there is a field for other methods. The cases should be carefully selected for the particular operation. One should take a catholic and broad-minded attitude in regard to this subject and consider the comfort and benefit of the patient regardless of whether or not one method of attack is easier than the other.

DR. MILES F. PORTER, Fort Wayne, Ind.: I have done twice as many suprapubic as perineal prostatectomies, and have observed that my suprapubic patients make smoother recoveries, all told; they are up quicker; they feel better sooner than do the perineal patients, other things being equal. But I do not know why.

DR. MAURICE H. RICHARDSON, Boston: When we have a certain form of prostate, encapsulated and easily removed from its capsule, no more beautiful operation anatomically can be imagined than perineal prostatectomy, but it is seldom in my experience that a prostate comes out so easily through the perineum. In many cases the prostate projects into the bladder, and by the suprapubic route we have an opportunity to examine the condition of the bladder; we know whether or not there is a stone present; we know whether or not there is cancer of the prostate, and as an anatomist I believe in operating with the sense of sight, when possible, as well as with the sense of touch.

DR. F. W. MCRAE, Atlanta, Ga.: The cases I have seen, in which an extensive perineal operation has been done, have eventuated in a number of painful perineums. These patients, after the perineal operation, have no trouble in urinating, but when they stand up for any length of time, or sit, they have much pain. I have seen rectal trouble follow operations by the perineal route. Latterly, I have been closing the suprapubic bladder wound snugly around a Jacobson catheter, passed through a stout rubber tube, and the bladder is closed down to the side of this tube, and two sutures of silkworm gut are put through the edges of the bladder for tightening the latter; then irrigations are kept up by an orderly or nurse; hot boracic acid irrigations are given to prevent any clotting, irrigating alternately through the suprapubic opening or retained catheter, and the patients are practically kept dry.

DR. A. D. BEVAN: My attention was called to the fact that after some two-step operations the patients had much greater comfort without any attempt at drainage. In some complicated cases, in which a suprapubic opening was made, the bladder drained and then a second operation done to remove the prostate, I found that without the introduction of any tube into the bladder or any catheter in the urethra the patient apparently was much more comfortable.

Dermoid Cyst of the Kidney

DR. WILLIAM S. GOLDSMITH, Atlanta, Ga.: Only two cases of dermoid cyst of the kidney have been reported up to this time, one by Paget, in 1853, and the other by Haekel, in 1902. The symptoms in my case were those of a solid tumor of the kidney, probably of the malignant type. It was of slow growth and associated with it were the three cardinal points of malignancy, hematuria, pain and tumor. The patient, aged 20, family history negative, at two years of age suffered with pain in the right lumbar region, and at intervals of two or three years was treated for kidney trouble. When sixteen years old, he experienced the beginning of a dull pain in the right side, which progressively increased until he consulted me, when the pressure and pain radius was compared to that of a heavy watch lying in the abdomen. Four years ago he had attacks of colic, followed by a slight hematuria, which confined him to the house for twenty-four hours, and were relieved by hypodermics of morphin. Recurrences occurred two or three months apart, and for the past two years were characterized by the appearance of a solid tumor, in the right lumbar region. Hematuria and great pain were also accompanying features, and the disappearance of the outline of the tumor was frequently followed by a cessation of the pain. Having witnessed an attack three days before the operation, when the tumor was most manifest, I was convinced that these symptoms were due to a twisted ureter, since the return of the kidney to its normal position practically obliterated the tumor outline. Twenty-four collections of urine showed insignificant deviations from the normal quantity, and microscopic and chemical examinations were negative, except for red blood cells. The patient's weight was normal, and his general condition good. An exploratory operation was advised. A lumbar incision was made, which exposed a large semi-solid tumor of the upper pole of the kidney. Efforts to deliver the kidney resulted in a rupture of the tumor, and a quantity of red, granular material was scooped out with the fingers. Nephrectomy was quickly performed, and recovery was prompt and uneventful. The specimen was submitted to a pathologist, who pronounced it a dermoid cyst.

Stone in the Kidney

DR. MAURICE H. RICHARDSON, Boston: Operations on stone in the kidney and ureter are becoming of greater frequency and importance. There is a close analogy between renal stone and gallstone. In early and difficult cases the diagnosis rests on a history of pain in some of its forms, usually without confirmation by the *x*-ray, by cystoscopy or ureteral catheterization, by the touch, or by marked signs in the urine. The history in such cases, as in many gallstone cases, gives the only clue; hence, we must study with renewed care the history of stones demonstrated in kidney or ureter, just as we do the history of stones demonstrated in the gall bladder. The indications for operation are hopeless impaction of a stone in the ureter; in the kidney the mere presence of a stone. The contraindications are a local pathology which either forbids operation or makes it so dangerous or so uncertain that the patient has much to lose and little to gain. Fearless frankness in reporting errors in diagnosis, technic, and results is essential in order that indications may be reasonably restricted, and that the choice of patients and friends may not be unjustifiably influenced toward operative measures; at the same time, the evils of calculus situated in the kidney and ureter, and unrelieved, must be likewise frankly and freely published by the physician and palliatist, lest we do not know or lest we forget that health and life have been, are, and will be needlessly compromised by the rejection of mechanical treatment for this mechanical lesion. The great operative danger in nephrotomy, as well as in nephrectomy, is hemorrhage; and when this is from the renal artery or vein or vena cava, easy and instant accessibility is essential to avert death on the table; hence the anterolateral approach is the best. Nephrectomy seems unjustifiable unless the changes in the kidney demand it, especially when the remaining kidney is so likely to contain the nuclei of stones. Before a nephrectomy the remaining kidney must be carefully palpated by the hands. As the stone may be overlooked, so may tuberculosis or other infections. The subject demands wide experience with all manner of treatment, and with candid discussion of failures as well as successes.

DISCUSSION

DR. G. E. GAVIN, Mobile, Ala.: I believe the formation of stone is always preceded by infection of the pelvis of the kidney, and while the source of that infection may be the bladder, it is most often from the colon. I have not been able to rely on the *x*-ray as an aid to diagnosis as much as I have on the history of the patient. I prefer to remove the stone through the convex part of the kidney. I almost lift the kidney on the back, place a rubber tube around the pelvis, control hemorrhage thoroughly, make a longitudinal incision, and with very little blood lost one can deliver the stone.

Dr. Charles P. Noble, Philadelphia: I agree with Dr. Richardson that a well-studied history in these stone cases is the best guide to a diagnosis. I recall the case of a patient on whom I did a nephrectomy for stone and in whom the kidney was destroyed because a small stone had obstructed the ureter and produced disseminated abscesses in the kidney. That patient had been in the hands of a professor of therapeutics, who had treated the patient for three years for gout and had failed to appreciate the importance of a careful study of the urinary organs by modern methods.

Dr. Bransford Lewis, St. Louis: The history of the case, cystoscopy and ureteral catheterization are the means *par excellence* for making a diagnosis of stone in the kidney, but I would not rely on any one of them, preferring to place my reliance on the testimony supplied by all three.

Dr. F. W. Parham, New Orleans: I have been impressed with the remarkable absence of pain and other subjective symptoms in a case in which there was a large stone in the kidney. Three years ago I operated on a woman for a large encysted stone in the pelvis of the kidney, running up into the calices, and through a large L-shaped incision the stone was removed. This woman had scarcely any pain, but she passed pus in the urine.

Dr. A. D. Bevan, Chicago: This is a branch of surgical work which can not be done properly by any one man. Good kidney stone work demands, first, a good surgeon; second an expert in the use of the *x*-ray. The *x*-ray, when properly used, gives much less than 10 per cent. of error. Third, an expert in cystoscopic examination, and one who, with the least discomfort to the patient, can catheterize the ureters. Fourth, an expert laboratory man to make careful analyses of the urine.

Dr. Stuart McGuire, Richmond, Va.: Three cases have occurred in my practice which illustrate the importance of having the combined opinion of four different observers, namely, the surgeon, the pathologist, cystoscopist, and the *x*-ray man. A recital of the history of one case will do for all. The patient came with a set of symptoms which were indicative of appendicitis, or equally so, of stone in the right ureter. So far as the pain and the history of the attacks went, it might have been either. In all three cases there was a large quantity of blood and pus in the urine. The ureters were catheterized, the left side being found normal in each case. The right side was found to contain blood, pus and cells from the ureter. Up to this point the evidence seemed in favor of ureteral calculus. An *x*-ray examination was made, and (in every instance) with a negative result. Therefore, the operation for appendicitis was performed, the appendix exposed without disturbing its position, and in each instance a large, angry appendix was found adherent along the line of the right ureter. Evidently the inflammation originating primarily in the appendix had extended by continuity of tissue to the ureter, causing ureteritis. Within a week after appendicectomy the urine was clear, and no subsequent trouble followed.

Conservative Surgery, Then and Now

Dr. F. W. Parham, New Orleans: The aggressive surgeon, who always feels sure he is right, then goes ahead, would do well to temper the enthusiasm born of the present brilliant achievements of surgery by giving reverent heed to the admonitions of the past. In renal surgery, for example, conservative and radical surgery display most conspicuously their coincidence. Here results demonstrate that often the most conservative treatment is also the most radical. As witness of this, what could be more striking than that of a case of Bransford Lewis, in which by means of the styletted ureteral catheter and radiographic plates he found three independent ureters, two of them healthy, the third showing gonococcal infection, the cause of a recurrent gonorrhea of five years' standing. Through the means mentioned, the anatomic anomaly was demonstrated; the physiologic phenomenon of supplying three different urines by one individual was proved, and through medicated lavage of the infected ureter, the source of infection was removed and the patient permanently relieved. The glory of the present-day surgery rests primarily on more accurate diagnosis, but the refinements of scientific investigation must always be subjected to the criticism of common sense. It is becoming more and more characteristic of the modern surgeon that, while recognizing the value of data furnished him by the laboratory, he will relentlessly subject them all to the test of reason and will only decide on his surgical therapeusis when, after a thorough study of all the facts, he has obtained a true perspective of the case.

Appendicostomy in Pernicious Anemia

Dr. L. E. Burch, Nashville: I wish to report the following case of appendicostomy: The patient, a negro, aged 45, had marked muscular weakness, shortness of breath, instability of pulse and edema of the ankles. He sought relief from diarrhea associated with gastrointestinal symptoms. His mucous membranes were pale; there was brownish discoloration on the skin of hands and face; exhaustion was extreme, without marked emaciation. Examination of the blood showed the red blood cells to be 1,800,000; the white blood cells, 3,000; hemoglobin, 30 per cent. He was given ascending doses of arsenic, reaching as high as 30 drops, three times a day, of Fowler's solution. Colonic irrigations of salt solutions were also used. About three weeks later, the red blood cells were 2,000,000; white blood cells, 5,000, and hemoglobin 50 per cent. Eighteen days later the red blood cells were 1,710,000; white blood cells, 3,500, and hemoglobin, 50 per cent. The nucleated red cells were in great numbers, both normoblasts and megaloblasts, associated with a marked poikilocytosis. At this time 95 per cent. of the bacteria in the stools were anaerobic, and no intestinal parasites were found. A twenty-four hour specimen of the urine showed a trace of albumin, no sugar, and a few hyaline and granular casts. The ethereal sulphates were present in large quantities in the urine, as well as indican and skatol. A test meal showed complete absence of hydrocholoric acid, with the presence of lactic acid. Appendicostomy was suggested, consented to, and performed, with recovery. Conclusions: All patients should have stools examined, in order to determine the presence of the *Bacillus capsulatus aerogenes*. If these bacteria are present in great numbers, then high irrigation, combined with arsenic internally, should be used, and if the patient fails to improve, the appendix offers the best route for thorough irrigation.

DISCUSSION

Dr. H. S. McLean, Richmond, Va.: Twenty months ago I operated in a case similar to this one. The man had been ill for years. He was brought to me with an acute attack of appendicitis, and in getting his history before operation I was told about his anemia, his continued weakness, and bowel trouble. He had catarrhal appendicitis. I performed appendicostomy. He had been living on zwiebach, buttermilk, etc., for years, but six weeks after operation the red blood count was something over four million. He soon gained fifteen pounds, went to Europe, and is now in excellent health.

Porro Cesarean Section

Dr. F. D. Smythe, Memphis, reported a case of Porro Cesarean section, and said that the operation was selected for the following reasons: (1) The rapidity with which the Porro operation could be performed increased the chances of the patient surviving the operation. (2) The remaining ovary was cystic and, in all probability, a cyst of the same character as the large one removed. Such cysts are bilateral in 4 per cent. of cases, and to have permitted it to remain in the event of recovery of the patient would have been to invite a second operation in the near future with its risk to life and effect on purse. (3) This patient was in a condition too much weakened to be subjected to any avoidable risk of the puerperium, hence the Porro operation. The Sanger operation could not have provided the protection which was essential to the salvation of the patient. (4) There will always occur cases demanding Cesarean section in the interest of the child and mother. In elective cases there should be no infant mortality attending either operation; hence the surgeon should select the operation that subjects the mother to the least risk of losing her life. I am fully convinced that the Porro operation is the safer, and that the surgeon performing the Sanger operation in an honest effort to preserve the reproductive organs will have occasion to congratulate himself now and then on the result of his efforts in that plausible undertaking, but he can not escape the responsibility, at times, of the loss of a mother, whose life could have been saved had the simpler and safer operation been selected at the outset. (5) Myomectomy is attended by a higher operative mortality than supravaginal hysterectomy. Hysterotomy or the Sanger operation is likewise more hazardous than the Porro method for the same reasons, namely, sepsis and hemorrhage. During the puerperium, with an expanding and contracting uterus, the dangers from both sources are greatly increased. The surgeon's first duty is to his patient, and only after that duty shall have been fully discharged is he at liberty or justified in considering future generations. So, until I am convinced that the so-called conservative operation is as safe to the mother beyond question as the Porro operation, it will be my practice to choose the latter.

(*To be continued*)

Medicolegal

Right to Practice Medicine and Power of State Board to Revoke Certificate—Constitutional Requirements as to Notice

The Supreme Court of Iowa says, in the case of Smith vs. State Board of Medical Examiners, that the power of the State Board of Medical Examiners to revoke the certificate of a physician is contained in the following clause of Section 2578 of the Iowa Code: "The Board of Medical Examiners may refuse to grant a certificate to any person otherwise qualified, who is not of good moral character, and for like cause, or for incompetency . . . may revoke a certificate by an affirmative vote of at least five members of the board." It was claimed that the statute violates the provisions of the federal and state constitutions, which declare that no person shall be deprived of life, liberty, or property without due process of law, and the provision of the state constitution which declares that "the legislative authority of the state shall be vested in a General Assembly, which shall consist of a senate and house of representatives. . . . "

It was contended that the statute is unconstitutional and void because it does not provide or require that the accused shall be notified in any manner of the proceeding to revoke his certificate, or provide or require that he shall be given an opportunity to appear and defend himself; and hence it is possible for the board "to arbitrarily take from the physician his property, and deprive him of the liberty to follow his chosen profession, without due process of law, or without any process."

Whether the right to practice medicine be classed as a property right, strictly speaking, or as a mere privilege, is not material; for, whichever name be given it, it is a valuable right which can not be taken away without due process of law, the essential elements of which are notice and opportunity to defend. But due process does not require that any particular form of proceedings be observed, but only that the same shall be regular proceedings in which notice is given of the claim asserted and an opportunity afforded to defend against it. And, while statutes regulating the practice of medicine clearly fall within the police power of the state, they can not be permitted to override the constitution, but they must be reasonable, and, when a valuable right is sought to be disturbed thereunder, the provision of the constitution prohibiting the taking of property without due process of law is paramount, and must be observed.

In Beebe vs. Magoun, 122 Iowa, 94, in discussing the necessity of notice of the assessment of the cost of street improvements, this court quoted with approval the language of the Court of Appeals in Stuart vs. Palmer, 74 N. Y., 183, as follows: "It is not enough that the owners chance to have notice, or that they may, as a matter of favor, have a hearing. The law must require notices to them, and give them the right to a hearing and the opportunity of being heard." And this rule is, the court thinks, supported by the decided weight of authority and applicable to the question here before it.

But, although a statute may not expressly provide for notice, it will not be held unconstitutional or invalid if the requirement of notice may be fairly implied therefrom. In some of the cases it is said that notice is to be implied from the very fact that it is a constitutional requirement, irrespective of particular provisions in the statutes apparently contemplating that notice is to be given.

Section 2576, Chapter 17, of the Code, relating to the practice of medicine, must be considered in connection with Section 2578 in determining the question before the court, for it relates to the same matter, and that section provides as follows, so far as the same is material here: "The State Board of Medical Examiners . . . shall hold regular meetings in May and November and special ones as may be necessary, due notice thereof being given, at which it shall discharge the duties contemplated by this chapter. . . . In all examinations made or proceedings had pursuant to the provisions of this chapter, any member of the board may administer oaths and take testimony in any manner authorized by law."

The granting of a certificate and its revocation are an exercise of the police power of the state identical in their objects and power. Also by the express terms of Section 2576 the granting of a certificate, or the revocation thereof, can only be done at a regular meeting, or at a special meeting of which due notice has been given. And the court thinks it fairly implies that parties interested in the matters pending before the board shall be given an opportunity to be heard.

The further provision that in all examinations made or proceedings had pursuant to the provisions of the entire chapter oaths may be administered and testimony taken in any manner authorized by law, in the court's judgment contemplates contests which are possible only when all interested parties are before the board. The board does not act in a judicial or legislative capacity in granting or revoking certificates, but it acts in a ministerial or quasi judicial capacity. And in its ministerial capacity it may, without violating Article 3 of the constitution, determine the character of notice and the method and manner of procedure. Every requirement of the law is met if the party be given a fair and reasonable opportunity to be heard.

"Stationary Corporations" Can Not Be Made Liable for Services Rendered Injured Employés

The Appellate Court of Indiana, Division No. 2, says that Sourwine vs. McRoy Clay Works and another was an action by a physician to recover for professional services rendered an employé of the corporation at the request of the corporation's superintendent. The contract set up was valid only if the facts leading up to it were so unusual and extreme as to impose on the employer a duty analogous to that imposed on railroad companies. Facts of this character were not set up in the complaint.

The law is entirely well settled. Corporations whose "business is stationary" are under no duty "to furnish their workmen with medical services, any more than they should be required to furnish them with their dinner." Cushman vs. Cloverdale Coal & Mining Co. (Ind.) 84 N. E. 759 (reported in the Medicolegal Department of The Journal, Aug. 29, 1908, pp. 787, 788). This conclusion was authoritatively declared after extended consideration.

The costs and expenses of medical service which might be fastened on innocent stockholders, if the president and general officers of such corporations were given power to incur obligations of such a character, would probably, in view of the great number of accidents which are constantly happening, be considerable, and the payment thereof might seriously interfere with the attainment of corporate ends. There might be occasional instances in which prompt medical service would be advantageous to the company; but, as a rule, the severity of the injury does not affect the question of its liability, and even should death result from a failure of immediate aid, the amount and basis of liability would not be changed.

Persons employed by stationary corporations, such as coal mining and clay companies, should, if they desire surgical attention, make provisions therefor in advance of accident; for they must know that accidents are liable to happen. If they fail to do so, and their "family, friends and acquaintances" fail to come to their aid, charitable doctors are to be found in every community, responding to that call to which "stationary corporations" are by law deaf.

It is possible that the legislature might burden the exercise of corporate franchises by a condition requiring emergency aid to be given by it to men suffering injury in its service through its negligence, or even through their own; but no such statute, in Indiana, was pointed out. Certain provisions are made in regard to coal mines of the class of the defendant in the Cloverdale Case. But such statutes are in "derogation of the common law," "highly penal" in character, and must, therefore, be "strictly construed," and "not extended by construction"; and the court in that case ignored the statute.

The demurrer of the other defendant, who was the superintendent in question, was also properly sustained. Where one person, acting for another, holds himself out as having authority to do an act, and thereby draws another into a reciprocal engagement, he will be liable if he acted without authority; but if such want of authority was known to both parties, or unknown to both parties—there being a mutual mistake—the agent would not be personally liable. It was not alleged that this agent (the superintendent) was guilty of fraud, of making a false statement, or of concealing information as to his authority; and he was not liable.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

December 24

1 *Tuberculosis of the Larynx. A. C. Getchell, Worcester, Mass.
2 *Chronic Gout, with Observations on Gout in General. D. E. Keefe, Springfield, Mass.
3 Epilepsy (concluded). E. Flood, Monson, Mass.

1. **Tuberculosis of the Larynx.**—Getchell believes that the larynx is infected through the blood vessels or lymphatics and not from bacilli deposited on the mucous membrane. Laryngeal tuberculosis is usually a late manifestation of lung disease; he has never seen a primary case, and doubts its possibility. The difficulty of diagnosis of early pulmonary phthisis, while in the larynx it can be seen, explains supposed cases. Hoarseness and pain are the two symptoms particularly denoting laryngeal involvement, but neither is constant or definite. He can not attach to pallor of the larynx the importance as a precursor of tuberculous invasion that is commonly assigned to it; advancing tuberculous disease of the larynx is indicated rather by localized redness than by pallor. He mentions as suggestive of tuberculous processes existing somewhere in the body, a general moistness of the entire larynx, which lacks tone and character; and an alteration of the normal relation of ventricular bands and cords. In general, a thickening of the part of the larynx, be it a ventricular band, cord, or arytenoid, occurring in a person having pulmonary tuberculosis, is to be taken as a mark of the invasion of tubercle into the larynx. Tuberculosis and syphilis sometimes coexist and give rise to confusion. Laryngeal disease occurring in a tuberculous person, is probably tuberculous; in a syphilitic, probably syphilitic. Getchell particularly controverts the idea that of the two classes of cases, the hopeful and the hopeless, it is our duty to keep our hands off the hopeless. That is what we used to do in pulmonary tuberculosis, but since we have kept our hands on all cases we have found that many of the hopeless ones have become hopeful. The treatment of the tuberculous larynx is primarily the treatment of the patient, and secondly of the larynx. Cough must be controlled by rest, open air, soothing inhalations, suggestion, and by opium only if other measures fail. An excellent treatment for tracheal catarrh is intratracheal injections of guaiacol, grains 20 (grams 1.30); menthol, grains 40 (grams 2.60), and olive oil, one ounce (grams 27). He divides cases into three classes for the purpose of treatment. First, moderate involvement, with active inflammation with or without ulceration, with pulmonary lesions and constitutional symptoms. Second, localized areas of infiltration or ulceration without active inflammation, with inactive pulmonary lesion, and without marked constitutional symptoms. Third, marked extensive involvement, particularly of the arytenoids with gray infiltration, and of the epiglottis. The first class is dealt with by the best hygienic conditions in a sanatorium, with complete silence and control of cough, antiseptic cleansing sprays, and bland inhalations; on subsidence of inflammation, astringent and antiseptic applications. For ulceration iodoform powder is insufflated. For the second class more active treatment is recommended. For ulcerations, lactic acid, following cleansing sprays, and the destruction of localized areas of infiltration. Relief of pain and difficulty of breathing are the points that call for attention in the third class.

2. **Gout.**—Keefe discusses the effect of uratic deposits on bone and cartilage, effects of opening or puncturing tophaceous masses, the cause of deposition of urates in joints and other tissues, and the condition of urinary organs. In regard to treatment, he insists on an abstemious life. He advises eschewing alcohol in all its forms; avoiding game, dark meats and such as contain large quantities of purin, and avoiding exposure to cold and damp atmospheres. He also recommends an occasional short course of alkalies and purgatives and active exercise out of doors. Curative treatment demands for a time liquid diet and a limited list of medicines, such as thymic acid, as recommended by Schmoll, 20 cgm. (3 grains) three times daily; piperazin, 30 cm. (5 grains) four times daily. A hypodermic of morphin may be given if necessary for excruciating pain, and the following prescription will do very well:

Sodii phosphatis	10	ʒiiss
Sodii salicylatis	15	ʒiiiss
Sodii bicarbonatis	10	ʒiiss
Fluidextracti cascaræ	4	ʒi
Tincturæ cardamomi co.		
Tincturæ colchici sem., āā	10	ʒiiss
Infusi tritici, ad	120	℥iv

Misce. Signa.: A dessertspoonful four times daily.

New York Medical Journal

December 26

4 Influence of Alcohol on the Public Health. F. Peterson, New York.
5 Hydrocephalus. S. D. Ludlum, Philadelphia.
6 *Diagnosis of Acute Miliary Tuberculosis. S. von Ruck, Asheville, N. C.
7 Opsonic Theory. A. C. Mercer, Syracuse, N. Y.
8 *Constitutional Inferiority. H. W. Wright, New York.
9 Soft Tissue Roentgenography. H. Hulst, Grand Rapids, Mich.
10 Severe Ivy Poisoning. R. F. Ward, New York.

6. **Miliary Tuberculosis.**—Von Ruck reviews in detail the diagnosis of acute miliary tuberculosis and emphasizes the following points as of real value in its distinctive diagnosis from other affections:

1. The rapid emaciation which is a striking feature in almost every case, and which is out of all proportion to the degree of fever, the state of the digestive organs, and the amount of food taken.

2. The bronchiolitis of acute miliary tuberculosis of the lung is characteristic in that the catarrhal signs appear first in the smaller and then extend to the larger bronchi, instead of in the reverse order as in ordinary bronchitis. In further contrast to ordinary bronchiolitis the lower posterior portions of the lung in acute miliary tuberculosis are often less involved than the upper.

3. Cases in which typhoid fever is minutely simulated by acute miliary tuberculosis or in which the two diseases coexist are rare, and a careful study of the pulse, temperature, and respiration will usually lead to a correct distinction.

4. Serum reactions are reliable when present in well marked degree, but tuberculous patients may show a modified Widal reaction, and the Arloing-Courmont reaction is not always present in tuberculosis.

5. The ocular test as applied by Calmette and the cutaneous application of tuberculin according to the method of v. Pirquet, while not yet established as thoroughly reliable, are safe and one or both should be employed in all doubtful cases, especially if the subcutaneous injection of tuberculin is contraindicated..

6. Bacteriologic examinations of the blood, feces, and secretions may be of great aid in doubtful cases.

7. The appearance of chorioid tubercle or miliary tubercle of visible mucous membranes in the course of the disease removes all doubt.

8. **Constitutional Inferiority.**—The cases considered in Wright's paper are types of individuals whom we can immediately place for convenience between the imbecile class and the dementia præcox group. He discusses the extent of their dependence on heredity and environment respectively and summarizes the etiologic element by saying that they are exaggerations of normal, universally constitutional tendencies, becoming manifest in certain individuals because of their lack of inhibition, this lack being due both to unfavorable environment and to hereditary defect. From a study of six cases, all in women, the most helpful distinguishing points from dementia præcox are as follows::

1. A reaction to some definite cause, usually allopsychic, this reaction being somewhat similar to the normal, but different in that it is an abnormally exaggerated type of reaction such as would not occur in a well balanced individual; i. e., a reaction to environment, *not an autopsychic* disintegration of personality.

2. Frequent occurrence of such reactions subside with removal of the exciting cause and leave the patient unchanged from the usual standard; i. e., absence of deterioration.

3. A history of abnormalities of condition from an early age, the individual never having been considered quite normal. This is contrary to the usual history of dementia præcox.

4. No loss or impairment of that part of the intellect having to do with memory, orientation, and application of previously acquired general knowledge.

5. No marked affection of the sensorium.

6. No marked incoherence or blocking of thought or dreamlike condition accompanied by fantastic delusions or disassociations of personality, such as manifested in katatonia and other forms of dementia.

From idiocy and the low grade or average type of imbecile it seems unnecessary to take up much time in making a distinctive diagnosis.

Medical Record, New York

December 26

11 *Tuberculosis Among the Jews. M. Fishberg, New York.
12 *Italian Immigration and Insanity. A. W. Ferris, New York.
13 The Opiate Habit. W. F. Waugh, Chicago.
14 Early Diagnosis of Gastric Carcinoma. A. Bassler, New York.
15 *System and the Doctor. L. K. Hirshberg, Baltimore.
16 Pansinusitis Dextra with Paralysis of the Right Vocal Cord. I. W. Voorhees, New York.
17 Prevention of Hemorrhage During Operations on the Nose and Throat. H. H. Pelton, New York.

11. **Tuberculosis Among the Jews.**—Fishberg reviews the various theories that have been adduced to explain the comparative immunity of the Jews to tuberculosis. He points out that it is the country dweller after immigrating to the city who has most chances to contract contagious diseases, particularly tuberculosis. All such diseases, in fact, when imported into a place where they were previously unknown attack almost everybody. For 2,000 years the Jews have lived almost exclusively in cities, and during medieval ages were confined in the worst parts of cities, the Ghettos. They have therefore passed through a process of infection during past centuries, hence their lower mortality to-day from tuberculosis. Even when infected, the prognosis is more favorable in the Jew than in other people. The course of the disease is slower. Acute miliary tuberculosis is very rare. There are, however, indications that this advantage of the Jew is not permanent.

12. **Italian Immigration and Insanity.**—Ferris reviews the origin and conditions of existence of the classes of Italians who form the immigrant element in this country, and examines the many factors that combine to influence or modify the physical and mental development of the Italian people who come to our shores and weighs their temperamental and acquired mental traits. He discusses the kind of occupation they adopt, and their relation to the insane in the light of Dr. Salmon's remark, that under the unusual stress of the first ten years in the United States many thousands of immigrants are destined to become insane. Ferris contends that this statement does not apply to the Italian immigrants. As a rule, they are temperate and cheerful, and, while often illiterate, make good citizens, the second generation being bright and intelligent. Moreover, the Italian government is doing all that it can to prevent its sick and insane being sent away, and is caring for them at home.

15. **System and the Doctor.**—Hirshberg regrets the lack of system so generally found among physicians, and describes his own method of systematic record derived from Dr. Osler's instruction, by means of separate card indexes for case records, libraries and journal references, professional accounts and personal papers and accounts. He suggests the great advantage of employing a stenographer to take charge of the accounts and these records. He sends a personal letter every year to patients who have not called on him for twelve months, to learn the subsequent course of their illness, thus keeping his records up to date and at the same time delicately ascertaining which patients have drifted into other hands. The index cards of these latter are removed and destroyed.

Lancet-Clinic, Cincinnati

December 19

18 Obstruction of the Bowel. C. T. Souther, Cincinnati.
19 Enterostomy—Its Value in Intestinal Obstruction. E. M. Gilliam, Columbus, Ohio.
20 *Some Object Lessons in Otology for the General Practitioner. J. A. Stucky and S. B. Marks, Lexington, Ky.

20. Abstracted in The Journal, Nov. 21, 1908, p. 1807.

Medical Fortnightly, St. Louis

December 25

21 Notes of Travel in Europe—Railroads. A. L. Benedict, Buffalo.
22 Impetigo. W. S. Gottheil, New York.
23 Diet in Hyperacidity. J. M. Bell, St. Joseph, Mo.

American Journal of Medical Sciences, Philadelphia

November

24 Gallstone Disease: J. B. Deaver, Philadelphia.
25 *Ascites in Typhoid Fever. A. McPhedran, Toronto, Canada.
26 *Lobar Pneumonia. G. W. Norris, Philadelphia.
27 *Pharmacology of Heart Stimulants. H. C. Woods, Philadelphia.
28 *Ataxia of the Heart Muscle. E. Schmoll, San Francisco.
29 Interpretation of the Venous Pulse. G. Bachmann, Philadelphia.
30 *Fatigue in School Children, as Tested by the Ergograph. R. G. Freeman, New York.
31 *Diagnostic Value of Cutaneous Hyperalgesia (Head's Zones) in Abdominal Disease. C. A. Elsberg and H. Neuhof, New York.
32 Tumor of the Gasserian Ganglion. Report of Two Cases with Necropsy. W. G. Spiller, Philadelphia.
33 Etiologic Importance of Abnormal Foot Posture in Affections of the Knee. D. Silver, Pittsburg.
34 Ricin Method of Jacoby-Solms for the Quantitative Estimation of Pepsin. E. H. Goodman, Philadelphia.

25. Abstracted in The Journal, June 6, 1908, p. 1930.

26. **Lobar Pneumonia.**—Norris' study is based on a consideration of 445 cases in the Philadelphia General Hospital between Feb. 1, 1905, and Dec. 23, 1907. He was led to collect the present series of statistics by the fact that a considerable number of patients who appeared clinically to be hopeless cases recovered. Aside from the constantly opened windows and doors there has been no innovation in the method of treatment employed. For the most part treatment has been symptomatic, mainly sedative or stimulating as the individual case demanded. In regard to alcohol, while it seems to have been shown by Bachman that alcohol possesses no power of sustaining action on the rabbit's heart, it does seem to be a fact based on prolonged clinical observation that habitual topers, when attacked by pneumonia, are often benefited by a reasonable amount of the drug. In regard to alcohol and strychnin, however, it seems to him that in the average cases perhaps too much stimulation has been employed. Eserin has been employed beneficially in a number of cases in which there has been marked tympanites. Sponging with cold water has been used frequently with good results not only to reduce temperature but to tone the nervous system. Personally he has never been convinced that digitalis accomplished anything in patients having any considerable degree of fever. Of complications, among 445

cases acute pericarditis occurred 8 times, always fatally; acute endocarditis 3, also fatally; empyema 2, one case fatal; pulmonary abscess 2, one case fatal; meningitis 3 cases, with 2 deaths; acute arthritis, 3 cases, with 2 deaths; otitis media, 6 cases, 1 death; parotiditis, 1 case, with recovery; acute peritonitis, 1 case, with death; acute cholitis, 4 cases, all fatal; left femoral phlebitis, 1 case, with eventual recovery. He discusses the result of urine and sputum examination and leucocyte counts, and cites three cases of ether, or operative, pneumonia which terminated fatally. He thinks that any one who has the courage to try the fresh air treatment and sufficient persuasive power over the patient's relatives to allow it to be tried, will never abandon it.

27. **Heart Stimulants.**—Wood confines his consideration to the digitalis group—digitalis, strophanthus. squills, apocynum and adonidin. The following factors in the action of these drugs interest clinicians:

1. The stimulant influence on the cardioinhibitory mechanism which prolongs the diastole and thus slows the pulse.
2. The increase in the tonicity of the heart muscle leading to a more complete and more powerful systole.
3. The constriction of the blood vessels.

The dicrotism, the incomplete diastole, and the coordination of the heart, which are produced by very large doses of digitalis, are toxic manifestations and of more minor importance to the therapeutist. Wood regards the action of digitalis in slowing the pulse as more important in heart disease than is generally supposed. The important effect of digitalis in increasing the muscular vigor of the heart he thinks due to the fact that its influence is much more felt in the left ventricle than elsewhere, a fact of importance in certain cases of mitral regurgitation when the ventricular muscle is more hypertrophied than that of the auricle. As to the vasoconstricting influence, while more force is required to drive blood through narrow than through dilated arteries, in many cases the vascular contraction is a conservative effort to maintain circulatory equilibrium, but when there are degenerative changes or extreme dilatation, increased resistance to the flow of blood may work great damage. Clinicians should not be too hasty in trying to dilate the vessels in chronic heart disease. The available agents all increase the pulse, thus counteracting the heart-slowing action of digitalis. The reason that more harm is not done by nitroglycerin in heart disease is because of the infrequency of its administration as compared with the rapid exhaustion of its action. Squills and apocynum he dismisses as of practical utility only in selected cases because of their irritant action on the gastrointestinal tract and kidneys. He has sought in vain for evidence of the belief that strophanthus differs from digitalis in the absence of influence of the blood vessel. It has, however, the advantage that it is not cumulative, Adonidin is a remedy of promise, but though it has been before the profession thirty years, it remains still in the stage of promise. As to the use of active principles, he holds that if there be any single principle representing completely the therapeutic virtues of digitalis, it is not digitoxin, which is the most dangerous and the most cumulative, more active in its vasomotor effects than either digitalis or strophanthus, and he cites Kakowski's experiments to show that neither digitalin, digitalein nor digitoxin can induce the cardiac contraction effected by digitalis.

28. **Ataxia of Heart Muscle.**—Schmoll reviews the modern literature and concludes that we must distinguish between two varieties of dissociation of the activity of the ventricles: 1, Hemisystole, consisting of alternating contractions of the left and the right chambers of the heart; and 2, partial contractions of the heart muscle, for which he proposes the name of "ataxia of the heart." He describes a case in which dissociation of the activity of the ventricles was found, and gives the tracings. As in locomotor ataxia the coordination of the different parts of the muscles of the limbs has been lost, so in ataxia of the heart the cooperation of the different parts of the heart muscle is lost. How the circulation can be kept up effectively under such conditions is a marvel to anybody who has carefully analyzed the action of such a heart. Investigation of ataxia of the heart will certainly show that partial contractions of the ventricle occur frequently in perpetual arrhythmias, and that a large number of symptoms observed in these cases can be explained only by partial contractions of the ventricles.

30. **Fatigue in School Children.**—Freeman discusses the testing of school children for fatigue in New York by means of the Crampton test, the Storey ergograph, and the Mosso ergograph combined with an adder as used in the Chicago schools. He regards the last as the most reliable instrument, but adds that the ergograph, so far as his work indicates, is of no value in modifying the school day in the public schools of New York for the average student, but might be shown to be of value in lightening and controlling the work for those pupils who give evidence of marked fatigue during the school day.

31. **Cutaneous Hyperalgesia in Abdominal Disease.**—Ellsberg and Neuhof discuss this subject very exhaustively and formulate the following conclusions:

1. We agree in the main with the statements of Head, that there are present in many affections of the abdominal viscera, constant and definite areas or zones of cutaneous hyperalgesia.
2. These zones may vary somewhat in extent and in outline, but they have a characteristic location.
3. The presence of a characteristic zone is an evidence of an affection of the corresponding abdominal viscus, although not of necessity the affection which is causing the symptoms.
4. The zones are present in a large percentage of patients with acute affections of the appendix, of the gall bladder, of the uterine adnexa, and are of considerable value in the diagnosis of these acute affections.
5. Zones are frequently present in acute disease of the other abdominal viscera, and when present aid in making the correct diagnosis.
6. Cutaneous hyperalgesia may appear in acute abdominal disease. Its presence is no index of the gravity of the lesion. Its sudden disappearance may be of grave significance.
7. In the absence of all other localizing signs or symptoms, the zone may indicate the organ that is affected. In most instances, however, it must not be used to make the diagnosis, but only as a diagnostic aid, to substantiate conclusions reached from a consideration of all the symptoms and signs.

Journal of Medical Research, Boston

November

35 *Curative Influence of Extracts of Leucocytes on Infections in Animals. P. H. Hiss, New York.
36 *Precipitation of Bacterial Extracts by Extracts of Leucocytes. P. H. Hiss and H. Zinsser, New York.
37 *Mechanism of Protection by Leucocyte Extracts. H. Zinsser and P. H. Hiss, New York.
38 *Twenty-four Cases of Epidemic Meningitis Treated with Leucocyte Extract. P. H. Hiss and H. Zinsser.
39 *Treatment of Lobar Pneumonia with Leucocyte Extract. P. H. Hiss and H. Zinsser.

35 to 39. Discussed editorially in The Journal, Dec. 12, 1908, p. 2062.

Illinois Medical Journal, Springfield

November

40 *Placenta Prævia. F. D. Hollenbeck, Chicago.
41 Extrauterine Pregnancy and Retrouterine Hematocele. A. B. Keyes, Chicago.
42 Case of Extrauterine Pregnancy. A. B. Eustace, Chicago.
43 Obstetrical Work by the Country Doctor. C. B. Brown, Syracuse, Ill.
44 *Fetal Death *in Utero*. C. G. Smith, Red Bud, Ill.
45 *Psychic Aberrations Associated with Diseased Prostate. J. F. Percy, Galesburg, Ill.
46 New Unit of Energy in Infant Feeding. T. G. Allen, Chicago.
47 Influence of Specialism on the General Practitioner. D. W. Reid, Jacksonville, Ill.
48 *Climate Fallacy. L. S. Peters, Silver City, N. M.
49 Borderline of Mental Disease. F. P. Norbury, Jacksonville, Ill.
50 Problem of the Public Care of the Insane. A. Meyer, New York.

40. **Placenta Prævia.**—Hollenbeck holds that considering the high fetal mortality under any or all forms of treatment, and that although we may deliver a living child, few survive beyond the second or third week, and that of those who do survive, few become robust; and considering also that it is granted that the best procedure for the mother is worse for the child, and *vice versa*, it is incumbent on us, if any form of treatment assures a low maternal mortality, to adopt that treatment. The best results so far attained are by terminating pregnancy immediately on a diagnosis of placenta prævia, by bringing down a foot and leaving Nature to complete the labor. As great precautions and preparations are necessary as though laparotomy were to be performed. If the head present external version may be attempted. That failing, when the cervix is dilated suffi-

ciently to admit two fingers, the method of Braxton Hicks or combined version can be done. This operation in transverse and breech presentations varies only in degree, but the object and results are the same.

44, 48. Abstracted in THE JOURNAL, June 27, 1908, p. 2152.

45. **Prostatic Psychoses.**—Percy reports three cases, which he thinks indicate that there is a clinical physiopathology of the prostate which expresses itself chiefly through the cerebrospinal and sympathetic nerves as a functional disease, just as the perverted physiology of the thyroid gland expresses itself through the same system of nerves with the same results, so far as a mere brain expression is concerned.

Journal of the Indiana State Medical Association, Fort Wayne

November

51 Scoliosis. D. Ross, Indianapolis.
52 *Obstruction of the Bowels from Traumatism. J. H. Ford, Indianapolis.
53 Relation of Physicians and Druggists. S. E. Earp, Indianapolis.
54 Relation of the Pharmacist to the Physician. J. R. Francis, Indianapolis.
55 *Plea for State Control and Treatment of Dipsomania, Inebriety and Drug Addiction. A. L. Wilson, Indianapolis.
56 Atypical Pneumonia. C. R. Sowder, Indianapolis.
57 Dermoids. H. G. Nierman, Fort Wayne.

52. **Traumatic Obstruction of Bowels.**—Ford discusses the diagnosis and etiology of traumatic intestinal obstruction, giving peritonitis first place. The most serious condition is postoperative ileus. If the bowel can not be moved by laxatives, surgical intervention is the only recourse. Ford reports a case in which obstruction followed pus appendicitis. He believes that many cases of postoperative ileus could be relieved by thoroughly washing the intestinal tract. In obstruction due to traumatism operation must be prompt before peritonitis sets in.

55. **State Control in Dipsomania, Etc.**—Wilson urges absolute control, which can be secured only by legislative enactment, together with good hygienic suroundings, a pleasant environment, good feeding, clothing and housing, with proper medical treatment for a sufficient length of time as curable measures in curable cases. State guardianship is more feasible than municipal or county. An institution such as he suggests should be founded on broad general principles, and to reach all who should come under its influence, it should have the moral and financial support of the state, should be primarily a hospital, free from political and mercenary control, under competent medical management having full powers and right of selection of assistants and subordinates. Its doors should be open to all who sufficiently long have been residents of the state. Admittance, both voluntary and by legal commitment; but once in, all patients should be subject to the same rules and regulations. In regard to the incurable cases, Wilson says: "Give the father a chance to recover from his excesses and again to assume the responsibilities of life. But if he proves to be incorrigible and will not do the right, then free the family from his presence and the responsibility of his support. There is a law now in this state (Indiana) constituting child desertion a felony. This is right; but if child desertion, in the sense of a parent separating himself from his child and leaving it without support, is a felony with a penalty attached, what shall be said of the man who not only fails to provide for his wife and children, but adds the burden of his own support, besides other abuses he too often heaps on them?"

California State Journal of Medicine, San Francisco

November

58 *Cancer of the Uterus, How May We Secure Its Early Recognition? W. F. Wakefield, San Francisco.
59 Indications for Mastoid Operation. D. H. Trowbridge, Fresno.
60 The Pure Milk Problem. G. H. Kress, Los Angeles.
61 Sanitary Supervision of Bakeries and Restaurants. L. M. Powers, Los Angeles.
62 *Luetic Stigmata of Importance to the General Practitioner. H. C. Moffitt, San Francisco.
63 Syphilis as Seen by the Eye, Ear, Nose and Throat Specialist. H. G. Thomas, Oakland.
64 Syphilis of Bones and Joints. S. J. Hunkin and G. A. Harker, San Francisco.
65 Early Recognition and Treatment of Squint. W. F. Blake, San Francisco.

58. **Early Recognition of Cancer of Uterus.**—Wakefield makes the following suggestions:

1. Every woman should be examined by her accoucheur, after uterine involution has taken place, to ascertain if any material injury to the cervix has resulted from the labor; and if material injury is found, the cervix should either be repaired at once, or the patient required to present herself for examination once or twice a year, so that repair may be advised before the patient's future is menaced, should chronic inflammatory changes supervene.

2. All chronic lacerations of the cervix with concomitant inflammatory sequelæ should be repaired at once; all chronic inflammations of the cervical or corporal mucous membrane should receive appropriate treatment; all interstitial or submucous tumors of the uterus should be removed.

3. Physicians should keep themselves constantly mindful of their responsibility in the matter. A small piece of tissue should be excised from any suspicious looking patch on the cervix and subjected to histologic study, even though no symptoms pointing to cancer are present. All abnormal hemorrhages should be thoroughly investigated, and, if no cause is evident on ordinary examination, the uterine cavity should be thoroughly curetted and serial sections made of the pieces of mucous membrane thus obtained, in an effort to prove or disprove the presence of adeno-carcinoma of the body or upper cervical canal.

4. Women should be educated to understand that danger attends the nelgect of cervical injuries and chronic uterine inflammations; that every woman who has borne children may have such injury or such inflammation; that it would be wise for all women thus informed to ascertain from some competent physician whether any pelvic condition exists that would menace her future. Indeed, women would subserve their own best interests if they would make annual or semiannual visits to some good, wise physician, as a prophylactic measure, during the cancer period.

5. Women must be taught that excessive bleeding is never a coincident of the normal menopause, but is a symptom of great import, which should be immediately investigated.

6. A cancer committee should be appointed by the presidents of our different state medical societies, the duty of which will be to study the question generally and evolve the best means of keeping the profession in touch with the subject and furthering, in some dignified and practical way, the dissemination of such knowledge as should be possessed by intelligent women.

62. **Luetic Stigmata.**—Moffitt discusses in detail the stigmata shown, respectively, by the facies, skin, glands, bones, nose, mouth, eye, vascular system, nervous system and also certain unclassified signs, particularly in regard to their importance for the general practitioner.

Journal South Carolina Medical Association, Greenville

November

66 *Etiology of Pellagra—The Italian Maize Theory, or the Theory of Lombroso. J. J. Watson, Columbia, S. C.
67 *Protozoan Theory of Pellagra. J. H. Taylor, Columbia, S. C.
68 *Pellagra—Problems in the Study of Its Etiology. E. J. Wood, Wilmington, N. C.
69 Etiology of Pellagra. N. M. Moore, Augusta, Ga.
70 Roumanian Theory as to the Cause of Pellagra. J. L. Thompson, Columbia.
71 *Diagnosis and Treatment of Pellagra. J. W. Babcock, Columbia.
72 Pathology of Pellagra. H. H. Griffin, Columbia.
73 *Clinical Observations of Pellagra. H. E. McConnell, Chester, S. C.
74 Four Cases of Pellagra. G. A. Neuffer, Abbeville, S. C.
75 *Personal Experience with Some Cases of Nervous and Mental Diseases Showing the Pellagra Syndrome. I. M. Taylor, Morgantown, N. C.
76 Examination of the Eyes in Eighteen Cases of Pellagra. E. M. Whaley, Columbia.
77 *Theory as to the Cause of the Recent Appearance in This Country of Pellagra. J. McCampbell, Morgantown, N. C.

66. **Pellagra.**—Watson describes the maize theory of Lombroso and the experiment on which it is based.

67. **Idem.**—Taylor marshals the points against the maize theory and discusses the similarity of pellagra and protozoan disease. He thinks it likely we may yet find pellagra to belong to the latter class.

68. **Idem.**—Wood suggests that the corn, whether diseased or sound, may form a culture medium on which an organism specific to the disease grows and develops. This would explain the advantage of heating the corn. The *Acarus farinæ* may possibly play a part in the entrance of this suspected organism into the kernel of otherwise sound corn.

71. **Idem.**—Babcock says that evidence is accumulating of the existence of pellagroid disease in North Carolina, South Carolina, Georgia, Alabama and Tennessee. It has been sporadically observed in Louisiana, Texas, Arkansas and Virginia. It presents both resemblances and striking differences to the Italian and Egyptian forms. Among the latter are the overwhelming number of females attacked, the great and early mortality, and the unusual invasion by the rash of unexposed parts of the body. By exclusion we are driven to a diagnosis of, possibly, pellagra. The association in all the author's cases can not be denied. The communica-

bility calls for investigation. Atoxyl seems to hold out the best hope from drugs, but Fowler's solution can not be cast aside.

73. **Idem.**—McConnell asks for the disuse of such terms as "awful," "dreadful," and "leprous," as applied in the newspapers to pellagrous patients. The terms are not justifiable and they have a very depressing effect on the patient.

75. **Idem.**—Taylor holds that pellagra has been with us for a long time, and that we have been misled by the brevity of the text-book statements. He is sure that he has been seeing these cases for 20 years, and that many such have been seen and dismissed under diagnoses of chronic diarrhea, intestinal indigestion, eczema and sunburn. Many so-called scrofulous negroes are really pellagrous.

77. **Idem.**—McCampbell suggests that the present-day methods of intensive farming may be responsible for the recent appearance of pellagra in this country. It is a very common practice to cut the corn, stalk and all, at the ground, often in a state of immaturity, in order that the ground may be planted with some other crop, usually wheat or rye, and this corn is packed wet and possibly green, in a shock, where conditions are favorable for fermenting and heating and possibly the development of the products which give rise, when eaten, to the disease. This method of harvesting is in contrast to that prevailing some years ago, when it was the custom to cut the top just over the ear, leaving the ear and remainder of the stalk to stand in the field until they were both fully matured and perfectly dry, before gathering. At this time nothing was cut as before described, except a late crop to escape the frost, and this was usually fed to horses and cattle, being considered unfit for bread, and it is suggestive that, while pellagra was unknown, "blind staggers" in domestic animals was comparatively common. Further confirmation of this theory is found in the fact that in Italy, and especially in the Lombardy and Piedmont districts, the hot bed of pellagra, the manner of harvesting corn is somewhat similar to that now prevailing in this country, inasmuch as owing to climatic conditions it is necessary to gather corn in a partially green state, or at least in a condition necessitating further drying; and McCampbell understands that the Italian government has issued special instructions for this procedure, recognizing that it was in a faulty curing process that the poison developed.

Cleveland Medical Journal

November

78 Experience with the Cutaneous Tuberculin Reaction and the
Findings in Two Hundred Postmortems on Children. C.
von Pirquet, Vienna.
79 Malnutrition. M. J. Lichty, Cleveland.
80 *Mechanics of Lateral Curvature (concluded). H. O. Feiss,
Cleveland.
81 Medical Progress in the Orient. I. Ludlow, Cleveland.

80. **Lateral Curvature.**—Feiss in this issue concludes his serial article by the following restatement of his principles: There are certain conditions in normal posture in which asymmetric forces bear on the skeleton. These strains in the skeleton may best be studied in terms of distortion, although, of course, no permanent distortion takes place in the normal. In this way it is found that the peripheral stresses are of great significance, implying tendencies (as read in terms of distortion), which are suggestive of the fixed distortions seen in the pathologic skeleton. But to explain those pathologic facts on a basis of normal tendencies we have to assume that the vicious forces become so great in relation to the skeletal resistance, that the bones which are under strain finally take a permanent set. This may readily be supposed on the grounds of repetition, prolongation or diminished resistance in the skeleton. On these assumptions we may understand how certain deformities take place directly. Such direct deformation, however, seems to occur only in a given part—namely, in the thorax, so that following this, the body mass as a whole must readapt itself to conditions of erect balance. This implies a second adjustment of the deformed thorax to the rest of the body, and this is the final adjustment which is said to represent the state of lateral curvature.

Southern California Practitioner, Los Angeles

November

82 Vaccines and Sera. E. L. Leonard, Los Angeles.
83 The Opsonic Technic. J. E. Pottenger, Monrovia.
84 Opsonic Index—A Technic Utilizing the Ordinary Incubator.
G. H. Kress, Los Angeles.
85 Rôle of the Immunizator in Modern Medicine. G. Martyn,
Los Angeles.
86 Effect of Climatic Conditions on Important Symptoms in
Tuberculosis. C. C. Browning, Monrovia.
87 Illustration of a Localized Traumatic Lesion of the Cortex.
W. W. Watkins, Phoenix, Ariz.
88 *Gastroptosis in Tuberculous Patients—A Report of Fifty
Cases. B. Reed and F. N. Robinson, Los Angeles.

88. **Gastroptosis in Tuberculous Patients.**—Reed and Robinson report and discuss a large series of cases of gastroptosis in tuberculous subjects. Of 221 patients under treatment (men 108, women 113), 133 were carefully examined abdominally, on account of gastrointestinal symptoms. In 50 (women 28, men 22) or 37.6 per cent., there was more or less prolapse of the stomach. In 44 of the 50 cases the lower border of the stomach was at or below the umbilicus. In 6 of 28 cases in women and 6 of 22 cases in men, the lower border rested on the pelvic viscera, and in only 4 cases in women and 2 cases in men was it above the umbilicus. In 10 cases (9 women, 1 man) the gastroptosis was accompanied by movable right kidney. The authors conclude that in all known tuberculous cases we should search for and correct any existing visceral displacement as a helpful preliminary to the cure of the major disease; and to prevent the development of tuberculosis in persons predisposed thereto by reason of lowered nutrition, the same precaution is equally important.

Atlanta Journal Record of Medicine

November

89 *Long and His Discovery. I. H. Goss, Athens, Ga.
90 Should the Appendix be Removed in All Cases in which the
Abdomen is Opened for Other Causes. L. C. Fisher,
Atlanta, Ga.
91 Reciprocity Between States. A. A. Kent, Lenoir, N. C.
92 Amebic Dysentery. G. M. Niles, Atlanta, Ga.
93 Importance of a Thorough Knowledge of Biology, Bacteriology
and the Circulation of the Blood for the Successful Appli-
cation of Serotherapy. J. C. Grady, Kenly, N. C.
94 Tuberculous Patients Treated with Ichthyolated Emulsion
Compound. J. R. Williams, Greensboro, N. C.
95 Serotherapy in Tuberculosis. L. C. Rouglin, Atlanta, Ga.

89. **Long and Ether Anesthesia.**—Goss gives a biographic note of Crawford W. Long and champions his claim to the discovery of ether anesthesia, bringing forward evidence to show that he used it in practice in 1843. He ascribes Long's not at once publishing his discovery to the fact that he was a young medical practitioner in an obscure village without hospital or association backing to confirm his results, and that so startling a claim would have exposed him to the adverse criticism of his elders. Circumstances were entirely different 65 years ago from what they are to-day with regard to the publication of discoveries.

St. Paul Medical Journal

November

96 The Tubercle Bacillus and Its Mode of Action. F. F. West-
brook, Minneapolis.
97 Early Diagnosis of Pulmonary Tuberculosis. W. J. Marcley,
Walker, Minn.
98 Treatment of Patients with Pulmonary Tuberculosis. Dis-
charged from a Sanatorium. H. L. Taylor, St. Paul.
99 Tuberculosis of the Skin. B. Foster, St. Paul.
100 Surgical Tuberculosis. W. Courtney, Brainerd, Minn.
101 *Ventilation. E. R. Swan, Cedar Rapids, Ia.

101. **Ventilation.**—Swan discusses ventilation in general, and in particular says that the subject of ventilation of cars has been agitated for years, and yet nothing has been done toward adequate ventilation. That this can be done there is no doubt, but it never will be done until the government investigates and compels the railroads to ventilate their cars. In the meantime, millions of lives are being endangered by breathing impure vitiated air. The ravages of tuberculosis will never be eradicated until we have better sanitation in the homes, schools and railway cars of the country. We can not build sanitariums enough to prevent tuberculosis so long as the breeding places for the disease are allowed to exist. Until compulsory ventilation laws are passed and strictly enforced, tuberculosis will prevail.

New Orleans Medical and Surgical Journal

November

102 Clinical Results with Antistreptococcus Serum. W. D. Roussel, Patterson, La.
103 *Fracture of the Patella; Radiographic Illustrations of Results of Treatment by Suture. J. M. Batchelor, New Orleans.
104 Subacute or Chronic Joint Disease, Non-Tuberculous. Diagnosis and Treatment. E. S. Hatch, New Orleans.
105 Infectious Arthritis. J. T. Halsey, New Orleans.
106 Clinical Significance of Growing Pains in Children. W. W. Butterworth, New Orleans.
107 Congenital Ichthyosis with Report of a Case. J. J. Wymer, New Orleans.
108 Indicanuria in Childhood. Report of a Case. E. D. Fenner, New Orleans.

103. **Fracture of the Patella.**—Batchelor relates his experience in dealing with eleven cases of fracture of the patella, and gives radiographic illustrations in seven cases. He formulates the following conclusions:

> 1. Bony union rarely takes place before the expiration of thirty days.
>
> 2. Bony union is possible when there is, after suture, a separation of the fragments equal to three-eighths of an inch.
>
> 3. Whenever general anesthesia is directly contraindicated, such patients may be operated on with the employment of local analgesia and bony union may be confidently expected.
>
> 4. The usual requirements of the operation are, first, preliminary fixation of the joint for from forty-eight to seventy-two hours, to allow complete arrest of hemorrhage; secondly, suture of the lateral tear of the capsule, thereby restoring the reserve extensors and obviating the danger of atrophy of the quadriceps; thirdly, absolute asepsis and immediate closure of the joint without drainage.

St. Louis Medical Review

November

109 *Practical Notes on Vesical Tumors. G. F. Lydston, Chicago.
110 *Theory, Technic and Practical Results of the Reaction for the Serodiagnosis of Syphilis. J. W. Marchildon, St. Louis.
111 Ocular Tuberculin Reaction. Observations of One Hundred Cases with a Summary of the Observations of Others. A. W. McAlester, Kansas City, Mo.
112 *Influence of Suggestion as an Adjunct in the Administration of Anesthetics. H. S. Munro, Ellaville, Ga.

109. Published in the *Lancet Clinic*, Nov. 28, 1908, and *Louisville Monthly Journal of Medicine and Surgery*, December, 1908; abstracted in The Journal, Dec. 19, 1908, p. 2186.

110. **Serodiagnosis of Syphilis.**—Marchildon traces the history of our recent acquirements in the knowledge of syphilis, and especially of the Wassermann reaction. He describes the technic, discusses its practical results, and sums up its uses as follows:

> The reaction is of value in all cases in which an ulcer has been present on the genitalia, the nature of which is not clear.
>
> Within certain limits the negative reaction is valuable. If there is a tumor or an infection with symptoms, with a negative serum reaction, we can conclude that it is not syphilitic, that it is not a gumma. If there is an acute exanthem, a skin lesion of some kind, and a negative serum reaction, we can say that it is certainly not due to syphilis.
>
> In the presence of hard chancre with a negative Wassermann reaction the chancre may be excised surgically and syphilis aborted. With a chancre present and serum reaction positive, then general infection has taken place and excision of chancre can be of no benefit.
>
> In differential diagnosis of many cases, such as pseudoluetic rheumatism, syphilide about the nose, in pregnant women with a suspicion of syphilis it is important.
>
> The reaction is of value in the selection of a wet nurse and of nurse girls, in order to tell if syphilis has been present. It is being used in Germany as a routine procedure in the examination for life insurance.
>
> It is of value in the diagnosis of diseases of the nose and throat, of the eye, in cases belonging to internal medicine, and in fact, whenever the question of syphilis comes up, even in consent to marry.

112. **Suggestion and Anesthesia.**—Munro urges the importance of suggestion as an aid in inducing anesthesia. It reduces the danger and decreases the amount of anesthetic needed. He cites his observation of the administration of anesthesia at the Mayo's Clinic, Rochester, as an instance of success attendant on the combination. Munro particularly opposes that lack of self-confidence that leads many persons—while admitting that suggestion is undoubtedly a powerful and, when properly used, a beneficent force in the hands of certain persons—to doubt their own capacity to utilize it, even when they have made a study of it. Munro cites instances of operations performed with less than 30 minims of chloroform after adequate suggestive preparation.

American Journal of Surgery, New York

November

113 Various Clinical Types of Acute Dilatation of the Stomach, with Experimental Researches. R. C. Kemp, New York.
114 *Use of the Wax-Tipped Catheter for Diagnosis of Kidney Stone in the Male. W. Ayers, New York.
115 Therapeutic Uses of Active, Passive and Combined Hyperemia. E. P. Fowler, New York.
116 Dysmenorrhea. R. A. Murray, New York.
117 Acute Perforating Gastric and Duodenal Ulcer (continued). E. Eliot, New York.

114. **Wax-Tipped Catheter in Kidney Disease.**—Ayers discusses favorably the use of the wax-tipped catheter, which, he says, is fully as valuable in the male as in the female, when properly used. The only cystoscope that can be used for this purpose is Brown's old model with the projecting telescope. Ayers prefers pure beeswax for tipping the catheter He describes the method, and emphasizes the fact that the ureters vary greatly in length. From measurements with the catheter he puts the average length at from 12 to 14 inches; any obstruction below 12 inches is probably in the ureter. Given a patient with a clinical picture of kidney stone, the question of operation always includes that of the condition of the other kidney. Bilateral catheterization is, therefore, necessary, and at the same time the wax-tipped catheter may be passed and may make an *x*-ray picture unnecessary. He reports two cases which he considers prove absolutely the reliability and accuracy of the waxtipped catheter in the male. It would not be possible to demonstrate a stone in the kidney tissue by this method; also it would be possible to miss a stone in the bottom of the deeply sacculated renal pelvis, but in this case we should find by the catheter a large amount of residual pus, which would make an operation indicated, provided the other kidney was in good condition. When the evidence given by the wax-tipped catheter is positive there is no question of the diagnosis.

Archives of Pediatrics, New York

November

118 Cutaneous and Ocular Tuberculin Tests in Infants Under Twelve Months of Age. H. L. K. Shaw, Albany, N. Y.
119 Congenital Hypertrophic Stenosis of the Pylorus, with the Report of Two Cases Successfully Treated by Gastrojejunostomy. E. W. Mitchell and J. C. Oliver, Cincinnati, Ohio.
120 Present Knowledge of Whooping Cough. H. H. Donnally, Washington, D. C.
121 *Leucocyte Count of Normal "Institutional" Children and Those Suffering with Pertussis. H. O. Mosenthal, New York.
122 Empyema in a Subject Suffering from Purpura. F. Huber, New York.
123 *Simple Method of Circumcision in the New-born. W. R. Wilson, Philadelphia.
124 Contractures Following Epidemic Cerebrospinal Meningitis in a Boy of Ten. H. C. Carpenter, Philadelphia.
125 *Otitis Media Propagata. Mucopurulent Aural Discharge Due to Nasal Catarrh. P. Fridenberg, New York.
126 Diphtheria Following Tonsillectomy and Adenectomy. I. S. Wile, New York.
127 Sarcoma of the Kidney. C. C. Rush, Philadelphia.

121. **Leucocyte Count in Pertussis.**—Mosenthal discusses the leucocyte count in institutional children at the New York Foundling Hospital, and a subsequent similar observation in regard to pertussis, which leads him to the following, among other, conclusions: The average normal leucocyte count of "institutional" children is (13,850 to 16,391) somewhat higher than that usually given. During the catarrhal stage of pertussis an increase is seen in the leucocytes approximating double the normal, and the number of mononuclear cells is increased about 5.5 per cent. at the expense of the polymorphonuclear cells. In the convulsive stage similar, though less marked, changes occur in the blood count.

123. Abstracted in The Journal, July 11, 1908, p. 156.

125. **Otitis Media.**—Fridenberg describes a case of aural catarrh dependent, primarily, on a secretion or accumulation of mucopus in the posterior nares, and possibly the Eustachian tube, and its discharge from the middle ear through a generally spontaneous perforation of the drum. It is apparently frequent in children as acute catarrh; diminishes *pari passu* with the nasopharyngeal condition, recurs with every cold in the head, and particularly with acute specific diseases. There is a chronicity with intervals of apparent cure and seemingly *de novo* attack. During the last few years, Fridenberg has observed a large number of these cases and in several of them pain, diminished hearing, occasional headache and dizziness and long-standing discharge

have led competent otologists to suggest a radical mastoid operation, which, in the present type of case, Fridenberg considers unnecessary. Such patients are to be treated by attacking the source of the discharge, applying to the posterior nares silver nitrite, from 5 to 20 per cent.; resorcin alcohol, 50 per cent., or iodoglycerin, 10 to 25 per cent., and by the removal of adenoids whenever present.

Journal of Advanced Therapeutics, Rahway, N. J.

November

128 Electricity in Errors of Refraction. S. J. Harris, Boston.
129 The High Candle-Power Lamp: Case from Practice. S. T. Birdsall, Glens Falls, N. Y.
130 Advanced Therapeutics of Arthritis Deformans—Progressive Poly-Articular. S. J. Wright, Akron, Ohio.
131 Roentgen-Ray Diagnosis of Diseases of Bones and Joints. A. Granger, New Orleans.
132 Cataphoric Operations as Modified by the Topographic Situation of Particular Neoplasms, with Detailed Report of Cases. G. B. Massey, Philadelphia.

Journal of Cutaneous Diseases, New York

November

133 *Modern Dermatologic Pathology as Related to Practical Therapeutics. M. B. Hartzell, Philadelphia.
134 *Modern Dermatologic Pathology. Its Relation to Therapeutics. C. J. White, Boston.
135 Syphilis in Relation to General Paralysis of the Insane. A. P. Biddle, Detroit.
136 Another Case of Hyponomoderma (Larva Migrans) Demonstrating the Immediate Curative Effect of Chloroform Injected *in Situ*. M. B. Hutchins, Atlanta, Ga.
137 Report of Two Cases of Blastomycosis Cutis. M. B. Hutchins, Atlanta, Ga.

133. **Modern Dermatologic Pathology.**—Hartzell gives examples, to show how little modern pathology has actually influenced the treatment of diseases of the skin. We employ much the same remedies as our predecessors did, though we use them on somewhat different theoretical grounds. The use of bacterial vaccines and of various sera promises to put the treatment of many diseases of the skin on a thoroughly scientific basis, dependent on our knowledge of pathology, and to make it more successful than ever before.

134. **Idem.**—White reviews the seat and nature of changes in cutaneous diseases, and our classical knowledge as regards internal and external administration of drugs, and enumerates as follows the application and discoveries of the last 10 or 15 years that have rendered invaluable service: 1, New drugs; 2, radiotherapy; 3, electrotherapy; 4, actinotherapy; 5, hydrotherapy; 6, organotherapy; 7, psychotherapy; 8, congelation; 9, hyperemia; and lastly, 10, the wonderful and pregnant theories and applications of the various sera. He discusses each of these heads at length, dwelling especially on the various conditions in which vaccines and serums have proved of service.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 12

1 *Difficulties in Diagnosis and Treatment of Suppuration in the Neighborhood of the Diaphragm. W. H. White.
2 *Malformation of the Hind End of the Body. A. Keith.
3 Food Extracts Made from Yeast. A. C. Chapman.
4 *Epidemic of Influenza Characterized by Edema of the Eyelids. N. I. Spriggs.
5 Rupture of the Bulbar Branch of the Internal Pudic Artery. J. S. Mackintosh.
6 Case of Buphthalmia. J. H. McIlroy.

1. **Suppuration About the Diaphragm.**—White discusses the malignant disease simulating suppuration, suppuration below the diaphragm, and suppuration above the diaphragm. With regard to hepatic abscess, he reports certain cases, which suggest the following reflections:

1. When considering the possibility of hepatic abscess avoid confusion with (a) malignant diseases of the liver, (b) tropical liver, or hepatitis, (c) malaria, (d) recurrent influenza.

2. By percussion seek for a small local increase upward of hepatic dulness: this is due almost always to abscess or hydatid; it is hardly ever caused by growth or gumma.

3. Local tenderness is of great help in locating abscess.

4. The occurrence of solitary hepatic abscesses in Great Britain with or without intestinal ulceration, and in the tropics apart from amebic dysentery, and the fact that the abscess is solitary, show that we are far from understanding the method of production.

5. If an abscess is present, and has not ruptured in such a way that the pus ultimately can be discharged outside the body, it should be opened at once, and probably it is usually better to do this in India rather than to send the patients home for operation.

6. Abscesses may be latent in the liver for years and give rise to symptoms only occasionally.

7. We often see in Great Britain patients in whom a hepatic abscess is discharging into the lung. Because such abscesses are often very small, often deep seated, and rarely, owing to its frequent discharge, contain much pus, they may be very difficult to find surgically; therefore, whenever possible, the patient should be given the chance of open-air treatment, change of climate, and good food.

8. The cure of such patients may be accelerated by the administration of the appropriate vaccine.

With regard to gallstones, White urges on physicians the propriety of having them removed by a competent surgeon, even though they are not producing dangerous symptoms. He points out that subphrenic abscess may be due to appendicitis when there is no evidence whatever of disease in the appendicular region; for the trouble may be confined to the end of an appendix several inches long and pointing upward. He discusses empyema at considerable length.

2. **Malformations of the Hind End of the Body.**—Keith discusses a series of specimens from the Royal College of Surgeons Museum, illustrating malformations of the rectum and anus, in males and females. In regard to males he considers those cases in which the rectum (1) opens into the urethra; (2) ends as a fibrous cord, at or above the base of the prostate; (3) terminates in a fibrous cord at the site of the proctodeum; (4) ends blindly at the proctodeum. He next discusses the embryologic basis of rectal malformations, and considers it possible that the key to these abnormalities may be found in a primary defect of the sexual glands. With regard to females he discusses cases in which the rectum (1) opens into the navicular fossa of the vulval cleft; (2) ends as a fibrous cord in connection with the vagina; (3) ends blindly or as a fibrous cord at the site of the proctodeum. He further considers certain miscellaneous conditions, as well as abnormalities of the rectum in domesticated animals, and discusses the development of the proctodeum and the results of operation.

4. **Edema of Eyelids in Influenza.**—Spriggs reports an epidemic of influenza which leads him to the conclusion that edema of the eyelids, generally associated with bad frontal headache, may be an early symptom of influenza. This may or may not be followed or accompanied by pyrexia or other general symptoms.

Lancet, London

December 12

7 Pathology and Treatment of Diabetes Mellitus, Viewed by the Light of Present Day Knowledge. F. W. Pavy.
8 Agglutinating Power in Tuberculous Patients: Serum Diagnosis and Serum Prognosis. P. Courmont.
9 Milk Supply for Infants; Recent Aspects and Possibilities. W. Ewart.
10 Neurasthenia Complicated with (?) "Vaso-Vagal Attacks." M. M. Burgess.
11 Case of Cerebellar Abscess Following Middle-Ear Suppuration: Operation: Death. G. N. Biggs.
12 Lateral Sinus Thrombosis with Pyemic Pulmonary and Pericardial Complications, etc. Operation: Recovery. J. Mackie and H. B. Tawse.
13 Simple Method of Obtaining a Preparation of Living Isolated Leucocytes. C. W. Ponder.

Medical Press and Circular, London

December 2

14 Symptoms and Diagnosis of Subphrenic Abscess. M. Lance.
15 Menthol and Its Internal Uses. M. Young.
16 Operative Treatment of Spinal Caries. T. S. Kirk.
17 Channels of Entrance of Tuberculosis. S. Bernheim.

December 9

18 Incontinence of Urine and Its Treatment. C. A. Ball.
19 *Suppuration in Appendicitis. E. M. Corner.
20 Malunion of Fractured Leg Bones. F. S. Heaney.
21 Treatment of Eclampsia. O. Osterloh.

19. **Suppuration in Appendicitis.**—Corner summarizes his article as follows: Suppuration is almost universal in appendicitis; in patients recovering without the need of operation, the pus is discharged by way of the appendix almost always; if the temperature is raised for as long as four days, pus is present; if there is a mass in the abdomen, pus is present, often discharging satisfactorily internally about three times as often into the small bowel as into cecum; that temporary fecal fistulas are common with appendix abscess; that, if such fistulas communicate with a hollow viscus and persist, they

are a great danger in the operation of appendicectomy done in the "quiet interval"; that a fistulous opening in the bowel may lead to an intestinal abscess; that operation be done for signs and symptoms rather than for "evil prophesies"; that in the future, far more operations will be done in the acute stage and fewer in the quiet stage; that too small an incision must never be used through which to remove an appendix in the quiet interval; that, finally, appendicitis owes its danger to life to its septic character, and that the presence of pus is not necessarily an indication for operation, being almost universal in the disease.

Clinical Journal, London

December 9

22 Diseases of Miners. Woolsorters and Others. F. M. Sandwith.
23 Diagnosis of Malignant Disease of the Liver. H. D. Rolleston.

Deutsche medizinische Wochenschrift, Berlin

Nov. 12, XXXIV, No. 46, pp. 1969-2008

24 *Influence of Practice and Habit on the Course of Reflex and Automatic Processes. (Einfluss der Uebung und Gewöhnung auf den Ablauf reflektorischer und automatischer Vorgänge.) G. Treupel.
25 *Finger Reflex. (Fingerbeugereflex.) L. Jacobsohn.
26 *Action of Powerful Electric Current on Animal Body. (Wirkung des Starkstromes auf den tierischen Körper.) Rodenwaldt.
27 *Apparatus for Application of Hyperemic Treatment in Gynecology. (Anwendung der Bierschen Stauung bzw. Saugmethode in der Gynäkologie.) L. Seeligmann.
28 Serotherapy of Pneumococcus Infection of Eye. (Spezifisches oder nichtspezifisches Serum bei der Pneumococceninfektion des menschlichen Auges—Ulcus serpens?) P. Römer.
29 *Essential Hematuria. Pincus.
30 Tranmatic Alopecia. Wechselmann.

24. **Influence of Practice and Habit on Reflex and Automatic Processes.**—Treupel ascribes to some abnormal habit, frequently casually acquired, many morbid disturbances in respiration, heart action and gastrointestinal functioning. Practice and habit are shown by the examples cited to have an important influence in some cases on certain functions of the body, and on the therapeutic influencing of various affections. Persons unable to tolerate certain articles of food, such as eggs or strawberries, harmless for others, can be trained to tolerate them by commencing with small amounts and educating them to tolerance. This has been done with children who had an idiosyncrasy against eggs. Just as setters and pointers can be trained to certain inherited reflex and automatic functions, the functions of the human body can be trained to a far greater extent than is generally realized. The patient must be instructed in respect to the factors and steps of the normal process and his will power called into play and re-enforced by various aids, electricity, massage, baths, systematic exercises, etc. The most common example of the influencing of reflex and automatic processes is the chronic constipation that results as the impulse for defecation at a certain regular hour is disregarded. The warning reflex grows weaker and weaker and finally ceases altogether, but can be regained by systematic training.

25. **The Finger Reflex Sign.**—Jacobsohn describes a reflex which can be elicited in the fingers in spastic paralysis of the upper extremity of cerebral origin, analogous to Babinski's toe reflex. The patient lays his forearm on the physician's hand, the thumb up, the fingers lightly extended. A slight tap with the percussion hammer on the lower end of the radius causes no change in the fingers under normal conditions: they remain straight. But in case of the presence of spastic paralysis, the fingers bend, as the toes bend in the Babinski sign. He has found this finger-bending reflex constant in this form of paralysis. Bechterew has called attention to approximately the same reflex, entitling it the carpometacarpal reflex; he classed it with the plantar reflex.

26. **Treatment of Electric Accidents.**—Among the points learned in the course of the experimental research reported was that the heart was always severely injured when it lay in the direct route of a powerful electric current, the blood pressure dropping and the heart action becoming arrested. But when the heart was not in the direct line of the current the blood pressure rose, probably from irritation of the splanchnic nerve. The tracings of heart action and respiration show that the current never takes a roundabout route, and, further, that there is no particular personal danger for the one aiding the injured person if he uses his foot to push or draw the injured person out of reach of the live wire. The hands should not be used unless thoroughly protected. The electric discharge affects the heart and respiration separately, the respiration being arrested by the tetanus induced by the current; after this subsides, natural respiration may return. The outcome of the accident depends exclusively on the amount of injury done to the heart. Some of the animals spontaneously started to breathe naturally again after subsidence of the tetanus, but unless the heart action revived, the animals all died. These cases of physiologic return of the respiration, without the revival of the animals, show that artificial respiration is useless unless the heart functioning can be restored. When the heart started to work before respiration returned, all the animals recovered, even when there was a long interval before the return of respiration. In case of an electric accident, therefore, if the pulse is beating, especially if the tension is high, no further measures are required for resuscitation—venesection, to reduce the blood pressure, is directly contraindicated. When the heart is not in the direct line of the current, respiration starts up as soon as the traumatic tetanus has subsided. In none of the experiments did the physiologic or artificial respiration, no matter how long continued, revive the paralyzed heart, while, on the other hand, a slowly reviving heart starts to work again of itself, even after arrest of the respiration. The returning heart action is able to start up the arrested respiration, even after a long pause, and this occurs whether the heart action was restored spontaneously or by direct massage of the organ. The experiments show thus that a low blood pressure is a sign of direct injury of the heart; a high blood pressure can be accepted as a sign that the danger is past. Treatment in an electric accident should therefore aim to stimulate the heart, the organ should be massaged without delay in case it is not working distinctly, with tonics subcutaneously, and, if available, application of the Leduc current according to L. Rabinowitsch. In these directions, Rodenwalt advises directly contrary to Jellinek, who lays the greatest stress on artificial respiration and venesection. Rodenwalt adds in conclusion that he was able to revive animals by massage of the heart even when the blood pressure was so low that the cornea was entirely soft. Softening of the cornea therefore can not be regarded as a sign of actual death.

27. **Suction Hyperemic Treatment of Gynecologic Affections.**—Seeligmann gives an illustration of a glass speculum connected with a rubber bulb which allows Bier's hyperemic technic to be applied in chronic metritis, endometritis, amenorrhea, abscesses, etc. He precedes the application of the suction by scarification or a small incision. The method applied at the date of the menses has proved useful in disturbances from the natural or induced menopause. He also applied the method with prompt success in a case of puerperal infection. After aspiration of large amounts of purulent secretion from the uterus the fever subsided. He applies the suction for only ten minutes, but repeats it daily. His experience confirms the advantages of suction treatment of mastitis, stitch-hole abscesses, etc.

29. **Essential Hematuria.**—Pincus' patient was a woman of 32 who was treated for unilateral hematuria by nephrotomy. The kidney was found surrounded by adhesions, but normal except for some small cysts in the capsule. The patient had no further hemorrhage for two years, when hematuria from both kidneys followed a fall downstairs with some contusion of the kidney region. The massive hemorrhage was evidently the result of chronic inflammatory processes in both kidneys, but the patient did not seem very anemic and the hematuria gradually subsided under conservative measures, disappearing completely in the course of four and a half months.

Wiener klinische Wochenschrift

Nov. 12, XXI, No. 46, pp. 1581-1614

31 Transformation of Albumin in Exophthalmic Goiter. (Eiweissumsatz bei Morbus Basedowii.) K. Rudinger.
32 Negative Influence of Various Diets on Exophthalmic Goiter. (Einfluss verschiedenartiger Diätformen auf dem Grundumsatz bei M. Basedowii.) E. Pribram and O. Porges.

33 *The Blood Picture in Exophthalmic Goiter and Conditions Approximating It. (Blutbild bei Morbus Basedowii und Basedowoid.) J. Gordon and N. v. Jagic.
34 *Treatment of Degeneration of the Myocardium with Intravenous Injections of Strophanthin. (Behandlung der Myodegeneratio cordis mit intravenösen Strophanthininjektionen.) J. Flesch.
35 *To Insure Asepsis in Operating on Intestines. (Aseptische Darmoperationen.) L. Moszkowicz.
36 Tampon Cannula for Laryngeal Stenosis. (Anwendung einer brauchbaren Tamponkanüle beim laryngostenotischen infektionskranken Kinde.) D. Pospischill.

Nov. 19, No. 47, pp. 1615-1652

37 *Backwardness in Children. (Kindliche Minderwertigkeiten.) K. Potpeschnigg.
38 *Application of Anaphylaxis to Diagnostic Purposes. (Diagnose der Tuberkulose des Menschen mittels Anaphylaxie.) T. Yamanouchi.
39 Appendicitis and Pregnancy. J. Halban.
40 Typhoid Bacilli in the Blood and Agglutination in Pyemia. (Typhusbazillen im Blute und Gruber-Widalsche Reaktion bei Pyämie.) A. Krokiewicz.

33. **Blood in Exophthalmic Goiter.**—The examination of six patients with typical and seven with abortive exophthalmic goiter confirmed the statements of those who have described a specific blood picture in this affection. The lymphocytosis and the preponderance of mononuclears are especially characteristic. None of the findings indicate essential injury of the bone marrow, but all point to an abnormal reaction on the part of the lymphatic apparatus. This is confirmed by the frequent enlargement of the spleen and of the lymph glands.

34. **Intravenous Strophanthin Treatment of Degeneration of the Myocardium.**—Flesch has only a single case to report, but the benefit was so striking after the failure of all other heart tonics and diuretics that he can not refrain, he says, from calling attention to it. His standard dose was 0.001 gm. (0.015 grains) injected directly into a vein, at intervals of two or three days, not waiting for compensation to fail entirely. He was thus able to keep his patient, a man of 44, in good condition for months, notwithstanding his degenerated myocardium.

35. **Aseptic Operations on the Intestines.**—Moszkowicz here gives nine illustrations showing the details of his method of clamping the intestine with narrow rods. By clamping the two sets of rods together the stumps are united without opening the lumen. The outer surface of the intestine beyond is then drawn up and sutured, the stumps being thus sutured together over the narrow rods. The latter are then pulled out and the small hole left at each end of the suture is closed with an extra stitch. The lumen of the intestine is thus not opened until after the stumps have been sutured together. Even if there were no other advantages from this aseptic technic, he says, than the keeping the field of operation clean, it would be much superior to other technics, but he is convinced that the morbidity will be reduced with it.

37. **Nature and Causes of Backwardness in Children.**—Potpeschnigg has been examining the 150 children in the nine classes for backward children in the public schools at Graz. He states that provision for children who can not keep up in school with their mates is not well developed in Austria, there being only 21 of such classes, with 510 pupils, while Germany has 660 classes with 15,000 scholars. He found that by far the largest majority of the backward children had some inherited taint, but tuberculosis and syphilis were very much less frequent than alcoholism and nervous disturbances in the parents.

38. **Application of Anaphylaxis to Diagnostic Purposes.**—Yamanouchi has been utilizing the recently established fact that the anaphylactic condition can be passively transferred to normal animals, both of the same and other species, from rabbits to guinea-pigs, for instance. When the organism becomes hypersensitive to some antigen, some bacterial toxin for instance, the passive transference of the blood from this hypersensitive organism, to another, with the toxin or a specific product of the metabolism of the bacterium in question, is followed by symptoms of hypersensitiveness in the animal used for the experiment. The blood of the anaphylactic individual and the specific substance which induced the anaphylaxis are the two factors which combine to induce anaphylaxis in the second individual. If we know one, it is easy to determine the other, and he applies this fact for the diagnosis of tuberculosis. He gives the details of experiments on a hundred rabbits. They were injected in the peritoneum with about 5 c.c. of blood or serum from a tuberculous patient or cadaver. Then, a day or two later, they received an intravenous injection of some tuberculin or tubercle bacillus extract in a salt solution. When the blood or serum was derived from a non-tuberculous individual there was no reaction to the injection of the tuberculin, but when it had come from a tuberculous source, the animals thus sensitized reacted to the tuberculin with dyspnea, weakness and paresis of all extremities; they lay on their side and died in convulsions in from half an hour to two hours, if tuberculin had been used. The symptoms were less severe and the animals recovered in time if the bacillus extract had been injected instead of the tuberculin. In the tests with blood or serum from patients with cirrhosis of the liver, acute pneumonia, sciatica, etc., the tests were constantly negative. This anaphylactic diagnostic test is so sensitive that a positive reaction was obtained not only in the advanced cases of tuberculosis, but even in cases of miliary tuberculosis in which the ocular and cutaneous tuberculin tests gave negative results. The anaphylactic reaction was negative also with serum from three cadavers in which only traces of healed tuberculous lesions were found.

Zentralblatt für Gynäkologie, Leipsic

Nov. 14, XXXII, No. 46, pp. 1497-1520

41 *Treatment of Placenta Prævia. B. Krönig.
42 *Prevention of Air Embolism in Obstetrics. (Verhütung der Luftembolie in der Geburtshilfe.) E. Opitz.

December 5, No. 49, pp. 1569-1592

43 *Remote Results of Alexander-Adams Operation. (Dauererfolge des Alexander Adams.) W. Hannes.
44 Cancer of Cervix with Accumulation of Mucus in Uterus. (Ueber Mukometra.) R. Birnbaum.
45 *Scopolamin-Morphin Anesthesia in Gynecology. E. Boesch.

December 12, No. 50, pp. 1593-1616

46 Restoration of Genital Function by Abdominal Operation in Imperforate Vagina. (Inwieweit ist die Herstellung voller Genitalfunktion bei Gynatresien durch abdominale Operation möglich?) F. Cohn.
47 Suprasymphyseal Cesarean Section. (Zur Indikation und Technik des suprasymphysären Kaiserschnittes.) Hammerschlag. Id. (Kasuistik.) F. Kahn.
48 Technik of Dilatation of Uterus with Tents. (Zur Technik der Laminariadilatation.) M. Stolz.

41. **Treatment of Placenta Prævia.**—Krönig thinks that the present treatment by version or the inflatable bag gives results that are far from satisfactory, the latest statistics showing a maternal mortality of from 6 to 10 per cent., and of the children from 60 to 80 per cent. Death occurs from hemorrhage in the majority of fatal cases, and he believes that the hemorrhage comes mainly from the lacerated vessels of the upper part of the cervix. The more the cervix is stretched, the more unfavorable are the chances for spontaneous arrest of the hemorrhage in the vessels of the isthmus. Vaginal and cervical Cesarean section has the disadvantage that if the placenta is attached on the forward wall the site comes into the incision. If it is on the rear wall these technics may give good results, but, as one can never be certain of this, he rejects them in favor of abdominal Cesarean section with which the bleeding point can be inspected and properly tamponed. If the hemorrhage continues after tamponing, he would not hesitate to do supravaginal amputation of the uterus at once. Of course, this is a serious procedure and he has never had occasion to do it himself, but he advocates it on principle as the safest way to treat this complication of delivery with its 8 per cent. mortality. His six patients required nothing more than the abdominal Cesarean section. If the os is fully dilated, the isthmus is already stretched, and if the hemorrhage continues he does version and awaits spontaneous delivery. After expulsion of the child, if the bleeding continues, he at once loosens the placenta with his fingers. He thinks that much harm is often done by waiting too long. If blood still oozes and persists, in spite of massage and hot rinsing of the uterus, he advises supravaginal amputation. It is hard to decide on this, he admits, but more active procedures must be adopted if the enormous mortality from hemorrhage is to be reduced. Experience with tubal pregnancies has shown that patients bear a brief laparotomy well

even after excessive loss of blood. In case of suspected infection he examines to determine the location of the placenta. If on the rear wall, he does vaginal Cesarean section; if not, version. If the hemorrhage persists postpartum, he advocates supravaginal amputation here also. The hemorrhage in his six cases of abdominal Cesarean section was so slight that he intends to follow this technic in future. The women were all up the first day and all left the clinic in the first three weeks, and all the children were born alive.

42. **Prevention of Air Embolism in Obstetric Practice.**—Opitz warns that raising the pelvis produces negative pressure in the abdomen, and he urges the importance of keeping the shoulders higher than the pelvis. The vessels are liable to be held open when the placenta is partly attached and partly separated, particularly with placenta prævia, Cesarean section with the pelvis raised, and with any maneuvers which allow the penetration of air beside the intact bag of waters. It is especially important when the patient lies across the bed that the upper part of the trunk is not allowed to sink into the mattress lower than the pelvis on the edge of the bedstead. Moving the patient around is also liable to suck up air, as also deep breaths, especially after straining or groaning. If air is felt in the uterus, the outlet should be held open so that the air can escape when friction is applied to the uterus. In his experience with 4,500 deliveries he has never had a case of air embolism, and he ascribes his good fortune to the care in keeping the shoulders constantly higher than the pelvis.

43. **Remote Results of Alexander-Adams Operation.**—Hannes has examined 71 women on whom this operation was performed in previous years at Küstner's clinic at Breslau. Nine of the women had aborted once since, but this was explained by syphilis in one case, and the other women had all had a normal pregnancy, besides the one that terminated in abortion; 28 women had passed through 51 normal pregnancies and deliveries since the operation. These results show that the physiologic functioning of the uterus is not disturbed by this operation. There has been no tendency to hernia in any of the women with one exception, and in this case special conditions interfered with the proper suturing of the incision. Subjective disturbances were encountered in 25 cases, but in all but 7 these were referable to some extragenital affection. Out of the whole number, thus, there are only 7 women whose disturbances were not fully cured by the intervention, and even in these cases the further progress and aggravation of the disturbances had been prevented, and probably could have been completely cured if the women had decided on the operation sooner.

45. **Scopolamin-Morphin Anesthesia in Gynecology.**—Boesch writes from von Herff's clinic at Basle to emphasize the advantages of this form of anesthesia in gynecologic practice. His experience includes 50 cases in which this anesthetic alone was used for minor operations; 50 cases in which it was combined with general anesthesia for examination without surgical intervention, and 100 cases in which an operation was performed under this combination. The scopolamin-morphin method has been applied 2,000 times in the clinic in the last few years—exclusive of obstetric cases. The patient falls tranquilly asleep, free from worry, and the general anesthesia creeps insensibly over her, requiring only a fraction of the amount otherwise needed. When she rouses, the pain of the wound is deadened and, if vomiting occurs, it proceeds without effort. Another advantage is that the glands and mucosæ are not stimulated to extra secretion. The number of postoperative pneumonias has been less than 0.7 per cent. since 1905 and even less than this in the latest series.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 22, XXIX, No. 140, pp. 1501-1516

49 Allowing Patients to Get Up Early After Major Operations. (Mobilizzazione precoce degli operati.) E. Magni.
50 Antibodies in Milk. (Anticorpi del latte.) L. Panichi and E. Calcaterra.
51 Myasthenia of Peripheral Nervous Origin. (Miastenie d'origine nervosa periferica.) Z. Capuzzo.
52 Mediastinal Tumors. (Due casi di tumore del mediastino con peculiare sindrome clinica.) Z. Guerra.
53 Medicolegal Aspect of Stab Wounds of Lungs. N. Federici.
54 Local Injection of Carbolic Acid in Anthrax. (Metodo Baccelli nella pustola maligna.) O. Tedde.

November 29, No. 143, pp. 1533-1548

55 *Gout. (Ancora della gotta, con speciale riguardo alla teoria di Falkenstein.) T. Silvestri.
56 Aggressins in Tuberculous Exudates. (Ricerche sugli essudati aggressinici tubercolari.) E. Calcaterra.
57 Nerve Filaments in Experimental Tetanus. (Sul reticolo neurofibrillare delle cellule motrici nella infezione tetanica sperimentale.) G. Breccia.
58 *Operative Treatment of Brain Tumors. (Trapanazione del cranio per tumore del cervello.) D. Maragliano.
59 *Hot Iodized Irrigation in Puerperal Infection. (Metodo del Mergari nella cura dell'infezione puerperale.) O. Ortali.

55. **Gout.**—Silvestri presents evidence to sustain his assumption that gout is the result of qualitative functional changes in the lymph-producing apparatus, disturbing the metabolism, especially the metabolism of nuclein. Any causes that impede the functioning of the lymph-producing apparatus, he asserts, are therefore liable to aggravate the morbid tendency and cause exacerbation of the gout. Gastrointestinal autointoxication is thus liable to aggravate the gouty tendency as also disturbances in thyroid functioning, etc., and treatment restoring conditions approximately to normal in this respect will also have a favorable influence on the gout.

58. **Surgery of Brain Tumors.**—Maragliano advises operating in two sittings, but insists that the dura should be opened at first intervention to allow the circulation to adapt itself to the new conditions before attempting the enucleation of the tumor. With care it is possible to avoid injury of the pia. He discusses the postoperative prognosis in regard to immediate and remote results, and the phenomena likely to be observed as the result of altered functioning of the region. With preventive hemostasis the mortality is constantly growing less; in his own experience with 9 cases the patients all recovered except one, who required multiple operations. Oppenheim has reported a mortality of 55 per cent. in his 27 cases, with complete recovery to date in only 3 instances. In one of Maragliano's cases he removed a tumor in the left Rolandic area, relieving the patient of intense pain, but aphasia developed after the operation with right hemiplegia, which subsided, but the aphasia persists still to some extent, with complete inability to write or understand written or printed words. The tumor had not touched the cortex of the convolution of Broca, but had invaded the white substance below. After the first intervention there was complete paralysis of the right arm, but the leg was intact and the Babinski sign was absent; the second step of the operation brought on the hemiplegia of the right leg, and with it appeared the Babinski sign, evidently the result of disturbances in circulation and vanishing as these subsided. The general phenomena have all subsided, while the local symptoms have become aggravated by the removal of the neoplasm.

59. **Hot Iodin Lavage of the Infected Puerperal Uterus.**—Ortali has applied in three cases Mergari's method of treating puerperal infection, and he commends it in high terms. The vagina is disinfected, dilated, and the uterus lightly curetted to remove all retained clots, after which the uterus is flushed with from 100 to 500 gm. of a mixture of equal parts of tincture of iodin and hot water, allowing free escape to the fluid. After a few minutes, or at the first complaint by the patient, the uterus is rinsed out with plain boiled water to remove any excess of iodin. No tamponing, either of uterus or vagina, is necessary. It is remarkable, Ortali asserts, how quickly normal conditions are restored in the uterus by this method of treatment. He warns that this or any local measure is applicable only when the infection results from a local process.

Policlinico, Rome

Nov. 22, XV, Practical Section, No. 47, pp. 1477-1508

60 Hematuria of Renal Origin with Cirrhosis of Kidney. Ematurie renali nei cirrotici.) G. Basile.
61 *Insufflation of Oxygen to Revive the New-born. (La respirazione artificiale nei neonati.) E. Cavazza.

November 29, No. 48, pp. 1509-1540

62 Tracheotomy for Foreign Bodies. (Quattro tracheotomie per corpi estranei sottoglottidei.) D. Mambrini.

November, Medical Section, No. 11, pp. 477-524

63 Behavior of Glycogen in the Liver During Starvation. (Del modo di comportarsi del glicogene epatico nella inanizione.) C. Fonzo.
64 Research on Cutaneous Sensibility. (Sensibilita cutanea dell' uomo.) G. Calligaris. Commenced in No. 10.
65 Neuroses and Organic Causes. (Nevrosi e forme organiche.) G. L. Lucangeli.

61. **Oxygen Insufflation for Revival of the New-Born.**—Cavazza recommends a method of restoration of respiration, after failure of the ordinary measures, with which he has been successful in three severe cases. He inhales oxygen from a tank and then by mouth-to-mouth insufflation breathes the oxygen into the child's lungs, stimulating breathing by the reflexes from time to time. In one case of long and difficult labor, asphyxia was marked, but the heart was faintly beating. After half an hour of the oxygen insufflation the temperature rose to normal and the heart gained ground a little, but there was not a trace of respiration. He kept up the insufflations for two hours and three quarters, when signs of restoration of breathing were perceived and the child soon revived. In one case he kept up the insufflation for an hour before the oxygen arrived, the heart action slightly improving under it. Signs of respiration became evident in twenty minutes after the oxygen was used. He takes a breath of oxygen and then one of air, and insufflates into the child's mouth once every two seconds. He believes that the advantages of this measure, as a last resort, counterbalance all the possible drawbacks.

Hygiea, Stockholm

September, LXX, No. 9, pp. 787-898

66 *Antiseptic Local Treatment and Prophylaxis of Certain Contagious Diseases. (Motivering och förslag till antiseptisk lokalbehandling vid vissa farsotssjukdomar.) N. Englund.
67 Stones in the Prostate. (Lithiasis prostatæ.) G. Ekehorn.
68 Congenital Megacolon. (Hirschsprung'ska sjukdomen.) J. A. Hedlund.
69 Traumatic Neurosis. E. Wikner.

66. **Local Treatment and Prophylaxis of Infectious Diseases.**—Englund agrees with those who demand an active local treatment as indispensable, in connection with other measures, in treatment of diphtheria, scarlet fever, etc., in which the throat and nose are particularly involved, and as a preventive for others liable to contract the disease or to transmit it. He commends as most effectual a gargle of a 1 to 1,000 or 1 to 3,000 solution of iodin trichlorid. He prescribes a 10 per cent. solution, and orders 5 or 6 drops of this to be added to a third of a glass of water, to be used as a gargle from eight to ten times a day. After the gargle he insufflates into the nose and throat, six or eight times a day, a mixture of 12 parts calcium phosphate, 6 parts sodium sozoiodolate, 1 part of some colloidal silver salt, with 1 part sugar of milk, 0.2 part menthol, and 0.3 part sugar. The gargle and insufflation are especially indicated after meals. This local treatment is effectual for all infectious affections of the throat and nose, and should be enforced as a preventive measure in times of epidemics and in the environment of cases of infectious disease. Persons in attendance on the sick must be careful to disinfect not only the hands and clothes, but the nose and throat as well. Isolation of the sick is not enough; before the physician is called to the case, other members of the family are liable to be already harboring the germs.

Norsk Magazin for Lægevidenskaben, Christiania

November, LXIX, No. 11, pp. 1037-1120

70 Combined Sclerosis of Tracts of White Matter in the Spinal Cord. (Et tilfælde af kombineret strengsklerose.) N. B. Grøndahl.
71 Meningo-Encephalo-Myelitis Suggesting Hysteria. Id.
72 Cyst in Velum Interpositum Causing Sudden Death. (Tilfælde af cyste i tela choreoidea foraarsagende pludselig død.) Id.
73 Anaphylaxis. S. Widerøe.
74 *Quantitative Tests for Albumin. (Kvantitative albuminbestemmelser.) Id.

74. **Quantitative Tests for Albumin.**—Widerøe describes his experience with the Esbach, Tsuchiya and Christensen technics and Walbum's albuminimeter. The comparative findings are shown in a diagram. They confirm the superiority of the Tsuchiya phosphotungstic method and the Walbum albuminimeter over the other technics, and he commends the latter especially to the general practitioner as both simple and reliable.

Ugeskrift for Læger, Copenhagen

November 5, LXX, No. 45, pp. 1277-1300

75 Successful Application of Handley's Operation for Relief of Edema in Arm After Removal of Breast. H. Maag.

Upsala Läkareförenings Förhandlingar

XIV, No. 1, pp. 1-106. Last indexed Nov. 14, p. 1744

76 Principles of Modern Care of the Insane. F. Svenson.
77 Abnormal Development of Skull and Its Influence on the Brain. (Om bathry- och clinocefali.) G. Backman.
78 Development of Lachrymal Caruncle. (Om utvecklingen af Caruncula lacrimalis hos människan.) F. Ask.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Text-Book of General Pathology. By J. Martin Beattie, M. A. (N. Z.), M.D. (Edin.), Professor of Pathology and Bac- teriology, University of Sheffield, and W. E. Carnegie Dickson, M.D., B.Sc., F.R.C.P., Lecturer on Pathological Bacteriology, and Senior Assistant to the Professor of Pathology in the University of Edinburgh. Cloth. Pp. 475, with illustrations. Price, $5. Philadelphia: P. Blakiston's Son & Co., 1908.

Jahresbericht über die Fortschritte in der Lehre von den Pathogenen Mikroorganismen umfassend Bakterien, Pilze und Protozoën. Von P. Von Baumgarten, o.ö. Professor der Pathologie an der Universität Tübingen, and F. Tangl, o.ö. Professor der allgemeinen und experimentellen Pathologie an der Universität Budapest. Twenty-second Year, 1906. Paper. Pp. 964. Leipsic: Verlag von S. Hirzel.

Hepatozoon Perniciosum (N.G., N. SP.); a Hemogregarine Pathogenic for White Rats; with a Description of the Sexual Cycle in the Intermediate Host, a Mite (Lelaps Echidninus). Hygienic Laboratory Bulletin 46. June, 1908. By W. W. Miller. Paper. Pp. 51, with illustrations. Washington: Government Printing Office, 1908.

The Relations of Medical Examiners and Medical Practice Acts to Medicacl Education, Medical Colleges, Medical Students and the Profession. By P. C. Remondino, M.D., Ex-Vice-President of the State Medical Society of California. Paper. Pp. 200. San Diego, Cal.: Frye & Smith, Publishers.

A System of Syphilis. In Six Volumes. Vol. II. Edited by D'Arcy Power, M.B., F.R.C.S. and J. Keogh Murphy, M.D., M.C., F.R.C.S., with an introduction by Jonathan Hutchinson, F.R.S. Cloth. Pp. 387, with illustrations. Price, $13.50. New York: Oxford University Press, 1908.

Vaccination. What It Is, What It Does, What Its Claims Are on the People. By F. C. Curtis, M.D., Consulting Dermatologist, New York State Department of Health. Paper. Pp. 39, with illustrations. Issued by the New York State Department of Health, 1908.

The Rectum, Its Diseases and Developmental Defects. By Charles B. Ball, M.Ch., F.R.C.S.I., Hon. F.R.C.S., Regius Professor of Surgery in University of Dublin. Cloth. Pp. 332, with illustrations. Price, $10.50. New York: Oxford University Press.

Ergebnisse der Inneren Medizin und Kinderheilkunde. Redigiert von Th. Brugsch, L. Langstein, Erich Meyer and A. Schittenhelm. Vol. II. Paper. Pp. 708, with illustrations. Price, 24 marks. Berlin: Verlag von Julius Springer, 1908.

Vaccine Therapy and the Opsonic Method of Treatment. By R. W. Allen, M.D., B.S., Late Pathologist to Royal Eye Hospital. Second Edition. Cloth. Pp. 242, with illustrations. Price, $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

Lectures on the Pathology of Cancer. By Charles Powell White, M.A., M.D., F.R.C.S., Pilkington Cancer Research Fellow. Cloth. Pp. 83, with illustrations. Price, 3 shillings 6 pence. Manchester: The University Press, 1908.

Sixth International Dermatological Congress, Official Transactions, 1907. In two volumes. Edited by John A. Fordyce, M.D., New York, Secretary-General. Cloth. New York: The Knickerbocker Press, 1908.

Le Bacille de Koch est une Bactérie Innocente. . . . et pas l'Agent Pathogène de la Tuberculose, le Virus Tuberculeux. Par H. W. Middendorp. Paper. Pp. 32. Paris: A. Maloine, Editeur. 1908.

A Synopsis of Surgery. By Ernest W. Hey Groves, M.S., M.D., B.Sc., F.R.S.C., Assistant Surgeon to the Bristol General Hospital. Cloth. Pp. 486. Price, $2.50. New York: William Wood & Co., 1908.

Wellcome's Photographic Exposure Record and Diary, 1909. Cloth, with pocket, flap and special memoranda. Price, $0.50. New York: Burroughs, Wellcome & Co.

Bureau of Vital Statistics of State of Connecticut, Sixtieth Report for the Year 1907. Cloth. Pp. 293. Hartford: Published by the State, 1908.

Twenty-sixth Annual Report of the State Board of Health of Indiana for the Year 1907. Cloth. Pp. 508. Indianapolis: William B. Burford, 1907.

Diseases of the Heart. By James Mackenzie, M.D., M.R.C.P. Cloth. Pp. 386, with illustrations. Price, $9.00. New York: Oxford University Press.

Thirty-ninth Annual Meeting of the State Board of Health of Massachusetts. Cloth, pp. 616. Boston: Wright & Potter Printing Co., 1908.

Parents and Children. Thoughts on Occult Power of Conception and Environment. By E. B. Craddock, M.D., Concord, N. H. Paper. Pp. 40.

Hospital of the Woman's Medical College of Pennsylvania. Fourth Report for 1908. Pp. 68. Philadelphia, 1908.

The Battle of Microbes. December, 1908. Paper. Pp. 28. The Merchants' Association of New York.

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Original Articles

BILIBID PRISON SANITATION*

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MANILA, P. I.

The subject of prison sanitation is such a comprehensive one and presents so many points for consideration that I have thought best in the present paper to discuss briefly such subjects as have seemed most pertinent.

Unless there is complete isolation, a thing usually impossible, the population in the vicinity of a prison or other public institution is endangered by insanitary conditions or epidemics occurring in the institution. On the other hand, it is frequently the case that the only way by which infection can gain an entrance to the institution is from or through the neighboring population. It is clear then that it is to the interest of both to cooperate to prevent conditions inimical to public health. Since we know that sometimes in spite of every precaution epidemics do arise, the rational procedure is to join hands in the work of stamping them out.

The remarkable reduction in the mortality of Bilibid Prison during the calendar year 1907 led me to undertake the writing of this paper, with the idea of collecting such data as might suggest the probable reason for the improvement.

From the Spanish archives it is learned that the prison was originally constructed (1863-1866) of poor materials and by cheap labor under an unscrupulous contractor who for his dishonesty in this matter was the first criminal to be confined in the jail which he had built. As a result of this faulty construction the sanitary condition of the building was poor from the first and has continued to be so. It will thus be seen that Bilibid prison was never considered a model of sanitation. When I first saw the place in 1905, some of the building had been repaired; a new style shutter opening outward from below had replaced the old Spanish shutters. A cement or tile floor, one to one and a half feet above the level of the court had taken the place of the old wooden floors. Some filling in had been done, but overflowing from the estero[1] still occurred. Several buildings had been rebuilt and many shops and storerooms added outside the wall and the administration building enlarged. Many improvements on general lines had been made. There are to-day fifteen buildings used as prisoners' quarters, one of which was finished during 1906-7.

Sanitation, however, advanced very slowly. The low position of the prison and the low-lying ground between it and the estero caused a regular overflow during rains. During the first eight months of my service I could not cross the grounds to the hospital without danger of going over my shoes in the soft mud. The outlet of a large surface drain which formerly emptied into some marshy land back of the rear wall was moved so as to empty directly into the estero. New drains were laid and made deeper than the old ones. The ground was filled in so that the general level was raised from six to eighteen inches, or more. From its beginning, Bilibid was without a hospital worthy to be designated as such. The hospital (Figs. 1, 2 and 3), which I am told was built originally of scraps, is at present situated in the rear of the presidio grounds at their lowest level. Up to September 5, 1906, the hospital grounds, the adjoining enclosure and the floors of the presidio cells had not been filled in. On that date I made the following recommendations: 1. "That the ground in the enclosure and the floor of the bartolina[2] be raised eight inches and the canals be built to correspond." 2. "That ventilators be placed in the roof of cells 1 and 5." These cells had been found to have practically no movement of air. The repairs were made shortly afterwards. A window with a grating was also added to the prison bakery to provide absolutely needed ventilation.

In the latter part of 1904 the prison hospital was divided for the purpose of isolating the tuberculosis patients. A building was rented on Calle Marquis de Comillas near the Ayala bridge to be used as a hospital for tuberculosis and designated Hospital B. (Fig. 4.) Among other advantages it has a yard shaded with trees. During the last two years the tuberculosis hospital has had its own physician and personnel.

Figure 5 gives a view of the prison showing most of the buildings as they are to-day. The average length of each building is 165 feet and the width 20 feet. The height is 15 feet, with an eight-foot drop from roof. Each has approximately 62,700 cubic feet of air space and is occupied by 249 prisoners. This would be 251 cubic feet of air space for each man.

The cubic feet of air space for each individual in the prisoners' quarters has varied with the population in the last two years between 200 and 300. It is evident that the farther it goes below the latter figure the more prevalent tuberculosis and pneumonia are likely to be.

It is necessary, both from an administrative and a sanitary point of view, to furnish all able-bodied prisoners some occupation. Prisoners are provided with work in various shops and also on the roads. There is also a prison band. Practically all work on prison grounds and buildings, construction, etc., and much of the clerical work is done by prisoners.

The ration is closely approximated in the following table showing the items and quantities for five consecutive days beginning February 18, 1908.

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* Read at the Fifth Annual Meeting of the Philippine Islands Medical Association, 1908.

[1] A small creek into which the tide flows.

[2] Cell-house.

	Feb. 18.	Feb. 19.	Feb. 20.	Feb. 21.	Feb. 22.
Quantity per man.	oz.	oz.	oz.	oz.	oz.
Beef	6	6	..	3	6
Pork	..	..	6	..	..
Fish	..	..	..	3	..
Camotes[3]	3	2	..	..	1
Mongos[4]	..	1	1	½	1
Potatoes	2	3	6	3	2
Squash	1	..	..	..	1
Onions	1	1	..	..	1
Tomatoes	..	..	..	2	..
Bread	12	12	12	12	12
Rice	18	18	18	18	18

The drinking water, which is furnished by a distilling plant, is kept in barrels or cans having a locked cover and spigot, and prisoners are forbidden to drink tap water.

A daily sanitary inspection is made by the hospital steward, who reports anything calling for further investigation. Immediately on the appearance of a case of a disease that might become epidemic, such as cholera, plague or smallpox, the patient is isolated, the building quarantined and disinfected, and all the prisoners in it are bathed in a bichlorid of mercury solution. Their clothing also is soaked in the same kind of solution. Cholera patients are treated at Bilibid. Smallpox patients are transferred to the contagious ward at San Lazaro Hospital, and all prisoners in the building and all who have come in contact with the disease are vaccinated. After these measures have been taken there is no further quarantine.

All latrines and garbage-cans, as well as the night tubs in the buildings are screened and made fly-proof. The night tubs are emptied daily; the garbage also is taken away every morning. Wooden cuspidors with covers are placed about the grounds and prisoners are required to use them. These cuspidors are cleaned daily and disinfected once a week.

The prison grounds are sprinkled daily, which keeps down the dust and helps to some extent in preventing diseases of the respiratory system. The buildings, formerly painted red, and later white, were finally painted a slate color which prevents to a great extent the reflection and glare of sunlight and lessens the tendency to diseases of the eye.

Before any patient is discharged from the hospital he is given a bath in mercuric chlorid solution and, unless for any reason he is liberated, microscopic examination for intestinal parasites and for tuberculosis must prove negative. His bunk and bedding are disinfected.

The hospital is cleaned daily and disinfected once a week. All cuspidors and similar utensils in the hospital, night tubs, latrines, drains, etc., are disinfected whenever found necessary.

The chart in Figure 6 shows the mortality per thousand in Bilibid during the calendar years 1902-1907 in-

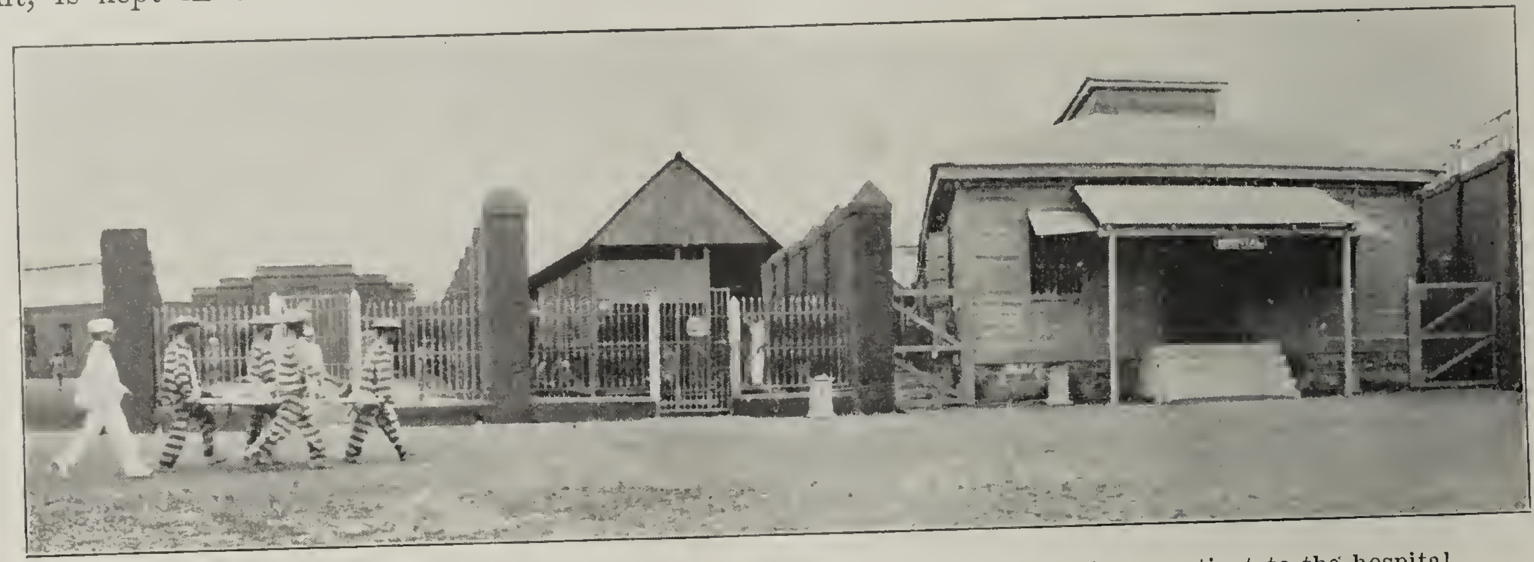
Fig. 1.—Entrance to the hospital at Bilibid prison, showing the litter bearers taking a patient to the hospital.

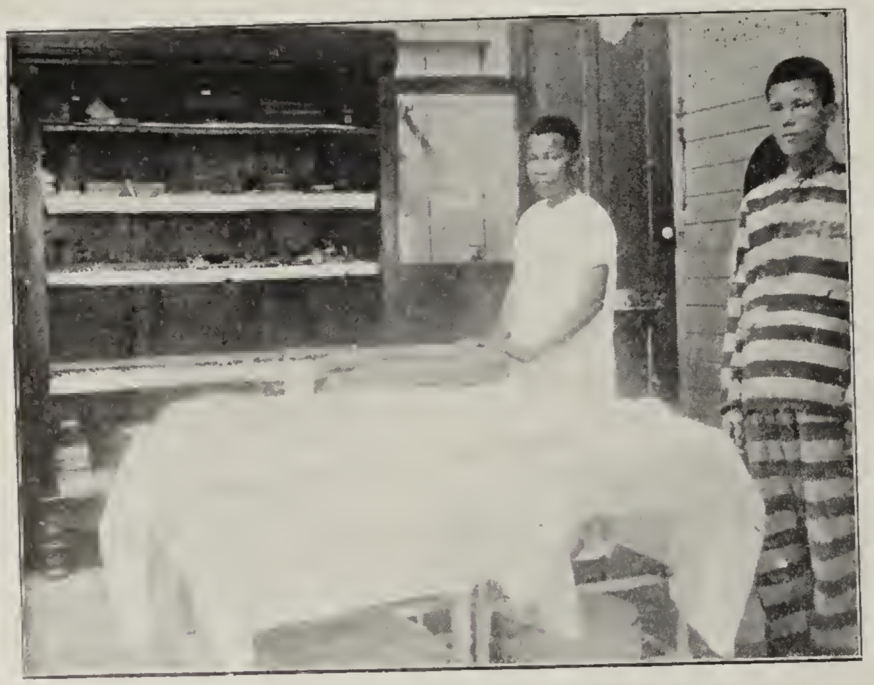
Fig. 2.—Operating room of the hospital, Bilibid prison.

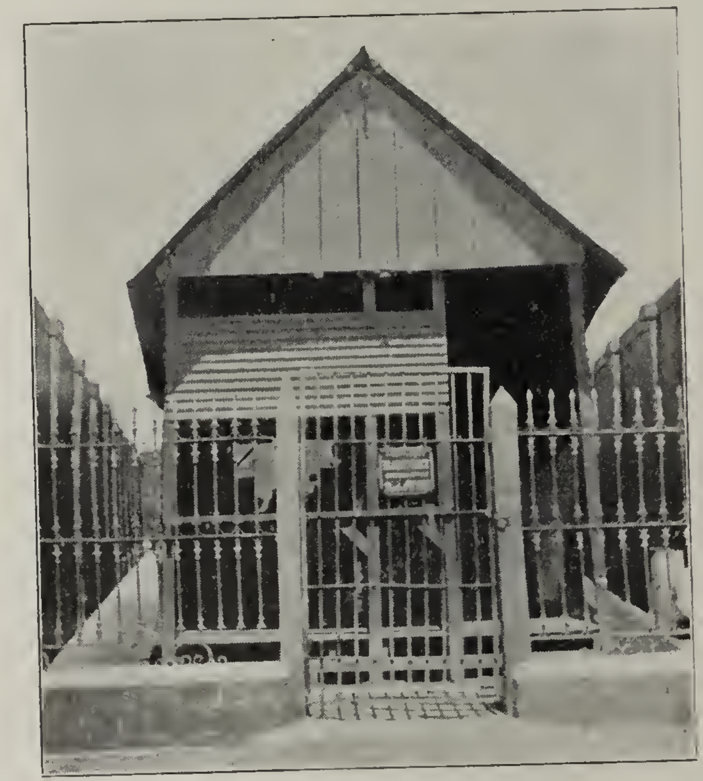
Fig. 3.—Convalescent ward at Bilibid prison. This is nothing more than an open-air shed with raised wooden floor.

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3. Native sweet potatoes.
4. Chinese peas.

clusive. In 1902 an epidemic of beriberi (Fig. 7) raged in the prison, reaching its highest point of 253.7 deaths per thousand, during the month of October. This epidemic has been reported by Dr. Louis H. Fales,[5] who was attending physician to the hospital at that time. He attributes the epidemic to a deficiency of potash salts in the ration. There are still cases of acute and latent beriberi in the prison, although deaths from it are rare.

I have noticed that whenever the health conditions of Manila have made it necessary to prohibit the sale of certain vegetables (such as tomatoes, etc.) or whenever for any reason the vegetable component of the ration is temporarily reduced, not only do we have more cases of beriberi, but there is more sickness in general.

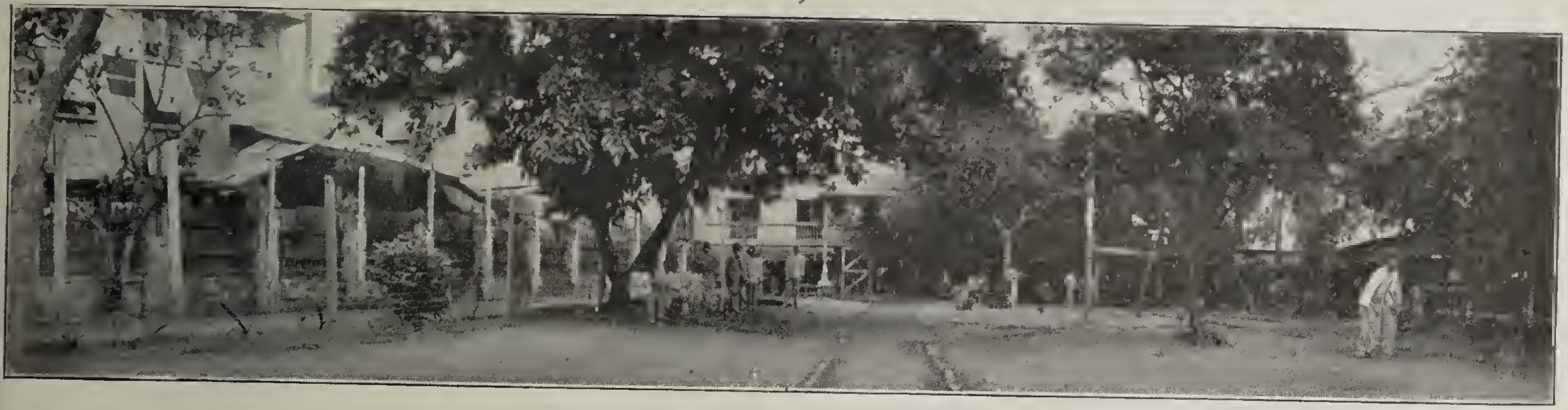

Fig. 4.—The tuberculosis hospital (Hospital B) at Bilibid prison, situated on the banks of the Pasig River near Ayala bridge.

The annual mortality from the disease for the years 1902-1907 inclusive, is as follows: In 1902, 114 per thousand; 1903, 7.4 per thousand; 1904, 2.8 per thousand; 1905, 3.8 per thousand; 1906, 6.4 per thousand, while 1907 is conspicuous by the absence of deaths from this cause. The number of cases treated during 1906 were 121, while only 24 cases appear on the records of 1907. I attribute this decrease mainly to improvement in the ration, which now contains native vegetables and Chinese peas or mongos.

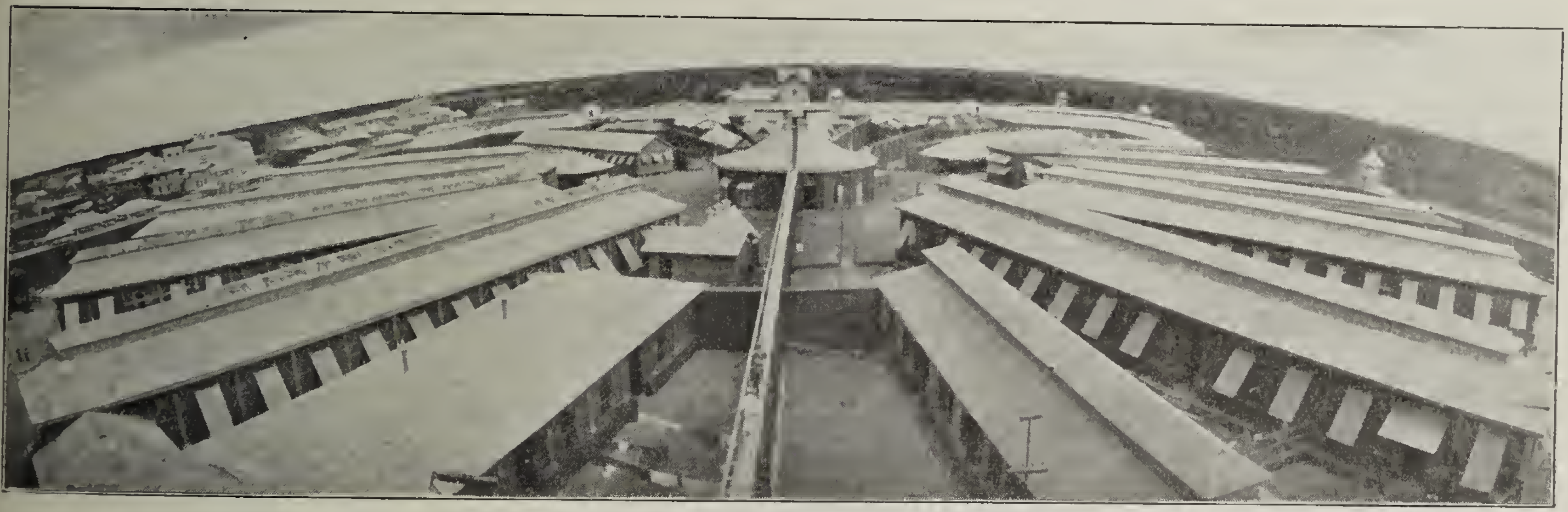

Fig. 5.—General panoramic view of Bilibid prison, showing most of the buildings as they are at the present time.

In reviewing the mortality of 1903, my own experience moves me to admiration of Dr. Fales' results after the epidemic of beriberi had been controlled. The unfavorable conditions at that time, the absence of a hospital kitchen, the low ground and poor drainage about the hospital, the exposure of patients during storms, and overcrowding, all tend to reflect credit on his work.

During the year 1904 the mortality appears to have gradually increased, not from any one cause but from all causes. Tuberculosis, pneumonia and amebic dysentery all combined to swell the death rate, and in December an outbreak occurred during which the Gatling gun claimed twenty-one victims among the prisoners who were attempting to escape. These cases, if deducted from the annual mortality as deaths due to violence would reduce slightly the annual mortality.

In 1905 there was a slightly lessened mortality from pneumonia, with about the same number of deaths from amebic dysentery, and almost double the number from tuberculosis. This had increased the mortality in July to 137.8 per thousand. In August, Asiatic cholera of a severe type appeared coincidently with an outbreak of cholera in Manila, and caused 19 deaths, the mortality for the month being 191.5 per thousand. In September there were ten deaths from cholera and thirty-seven from tuberculosis, which with the deaths due to other causes, made seventy-three for the month; a mortality of 237.9 per thousand. At this juncture the Bureau of Health was placed in charge of the sanitation of the prison. The mortality steadily decreased during October, November and December. For the year, however, it was 115.6 per thousand.

On January 1, 1906, my own work began. The mortality runs about as it did in 1903. Tuberculosis was distinctly lessened as a factor in mortality, while pneumonia and amebic dysentery were somewhat reduced. The mortality for the year was 68.10 per thousand. In 1907 a decided improvement occurred all along the line, there being only sixty deaths during the entire year, and forty of these were due to tuberculosis.

In the chart shown in Figure 7 I have endeavored to show the part which is played by tuberculosis, pneumonia and dysentery in the prison mortality rate. Among these three, tuberculosis is easily the leader. In 1902 it caused 7.2 mortality per thousand; in 1903, 13.1; in 1904, 25.5; in 1905, 52.8; in 1906, 19.5 and in 1907, 11.5. Its rise was coincident with the increase of the prison population and consequent overcrowding. Although there are fewer deaths at present, I am of the opinion that the disease is not decreasing. With increased care in the isolation and treatment of cases, there is a small percentage of cures and in other cases life is prolonged.

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[5] Beriberi, Its Etiology and Prevention, THE JOURNAL A. M. A., March 2, 1907, xlviii, 776.

Pneumonia is a disease which, as the matter now appears to me, would hardly be looked for in the Philippines. Outside of Bilibid, I have seen but two cases among adults in eight years' practice. In the prison it is as much to be reckoned with as tuberculosis and in many cases it seems to be of a septic type. Its mortality range for the consecutive years 1902-1907 inclusive, has been, respectively, 9.9, 13.8, 21.2, 13.1, 10.4 and 1.7 per thousand.

Amebic dysentery ranks next in importance as a cause of death. Its influence shows as follows in the years under consideration (1902-1907): 1.6, 5.7, 10.9, 12.2, 5.6 and 0.9.

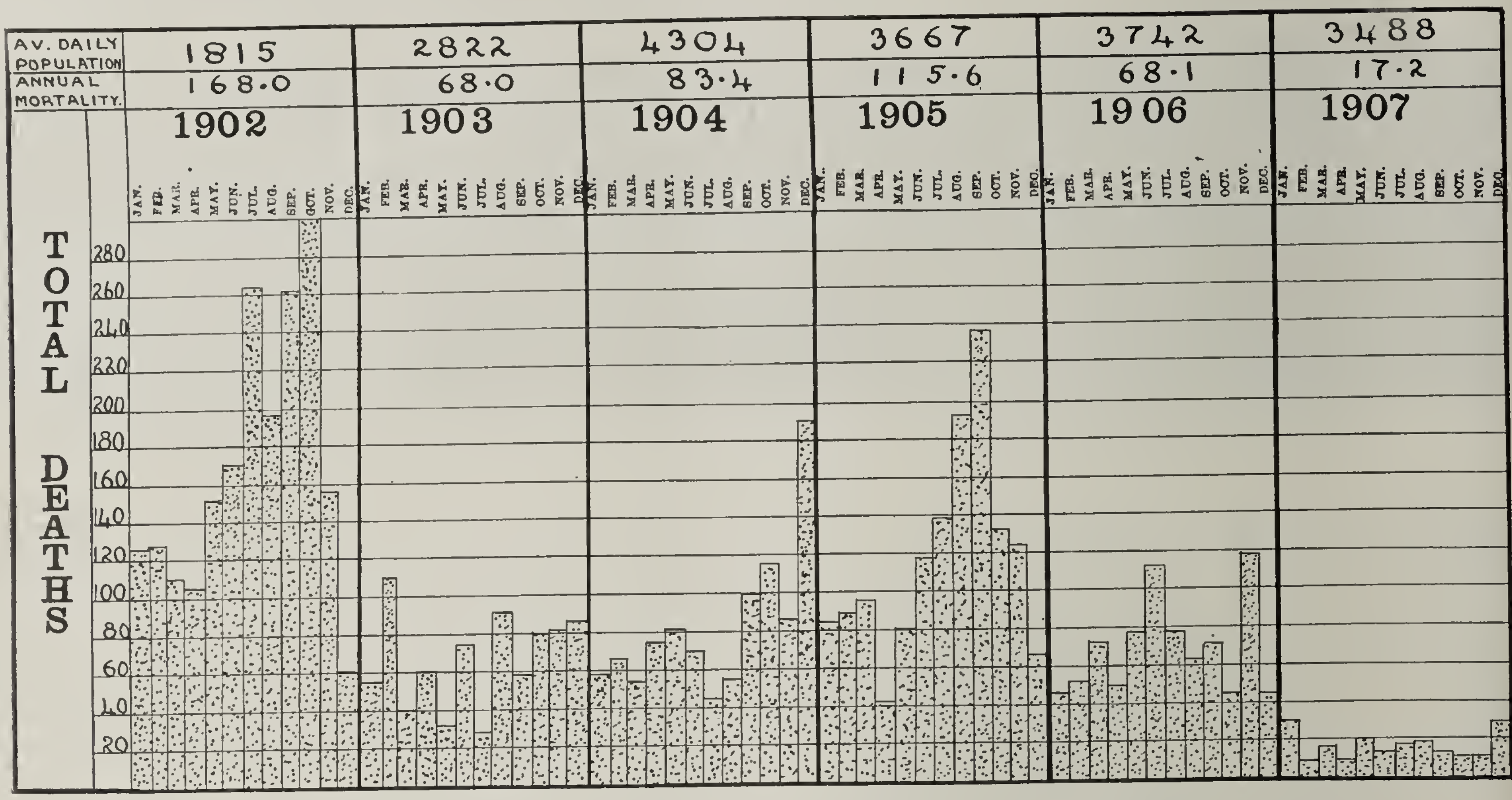

Fig. 6.—Chart showing mortality per thousand in Bilibid prison during the years 1902-1907, inclusive.

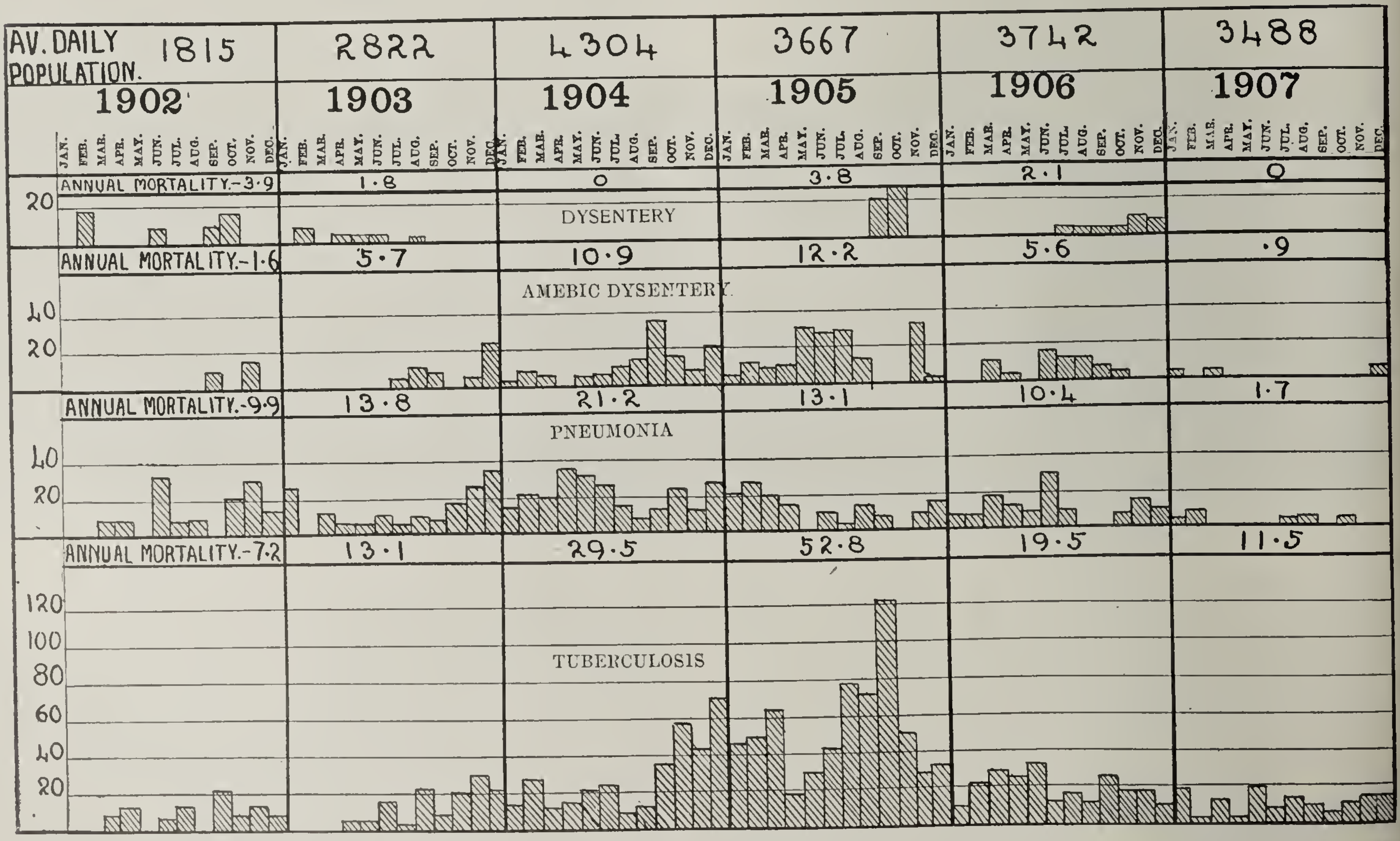

Fig. 7.—Chart showing mortality per thousand from dysentery, amebic dysentery, pneumonia and tuberculosis in Bilibid prison during the years 1902-1907, inclusive.

These figures and the nature of the disease seem to suggest that the mortality may be largely preventable. I shall refer to this further on in the course of this article.

Acute dysentery has appeared from time to time but never in epidemic form. I know of no bacteriologic work done in these cases and can not say to what organism they are due. It will be noticed that in 1904 and

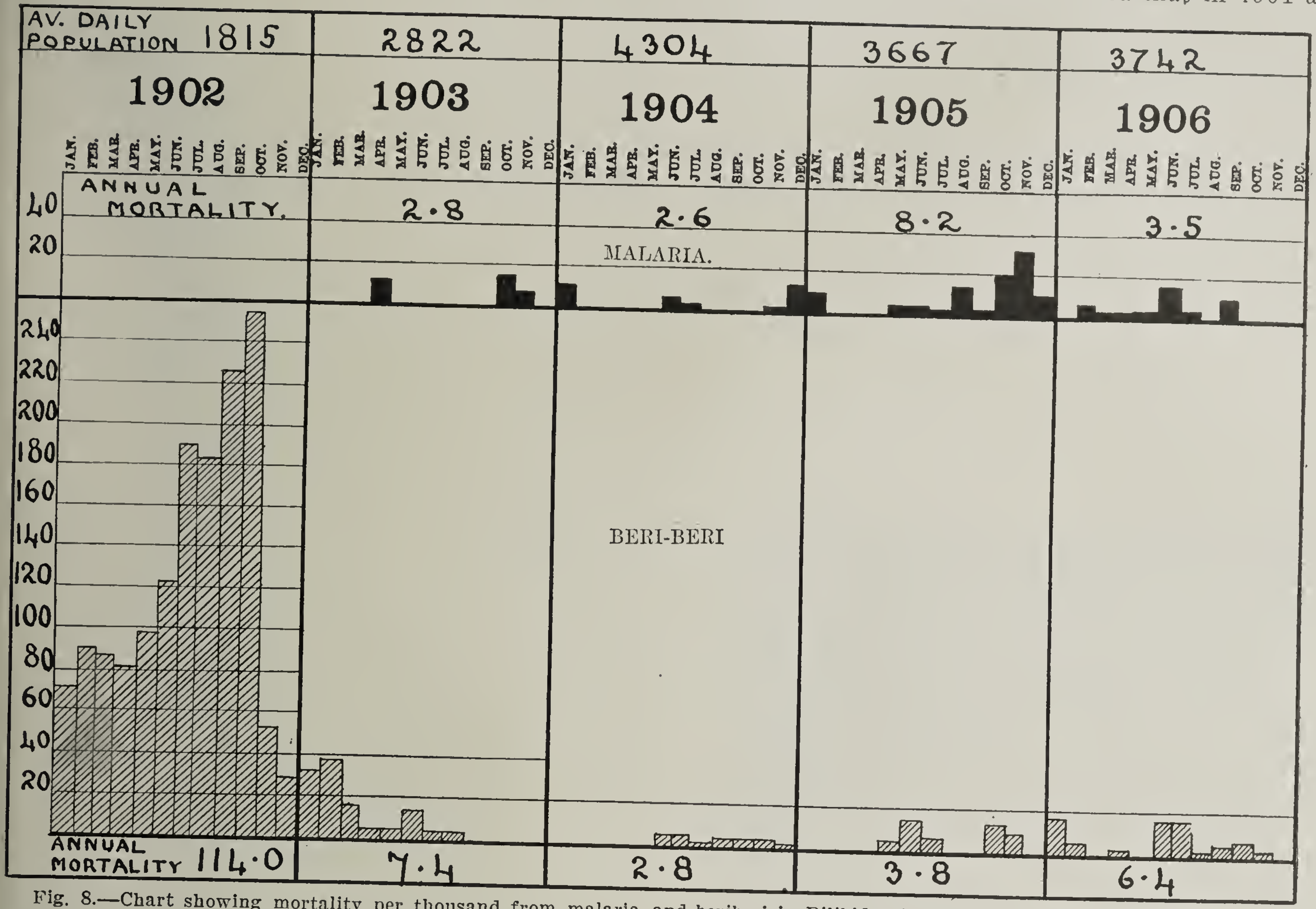

Fig. 8.—Chart showing mortality per thousand from malaria and beriberi in Bilibid prison during the years 1902-1906, inclusive. There were no cases of either of these diseases during 1907.

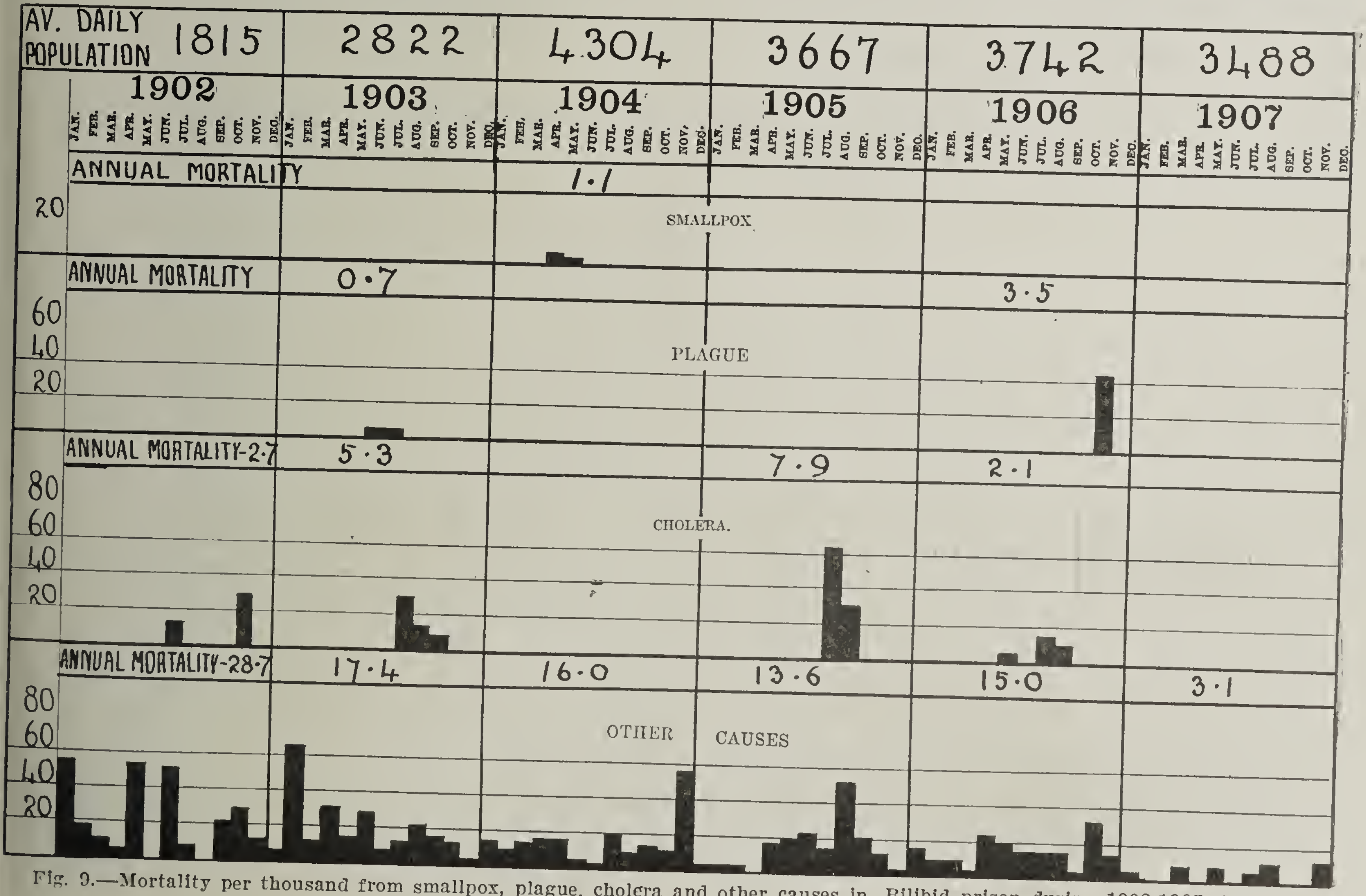

Fig. 9.—Mortality per thousand from smallpox, plague, cholera and other causes in Bilibid prison during 1902-1907, inclusive.

in 1907 the disease claimed no victims. In 1902 the mortality was 3.9; in 1903, 1.8; in 1905, 3.8 and in 1906, 2.1 per thousand.

The next disease that causes a marked mortality is malaria. (Fig. 8.) In 1902 there were no deaths; in 1903 the mortality was 2.8 per thousand; in 1904, 2.6, in 1905, 8.2, and in 1906, 3.5. In 1907 there were no deaths from malaria.

The chart in Figure 9 shows that only in one year of those under consideration, namely 1904, were there any deaths from smallpox in Bilibid. These were in April and May, two deaths occurring in each month. During my service it has been the practice to transfer all cases of smallpox to the San Lazaro contagious wards. Among those so transferred I know of no deaths having occurred. In 1903 there were two deaths from plague, one in June and one in July. In November, 1906, there were thirteen deaths from plague. These deaths, with one exception, occurred among 24 cases accidentally inoculated by an investigator from the Bureau of Science, as reported by Freer.[6] How the other case originated is not positively known, but the patient was in a bed adjoining one of the other patients before the disease was recognized and the cases isolated. It is probable he received the infection from one of them. He had no marks of a primary local infection. It is considered noteworthy that under the circumstances no epidemic occurred nor any infection other than as above stated. It seems to prove that plague is not actively contagious as was formerly supposed.

In 1902 there were five deaths from cholera, one in July and four in November. In 1903, cholera reappeared, in August there were eight deaths, in September four deaths and in October three deaths. The annual mortality was 5.3 per thousand. In 1904 there was no cholera. In 1905 cholera appeared and in August caused 19 deaths, and in September 10 deaths. The annual mortality from the above was 7.9 per thousand. In 1906 cholera appeared in June, causing one death. In August there were five deaths and in September two, the annual mortality being 2.1 per thousand. In 1907 there was no cholera in Bilibid.

Deaths from various causes unclassified caused a mortality of 28.7 per thousand in 1902; 17.4 in 1903; 16.0 in 1904; 13.6 in 1905; 15.0 in 1906 and 3.1 in 1907. A point to which I wish to call attention is that in 1907 there were no deaths from beriberi, malaria, acute dysentery, cholera, plague or smallpox. There were six deaths from pneumonia, three from amebic dysentery, forty from tuberculosis and eleven from miscellaneous causes. The total mortality for 1907 may be summed up as follows: Tuberculosis, 11.5 per thousand; pneumonia, 1.7 per thousand; amebic dysentery, .9 per thousand; miscellaneous, 3.1 per thousand. Total, 17.2. Executions are omitted from this mortality.

RECAPITULATION

Year.	Average. daily population.	Mortality per thousand.
1902.	1,815	168.0
1903.	2,822	68.0
1904.	4,304	83.4
1905.	3,667	115.6
1906.	3,742	68.1
1907.	3,488	17.2

The mortality for the city of Manila during the calendar year 1906 was 41.07 per thousand; during 1907 it was 32.59 per thousand.

In prison sanitation, the first requisite is a hospital of some kind and provision for the isolation and care of the sick. Rest in bed, a bath, easily digested food—these alone do much. I believe that quinin, properly used, will almost eliminate malaria as a mortality factor. It certainly should be promptly used in malarial cases. A case of pneumonia is not so simple a problem. I have read about specifics but have not found one. We have used symptomatic treatment, quinin in tonic doses, tincture of veratrum viride or dry cups to relieve congestion, and cold baths for high fever.

I was much dissatisfied with the results of the quinin enema treatment in amebic dysentery. I saw on the morgue table, on different occasions, at least two cases of perforation of the colon which might have followed the careless use of the rectal tube. Most of the hospital attendants being native prisoners, a high degree of skill can hardly be expected of them. I decided finally to abandon the quinin enemas and to try internal treatment, alone. I prescribed as follows:

℞.	gm. or c.c.		
Simaruba pulvis	3		gr. xlviii
Benzonaphthol	3		gr. xlviii
Bismuth subnitratis	8	or	ʒii
Pocion gomosa[7]	200		℥viss
Syrupus krameriæ	30		℥i

M. et Sig.: A tablespoonful every three hours, and 100 c.c. of a 50 per cent. sodium sulphate solution every second or third day.

This, apparently, has reduced the mortality from amebic dysentery to the vanishing point. The three deaths from this disease which occurred during 1907 were treated by other methods than that described. In very acute cases I have given warm saline enemas every two hours until the symptoms are relieved. Enemas of tannic acid are also advisable if hemorrhage is marked.

An observation developed the fact that a large number of the stools of the prisoners contained ova of intestinal parasites, a systematic investigation was undertaken. Over 17,000 examinations were made.

We had no room for these patients in the hospital, but, after consulting with the Director of Prisons, it was found practicable to build a small ward next to the main hospital, which would accommodate 60 to 80 patients by having them sleep on the raised wooden floor. This was used for the treatment of ankylostomiasis. All patients found infected have been treated in this ward until found negative once or twice on microscopic examination. It has come to be popularly known among the prisoners as the "hungry ward," because on the alternate days on which treatment is given, they get no food. Ascaris cases were treated in the convalescent ward, while amebic dysentery and other intestinal diseases were treated in the main ward.

The eradication of intestinal parasites, so far as possible, I believe to be of primary importance. Their toxins slowly poison the system; the local lesions made by them afford means of entrance for pathogenic bacteria. I attribute the improved health of the prison largely to the results of this systematic work. Other factors were operative at the same time. Formerly many of the prisoners feared the hospital, thinking if sent there they were sure to die. This I believe has entirely changed. There are of course malingerers who must be excluded when detected. The following table shows the cases of intestinal parasites treated during 1906 and 1907:

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[6] Accidental Inoculation with the Virus of Plague, THE JOURNAL A. M. A., April 13, 1907, lxviii, 1264.

[7] Pocion gomosa is a mixture of acaciæ pulvis, 2 grams; syr simp., 100 grams; spt. aurantii flor., drops 10.

Disease.	1906 No. of cases....	1906 No. of deaths...	1906 Case mortality..	1907 No. of cases....	1907 No. of deaths...	1907 Case mortality..
Ankylostomiasis	360	. .	. .	2,575	. .	. .
Amebic dysentery.	215	21	.10	810	3	.04
Tenia saginata, solium, etc.	..	. .	. .	32	. .	.
Hymenolepis nana.	..	. .	. .	3	. .	. .
Hymenolepis diminuta...	..	. .	. .	1	.	.
Ascaris.	264	. .	. .	893	. .	. .
Balantidium coli.	..	. .	. .	30	. .	. .
Opisthorchis sinensis. .	1	. .	. .	11		. .
Oxyuris vermicularis ...	.	. .	. .	42	. .	. .
Schistosoma japonicum..	..	. .	. .	20	. .	
Paragonimus Westermanii	4	1	25	18	. .	. .

Among the most important needs of the prison to-day may be mentioned: More cubic air space to each man in the quarters, a hospital, a modern sewerage system, and a sanitary system of bunks. All these have been appropriated for.

There are three possible explanations of the reduction in the mortality during 1907: first, a favorable season and improved sanitation; second, prompt diagnosis and treatment of diseases in general, but especially of intestinal parasites; third, exceptionally fortunate results in general treatment; fourth, a happy combination of the first three.

I am persuaded that those who know the actual conditions under which the work has been done will wonder that so much has been accomplished, my attempt to explain it notwithstanding.

A CASE OF ACUTE HUMAN GLANDERS *

F. ROBERT ZEIT, M.D.
CHICAGO

This case of acute glanders in man illustrates that it is comparatively easy to distinguish the disease from symptomatically similar conditions. Before the pustular eruption appears the case is generally suspected to be typhoid fever, septicemia, croupous pneumonia or articular rheumatism. When the pustular eruption appears smallpox or a pustular syphilid is most commonly suspected.

The small number of cases reported in the literature of acute glanders in man has given rise to the opinion that the disease is rare and human susceptibility to infection small; but it is quite probable that fatal cases of glanders are reported under other causes of death, notably smallpox.

Among laboratory workers numerous deaths from infection by the *Bacillus mallei* have been reported because the nature of the infection was properly determined. It is to be presumed that the infectious material, fresh from the nose or farcy bud of a horse, is no less virulent than the various subcultures and strains used in the laboratory experiments.

The case which I report occurred in the practice of Dr. Bayard Holmes, Jr., to whom I am indebted for the history, having been called to examine the case when the suspicion of smallpox arose.

Patient.—Male, aged 45, robust build, 6 feet 2 inches tall, weighing 185 pounds, a teamster in a large department store stable.

Illness.—This began with a thin watery discharge from the nose, pains in the left shoulder and a severe chill of one-half hour's duration, followed by extreme weakness in his lower extremities. The patient remained at home during the following week, complaining of sharp shooting pains in his left shoulder, increasing weakness and dull headache with a slightly blood-tinged purulent nasal discharge. He had some fever at night and always felt better in the morning. During the next week he developed typhoid symptoms, became delirious at night, had high fever, much headache, diarrhea and pain in the left shoulder. He had some swelling and pain in left leg, some rigidity of the muscles of the neck, increased excitability of the reflexes and normal morning temperatures. A few vesicles, containing clear serum, appeared on his left shoulder.

First Examination.—Dr. Holmes was called to see the patient on the twenty-sixth day after his initial chill and found him lying in bed, with his head slightly drawn back, the eyes staring at the ceiling, the mouth open, the limbs moving in a muttering delirium, tongue dry and red at the tip and heavily coated at the base, the nose obstructed. The left shoulder was covered by a large number of pustules, and Dr. Holmes also noticed a few pustules on the scalp and right wrist of the patient at that time. The heart was fluttering, markedly intermittent, missing as many as ten beats at times. There were no murmurs. The lungs and spleen were negative; the abdomen tympanitic. There was a very painful, small, hard and uneven nodule, about the size of a 50-cent piece, over the tibia, just below the left knee, which could not be palpated without rousing the patient from his delirium, to beg for relief from the pain. The evening temperature per rectum was 104.5, pulse 120, respirations 24. Excrements and urine were voided involuntarily. Typhoid fever was suspected.

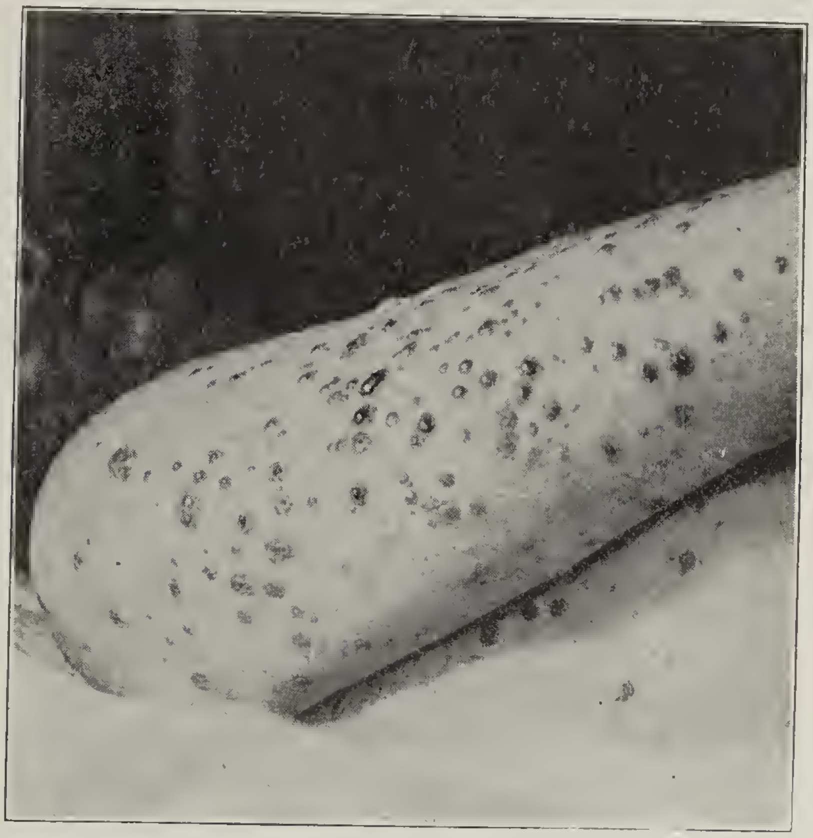

Fig. 1.—Pustular eruption of acute glanders as exhibited on the day of the patient's death, twenty-eight days after initial chill.

Clinical Course.—A cold sponge reduced the temperature to 101 and the patient slept quietly until 6 o'clock the next morning. At 11 o'clock the face was flushed, the nose completely obstructed and discharging thin bloody pus. The pustular eruption had extended over the left side of the chest to the umbilicus and upward onto the face and into the hair and from the right wrist upward to the elbow. A few scattered pustules appeared over the lower extremities. Temperature was 102, pulse 110, respirations 30. The scrotum was swollen and an ulcer had formed during the night on the glans penis near the meatus urethræ. The urine contained some albumin and gave no Diazo reaction. A Widal test proved negative. The patient was taken to Wesley Hospital at noon. During the afternoon and evening of this (the twenty-seventh) day the pustular eruption gradually spread over the whole body, appearing last on the back. The scrotum became more and more edematous and the glans penis gangrenous. Temperature varied between 103 and 106 per rectum and the patient was delirious. The next morning the patient was seen by several physicians, the case being now suspected of being smallpox.

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* From the Department of Pathology, Northwestern University Medical School.

Second Examination.—I saw the patient at this time. He was in a semicomatose condition. The face and neck were of a dusky red color and swollen, the glands of the neck enlarged. A thin serosanguinolent fluid escaped from both nostrils. The patient's left shoulder was erysipelatous and covered with a bullous eruption. The scrotum was markedly edematous and the glans penis gangrenous. The whole body and especially the extremities were covered by discrete pustules, somewhat resembling smallpox pustules. The oldest pustules were the size of a large pea. A few of these were umbilicated. Most of the pustules were distended, pointing and glistening, of a grayish yellow color and surrounded by a narrow hyperemic zone. They contained a viscous fluid with many polymorphonuclear leucocytes and glanders bacilli. Small red macules and papules were distributed in moderate number between the numerous, distended, pea-sized pustules. Cover-glass smears taken from opened pustules of the head, body and extremities all showed numerous bacilli, as many as thirty in some of the fields, having the characteristic morphology of the *Bacillus mallei.*

A positive diagnosis of acute glanders was made.

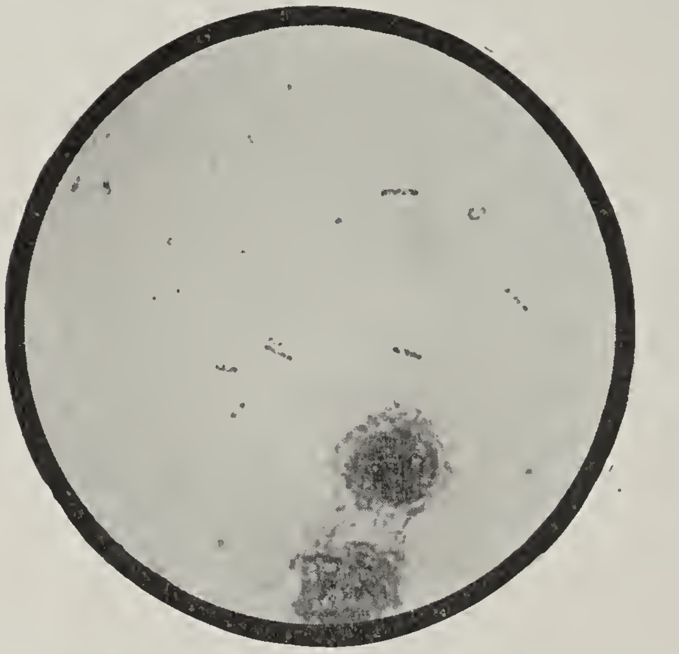

Fig. 2.—Cover-glass smear from opened pustule, showing glanders bacilli.

The patient died the same evening, twenty-eight days after the first distinct chill, with a temperature of 107. A request for autopsy was denied by the relatives.

Bacteriologic Examination.—The bacilli were non-motile, showed a slight tendency to parallel arrangement and were found in small groups with two or three end to end. Their length varied between 2 and 5 microns, thickness 0.3 to 0.8 microns. The ends were rounded, sometimes club-shaped, and cover-glass smears of the pus stained for three minutes with heated Loeffler blue showed deeply-staining areas and chromatic globules within the pale-blue ground substance of the bacilli. The irregularity with which the bacilli take the stain is quite similar in some of the specimens to that of diphtheria bacilli, many of the deeply-staining chromatic globules being round or ovoid; but, on the whole, the chromatic globules are not as distinct and numerous as in diphtheria bacilli, but appear frequently only as irregular granules alternating with light or poorly staining areas of the bacillary bodies. The bacilli were Gram negative. Characteristic cultures were obtained on the different culture media. Potato cultures, direct from the pustules, showed rich, glossy, elevated yellowish and semitransparent colonies with sharp borders on the second day, which became like amber or honey on the third and fourth days and opaque and reddish on the seventh and eighth days. Subcutaneous and intraperitoneal inoculation proved fatal to guinea-pigs, but the male guinea-pigs inoculated intraperitoneally did not develop the inflammation of the tunica vaginalis, testicle and epididymis described by Strauss.†

It may be of interest to note that unless one is careful in the examination of the stained smears of pus or cultures the deeper staining globules of the glanders bacilli may easily give rise to the opinion that groups of staphylococci are seen. Particularly is this the case if the bacilli are in dense clumps, as is not unusual in the thick smears from cultures. In gross appearance fresh agar cultures of the pus may also simulate the *Staphylococcus aureus* somewhat by producing rich, shiny, yellowish colonies, so that it is not uncommon, unless one is experienced, that a bacteriologic diagnosis of *Staphylococcus aureus* is made from thick smears.

This also explains the frequency of *Staphylococcus aureus* contaminations reported in the literature in cases of glanders in which bacteriologic examinations of the pus were made.

If very thin smears are obtained of these cultures the cocci are seen to be deeply staining portions or chromatic globules within the faintly staining ground substance of the bacillary bodies. In thick smears, with clumps of glanders bacilli, these globules appear like cocci and the faintly staining bacillary bodies or ground substance as a delicate spider-like network.

It is just this morphologic and tinctorial characteristic of the thin smear preparation, and the absence of all other bacteria, which makes a direct bacteriologic diagnosis from the smear of pus of a glanders pustule so easy. In a case like the one reported the necessity for an immediate and positive diagnosis between smallpox, pustular syphilid and glanders is apparent.

4016 Vincennes Avenue.

THE PREVENTION OF CANCER CELL IMPLANTATION

A PRELIMINARY REPORT *

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The finding of carcinomatous nodules in the region of the scar after the operation for removal of a carcinomatous growth has, until recently, been considered *prima facie* evidence of the surgeon's failure to excise all of the malignant growth. The investigations of Handley, Halsted, Warren, Ryall and others have succeeded in elucidating the subject and in emphasizing the importance of cancer cell implantation. We now appreciate the fact that cancer cells may, and in fact frequently do, escape from the carcinomatous tissues during operation and develop in any part of the operative field into fresh cancerous growths.

In cancer surgery there are four varieties of operation infection: (1) suture-scar infection, (2) nodular infection of wound, (3) diffuse or brawny infection, and (4) distant implantation. The first two forms are, according to Ryall,[1] of quite frequent occurrence, while the diffuse or brawny variety is the most startling and most distressing: it signifies widespread dissemination of cancer cells at the time of operation. Distant implantation is that form of operation infection in which the cancer cells are carried to and implanted in a part cut into at the time of operation, but more or less distant from the primary growth. Infection of the abdominal incision following celiotomy for removal of a carcinomatous uterus represents the latter form of implantation.

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† Arch. de med. exper., 1889, i, 460.
*From the St. Louis Skin and Cancer Hospital.
[1] Lancet, Oct. 3, 1908.

LIBERATION OF CANCER CELLS

Cancer cells are liberated from carcinomatous tissues in many ways, e. g.: rough handling of the growth, piecemeal excision of carcinomatous tissues, deliberately cutting into the growth, tearing or cutting infected lymphatic glands and channels, rupturing diseased lymphatic glands, etc. The conveyance of cancer cells from the primary growth to distant parts by instruments, assistant's gloves, etc., does not seem to be duly appreciated by some operators.

It is clear that in many cases poor surgical technic is responsible for cancer cell liberation. It is also true that the surgeon can not always be sure that cancer cells ave not been liberated and found their way into the ield of operation. The common expression that "the ecret of success in the treatment of cancer is early, omplete excision of the diseased tissues" needs, I think, nodifying so as to read, "The secret of success in caner surgery is early, complete excision of the carciiomatous tissues and the prevention of cancer cell implantation."

OPERATIVE TECHNIC

Successful cancer surgery signifies the strictest asepis, the most gentle handling of the growth, the avoidnce of cutting and tearing into the carcinomatous rowth and diseased tissues, the excision of all diseased mphatic glands and channels, wide excision of the arcinomatous tissues, and the destruction of cancer cells which may have been liberated and found their way into the operative wound in spite of all precautions.

It is reasonable to suppose that Keating Hart's method of exposing inoperable cancer cases to "fulguration," exposure for from five, ten to forty minutes to the strongest possible "lightning spark pencil" at a distance of two to four centimeters, and with frequent changing of the area exposed, previous to and immediately after excision of the growth, aimed at destruction of part of the remaining carcinomatous tissue and the liberated cancer cells. It is also probable that Crile's method of exposing the operative field in his breast cases to daily exposure to the Roentgen rays for two weeks before any attempt is made to graft or suture the parts, is for the purpose of attempting to destroy liberated cancer cells and possibly overlooked carcinomatous tissues.

Appreciating the dangers of cancer cell implantation, it occurred to me that the operative field could be swabbed with some antiseptic solution sufficiently strong to destroy the liberated cells without at the same time interfering with primary union and without inducing toxic symptoms. The possibility of accidentally cutting into infected lymphatic channels and glands, or otherwise liberating cancer cells, in spite of the utmost care, is known to every surgeon of wide experience. My very favorable experience of four years with the alcohol-bichlorid-hydrochloric acid solution, recommended by Harrington in general surgery, led me to apply it to the operative field after excision of carcinomatous growths.

During the past three months I have been using Harrington's solution—applying it to the diseased tissues during removal, and directly to the operative wound after the diseased tissues had been excised—in all of my surgical cases at the St. Louis Skin and Cancer Hospital. The results have been all that could be

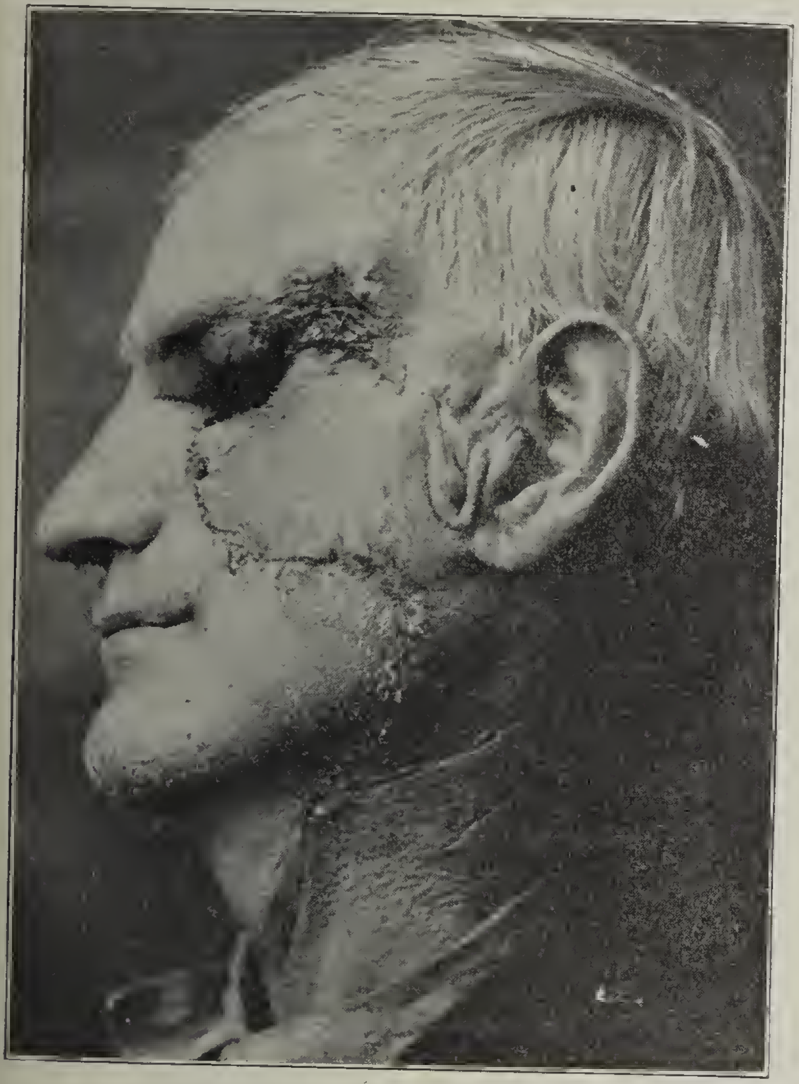

Fig. 1.—Patient described in Case 1, ten days after operation. Destructive growth of left cheek involving the orbital tissues and ervical glands.

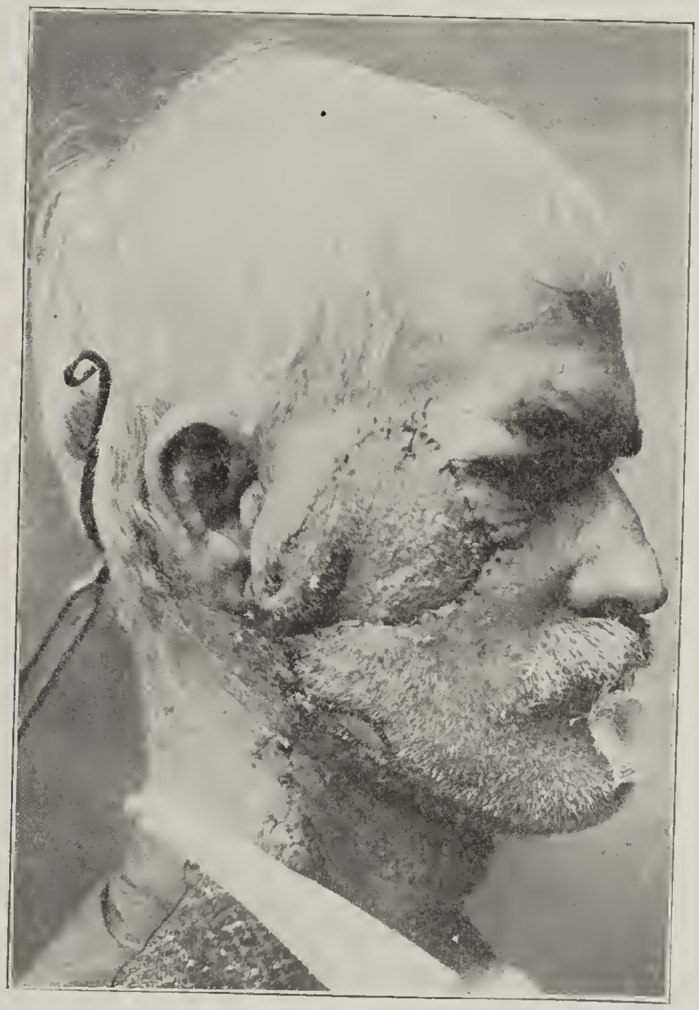

Fig. 2.—Patient described in Case 2, five days after operation. Epithelioma of lower lip; epitheliomatous mass over right malar prominence.

desired. The solution undoubtedly destroys the superficial parts of the operative field, closes the cut ends of the capillaries and lymphatic channels and apparently eliminates the danger of cancer cell implantation. In a recent case of sarcoma of the parotid the solution was applied directly to the carotid arteries and internal jugular vein; the duration of contact was too long; the vein became a brownish color and I feared that the destructive action would prove of detriment, but no untoward symptoms followed. We have used Harrington's solution in the surgical clinic at the Washington University with gratifying results. A few days ago a young man who had been struck on the lower lip with a pair of brass knuckles presented himself for treatment. Examination showed a gangrenous condition of a V-shaped portion of the lower lip. The gangrenous tissue was excised, the wound margins thoroughly cleansed with Harrington's solution and the parts sutured. Primary union followed. Sutures removed on fourth day.

REPORT OF CASES

Case 1.—*History.*—Mr. J. K., aged 57, was readmitted in September, 1908. When a child he sustained a severe burn on left cheek. In January, 1908, he was struck in this region and shortly thereafter a small ulcer appeared and grew gradually larger. In May, 1908, it was as large as a silver dollar. On entrance, Dr. Drake found that the malignant mass was situated in the scar of the burn; the eye was intact. Healing did not follow excision of the growth. During the past two months the parts had become very painful and the growth markedly larger. Patient returned for excision of growth.

Examination.—This showed large, destructive growth on left cheek involving the orbital tissues and the cervical glands. General appearance of patient was very poor. Left side of face was paralyzed.

Operation.—Under ether anesthesia (preceded by morphin and atropin), a large flap was dissected from the neck, the left anterior triangle of the neck was cleared of glands and fat. Harrington's solution was applied both to the flap and to the operation wound, the latter was then sutured and the flap wrapped in gauze, and then covered with a towel, in the hands of one of the assistants. The orbital cavity was then cleaned out and the parts touched with Harrington's solution, after which the cavity was packed with gauze. After free excision of the growth on cheek and sponging the parts with Harrington's solution, the flap was sutured in position (Fig. 1). The orbital cavity was left open for *x*-ray purposes. The sutures in flap were removed on the fifth day, and the neck sutures on the seventh. Roentgen ray exposures were given every third day.

Case 2.—*History.*—Mr. J. S., aged 56, admitted September 14, 1908. Four years ago he noticed a small growth on right cheek near malar eminence. Became larger and painful. Two years ago he had the growth removed, but the wound did not completely heal. During the past year the growth had been increasing in size and had become quite painful. Four months ago patient noticed small ulcer in middle of lower lip; this had been getting larger and would not heal.

Examination.—This was shown to be an epithelioma of lower lip; no palpable submental glandular involvement. Over the right malar eminence was an epitheliomatous mass as large as a silver dollar; the growth was very firm and ulcerated. The orbital cavity seemed free. The glands of neck were somewhat enlarged. The growth was movable.

Treatment.—Under ether anesthesia (preceded by morphin and atropin) a flap was dissected up from neck, the glands together with the periglandular fat, were excised and the operation wound sponged with Harrington's solution, after which the flap was likewise treated and wrapped in gauze, and the wound closed. The carcinomatous mass was then freely excised and the parts sponged with Harrington's solution, followed with saline solution. The flap was sutured in place and temporary dressings applied. After securing fresh instruments and gloves, the submental glands and periglandular fat were removed and the operation wound sponged with Harrington's solution, and then sutured. The lip growth was then excised, the parts touched with the solution, and then sutured. Primary union followed. The illustration (Fig. 2) shows the wound five days after operation. The deep sutures were removed from cheek and neck on the eighth day.

REMARKS

I do not offer Harrington's solution as a substitute for proper surgical technic in cancer surgery, but as a valuable and efficient aid to the best possible surgical technic for the prevention of cancer cell implantation. Experiments are now in progress to determine the exact depth to which the destructive process extends when the solution is applied to a section of carcinomatous tissue for one, one and one-half, two and three minutes respectively. These results will be reported later. When the solution is applied to healthy tissue the destructive action is plainly seen.

At the present time I apply Harrington's solution to every part of the cut surface of the carcinomatous mass that is being removed; the growth is excised as rapidly and as carefully as possible, after the infected lymphatics and their periglandular tissue have been excised. After stoppage of hemorrhage in the wound the solution is applied to the entire field for one-half to one minute, depending on the character of the surface. In delicate flap operations the solution is very carefully applied. It is essential that all parts of the wound be touched with the solution. Where extensive dissections have been it is advisable to use a rubber-tissue drain. In intra-abdominal carcinoma the solution is applied to the abdominal wound after closure of peritoneum. When the extra-abdominal tumor is ulcerated Harrington's solution is applied for two minutes to the ulcerated portion.

4826 Delmar Boulevard.

SOME PRINCIPLES OF CEREBRAL SURGERY *

HARVEY CUSHING, M.D.
Associate Professor of Surgery, Johns Hopkins Hospital
BALTIMORE

In the presence of an extrauterine pregnancy, of an inflamed appendix, of gallstones, of pyloric stenosis, or what you will, of the many intra-abdominal lesions so frequently encountered, how many surgeons feel less competent to recognize the condition than their colleagues who are disinclined themselves to handle scalpel and forceps? And further, would these very colleagues be willing for a moment to call the surgeon in consultation on these cases if they did not feel assured that he is as familiar as they themselves with the anatomy and physiology of the organ concerned and the morbid processes, with their complications, to which it is liable?

One of the trying responsibilities of many physicians arises from the consciousness that they must protect their patients from the over-zealous interest of the chance operator, whose manual facility exceeds his knowledge of disease, an attitude almost as deplorable as that in which the trained surgeon may find himself with his opportunity to relieve slipping by, owing to the procrastination of the attendant who favors surgery not at all, or as the last resort only.

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* Read in the Joint Meeting of the Section on Surgery and Anatomy and the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908.

Yet neither party would be willing to recall the day, not far remote indeed, when the physician selected the instruments for and directed the course of an operation so simple as a herniotomy, the "Bruchschneider" having been merely the more skilful hands for the better informed mind and superior judgment of the physician. Under this relation the advance of surgical therapy was necessarily slow, if not indeed often backward, and strides were not made in this manipulative division of therapeutics until the Hunters and the Hallers, the Bells and the Brodies, the Langenbecks and the Listers began to place a knowledge of the condition of disease as the chief asset of the surgeon—not his mere familiarity with probe and bistoury.

And yet this is the condition of things which pertains to-day in neurology; and it is putting the cart first for us surgeons to talk wisely about the technic of neurologic surgery if we know so little about the maladies toward which these measures are to be directed. Operations become dangerously safe under such circumstances, and if we do not invade this uncertain field most cautiously we may be open to the same criticism not unjustly cast on the activity of certain laparotomists, likened to the inquisitive child who cuts a hole in a drum-head to see where the noise comes from.

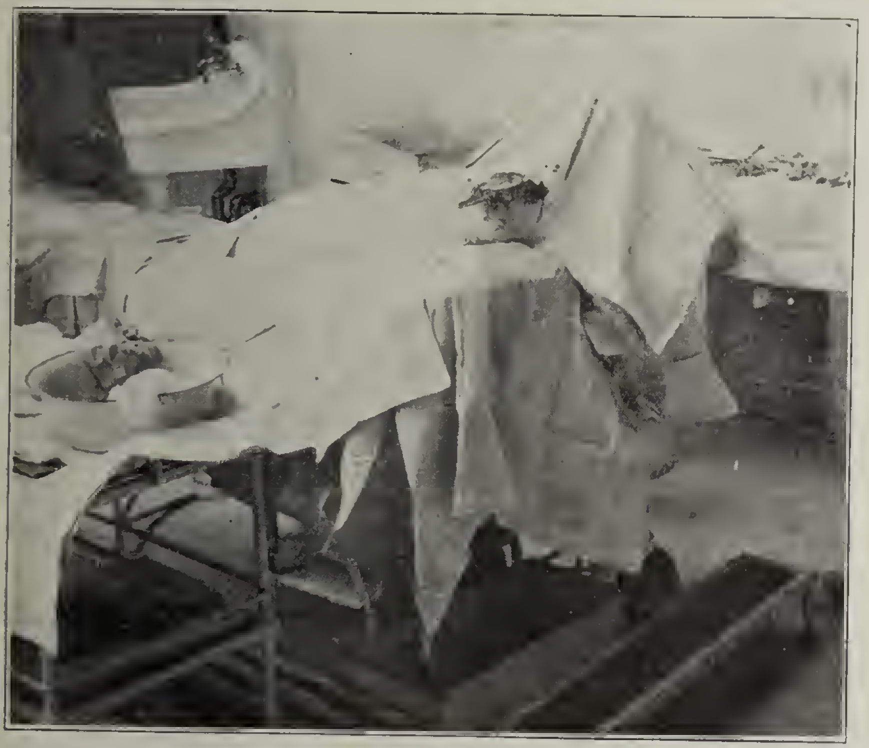

Fig. 1.—Photograph taken during the course of a craniotomy, just before elevation of an osteoplastic flap, to show well protected field and hood for anesthetist.

As surgeons approaching neurologic maladies, what most of us need, therefore—a "finger and thumb" knowledge of neurology—can only be obtained with labor, patience and tears, for even the best of our schools do not as yet particularize on the relation of surgical measures to diseases of the nervous system, as they have come to do in the case of the eye and ear, of the pelvic and genitourinary organs, of the alimentary canal, the bones and joints, and what not, though it is a still more specialized form of work. Thus it is, I think, that those who look forward to a career in neurology should be instructed in matters of surgical technic—in other words, that a school of neurologists must grow up in the next generation with a general surgical training which will enable them to do their own operations. Now they can only stand by and wring their hands at the incompetency of much of the work that is being done for them by others.

After this preamble, which is indeed the most important of the things I shall have to say, I may pass to the brief consideration of the few principles which I desire to emphasize.

FUNCTIONAL DISTURBANCES

Practically all diseases, whatever they may be, have a certain superstructure of symptoms, which we choose to call functional, superimposed on those for which an actual organic lesion is clearly responsible. This superstructure may often so overtop the basal trouble, which may actually be trifling, as to completely obscure it, and neurasthenic or psychasthenic states result. This is especially true of lesions which primarily affect the nervous system itself; and no class of patients require so much personal direction and moral control as do many of these unfortunates.

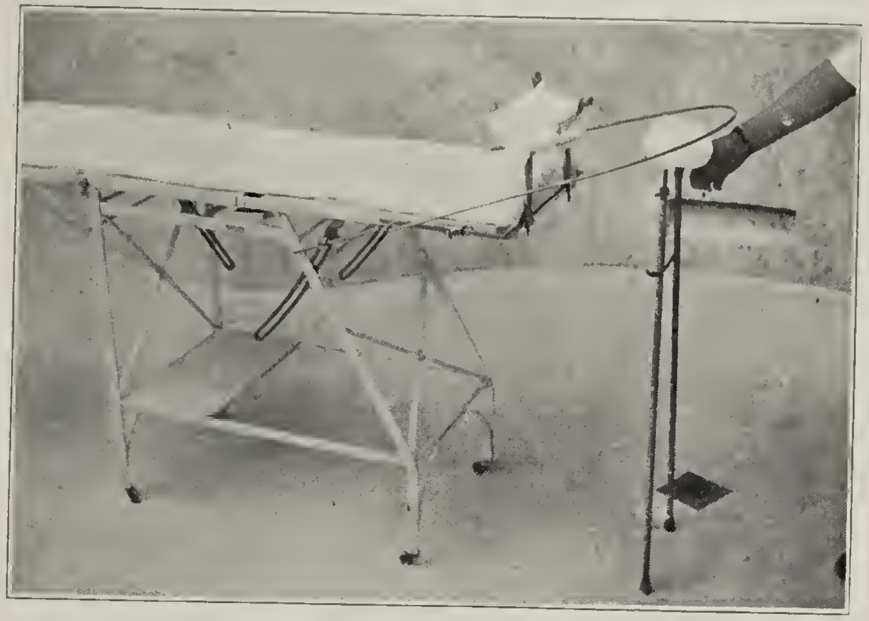

Fig. 2.—Showing table for cerebellar operations with outrigger shoulder supports, crutch for head, and hoop to support operative sheets.

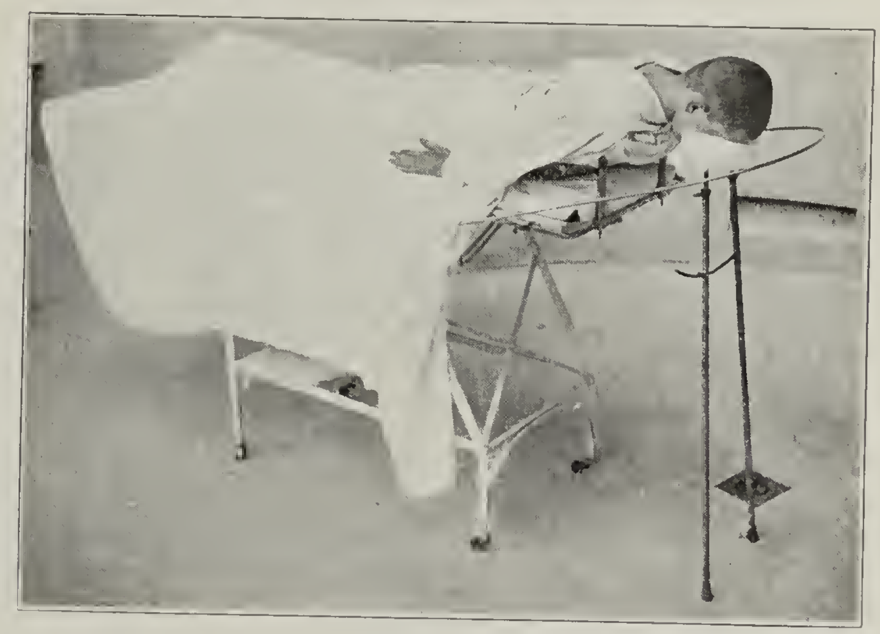

Fig. 3.—Same as Fig. 2. Patient in position before anesthesia.

Oftentimes the relief of the functional element is more to be desired than the cure of the organic lesion, even if one be recognized; and it is one of the deserved criticisms of many operators that we are apt to let our patients go with their organic lesion healed—may we say cured?—but with their functional distress unabated or even accentuated. It lies within the power—indeed it is the duty—of the surgeon who takes these cases in charge, not only to remove or improve the condition of the underlying lesion, if that is possible, but to attend as well to these so-called neuroses, and it is for this reason, if for no other, that he must not only get intimately in touch with his patient by a history and thorough personal examination, but must also attend himself to every detail of operative preparation and after-treatment. Whether he exercises its power consciously or—as is true of many of the most successful therapeutists—unconsciously and as a natural gift, what has come to be "dignified" as psychotherapy must be the neurologist's constant resource, be he surgeon or otherwise.

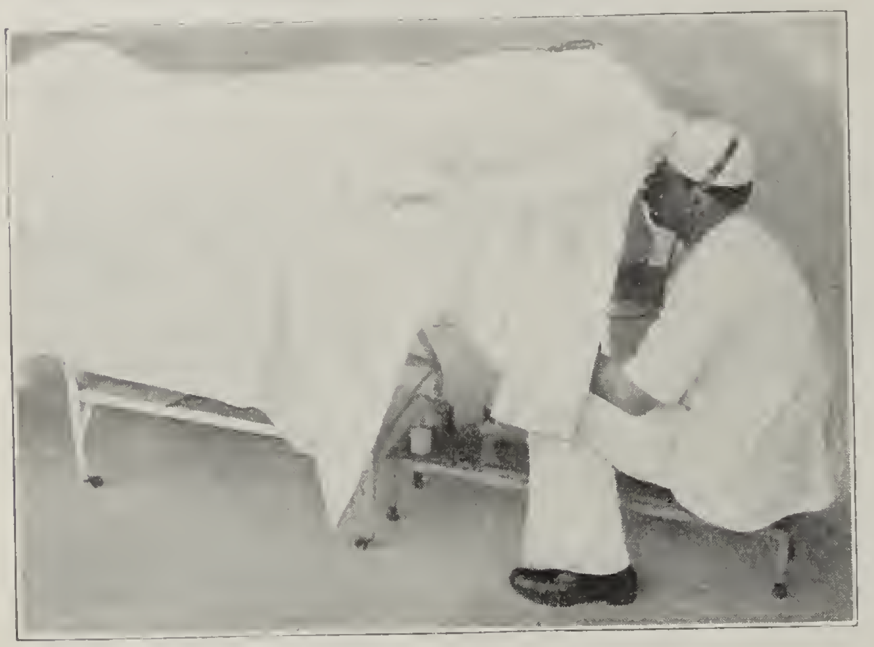
Fig. 4.—Same as Figs. 2 and 3. Anesthetist wearing headband with receiver and tube leading from phonendoscope.

ANESTHESIA

Among the numerous details of a cranial operation there is one thing I particularly wish to dwell on—the administration of the anesthetic[1]. In cranial operations in particular, not only because of the cramped field and the need of a covering for the anesthetist, but also because the cardio-respiratory centers in the medulla are often already embarrassed through pressure, anesthetization by an expert is absolutely essential. There are trials enough for the surgeon in these cases without the added anxiety in regard to narcosis. For the past few years Dr. S. Griffith Davis, who devotes his time almost exclusively to this work, has greatly lightened these responsibilities for me by anesthetising all my neurologic patients. It is due entirely to his skill that in over three hundred cranial operations there has been a complete absence of the calamities usually assigned to anesthesia.

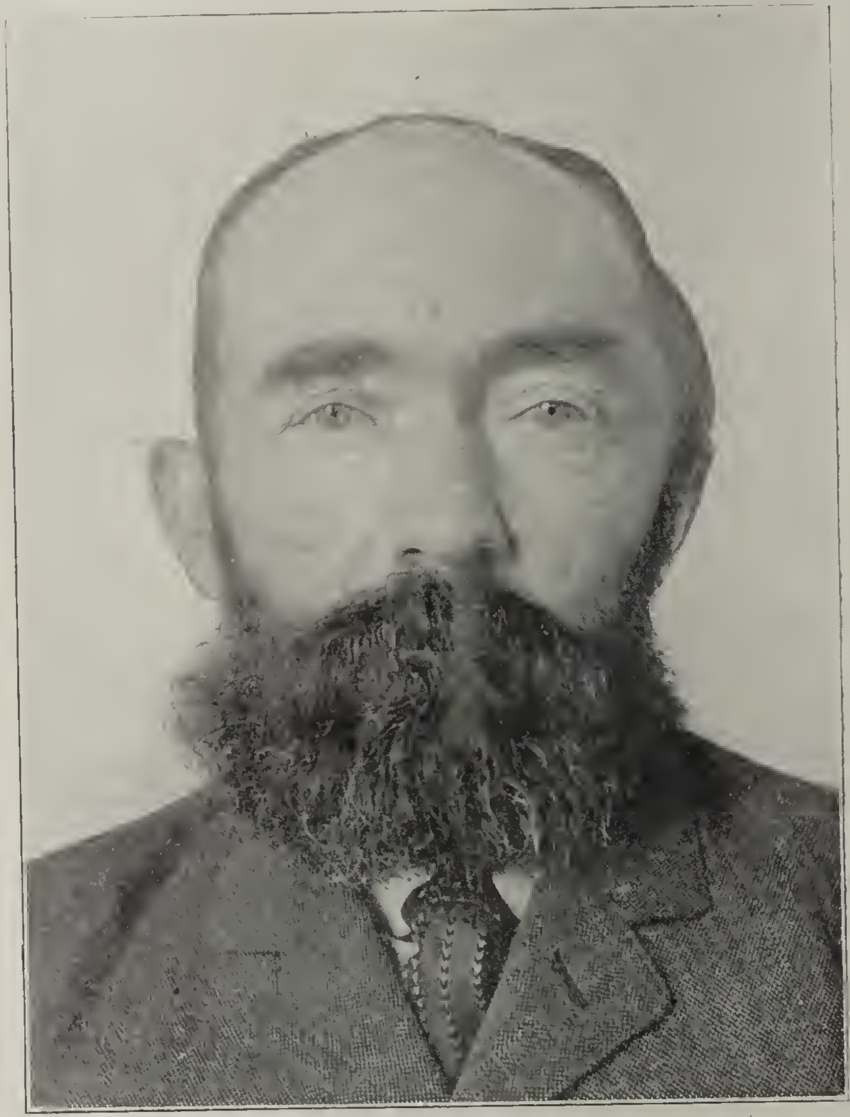
Fig. 5.—Showing fairly large left subtemporal protrusion six months after decompression for unlocalizable growth. Patient in perfect health and actively engaged in his occupation as a farmer.

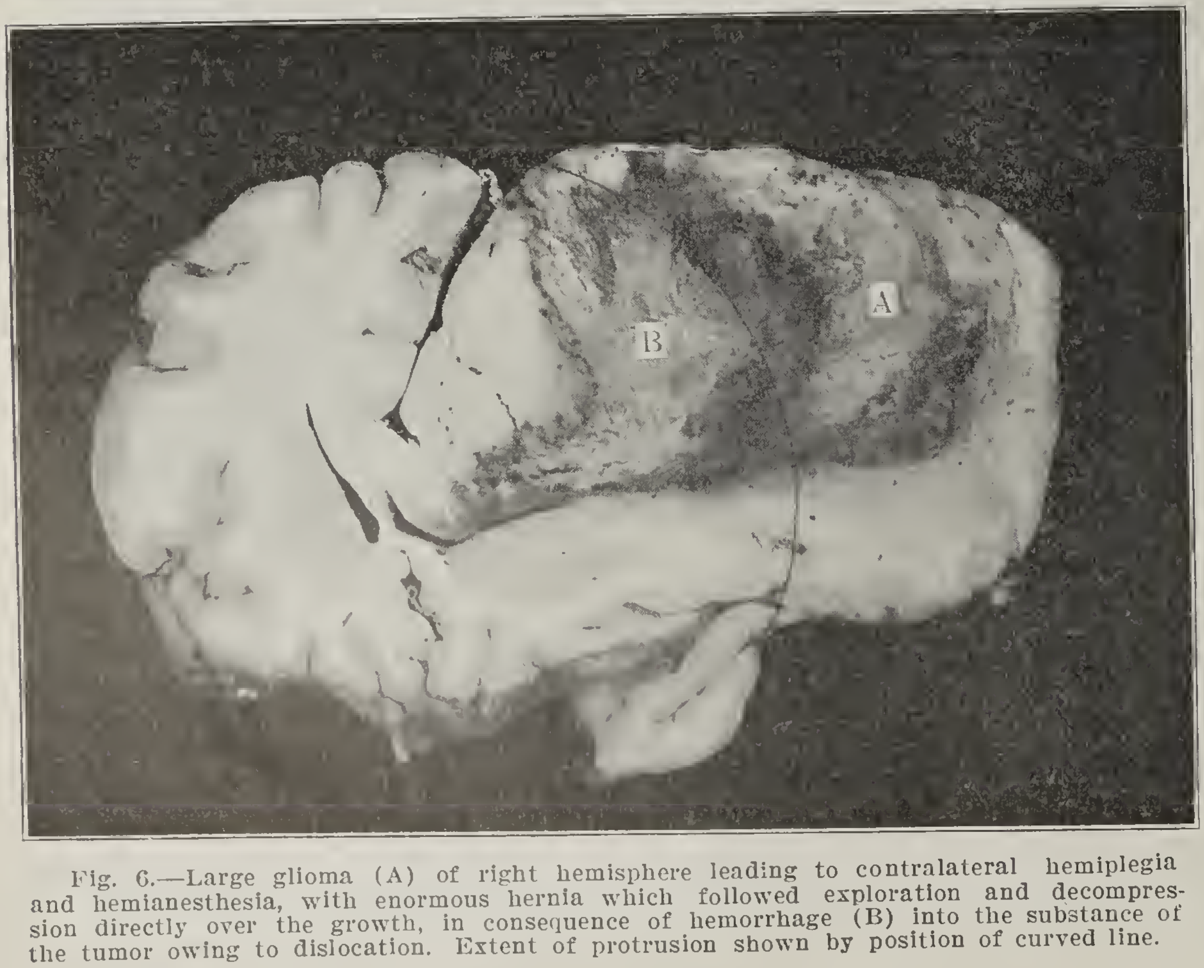

Fig. 6.—Large glioma (A) of right hemisphere leading to contralateral hemiplegia and hemianesthesia, with enormous hernia which followed exploration and decompression directly over the growth, in consequence of hemorrhage (B) into the substance of the tumor owing to dislocation. Extent of protrusion shown by position of curved line.

Owing to the difficulty in cranial work of shutting off the anesthetist from the operative field, many have advocated rectal or other bizarre forms of administering the various drugs employed for this purpose; but we have been so free from accidents on this score and have learned to arrange so securely the operative sheets as to make a hood which effectually conceals the anesthetist and leaves exposed only the immediate small field of operation (Fig. 1), that we have clung to the more familiar and, I think, safer method of inhalation anesthesia.

I have described elsewhere[2] our invariable custom of shaving such portion of the scalp as needs to be prepared, just before the operation; of placing the patient on the table in the most comfortable position compatible with a good operative exposure before the anesthetization is begun; and of superficially outlining the proposed incision on the scalp after its final cleansing and before the small operative field is securely and closely surrounded with the sheets and towels, which are often pinned directly into the scalp to insure against their dislodgment during the course of what may be a long operation.

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[1] The general disregard of the risks of anesthesia, particularly in this country, has been deservedly arraigned by John B. Roberts: The Anesthesia Peril in American Hospitals, Therapeutic Gaz., February, 1908.

[2] Technical Methods of Performing Certain Cranial Operations. Sur., Gyn. and Obstet., March, 1908, 227.

The large sheet which covers the etherizer is provided with a semicircular notch cut into one side, at the angles of which are fastened tapes to be tied around the patient's head, thus securely anchoring the coverings in such a position as to expose merely the area of the incision previously scratched on the scalp.

The two alternatives to this method—(1) the shaving of the head the day before with delineation on the scalp of the cerebral fissures or of the proposed incision with an indelible pencil, or (2) the leaving of the head so exposed after the final preparation of the field that the bony landmarks can then be utilized for these determinations at the time of operation—both possess serious drawbacks.

To some, these may seem petty details, but the total freedom from infection, even as a stitch abscess, in a series of three or four hundred craniotomies justifies the attention paid to them.[3]

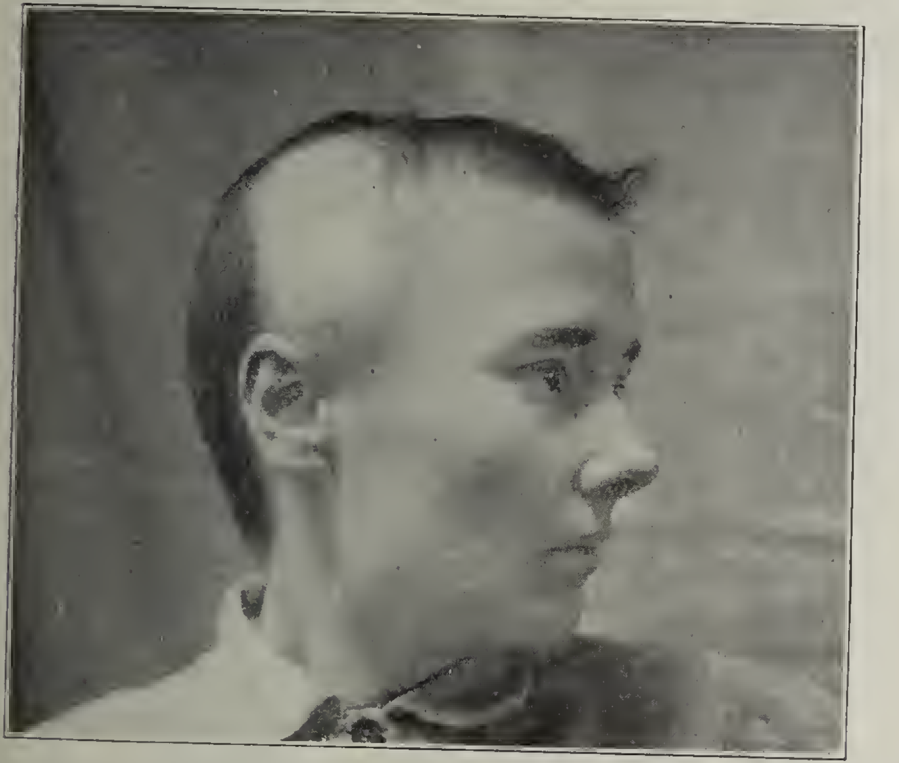

Fig. 7.—Patient with right subtemporal decompression, performed April, 1907, at a time when no recognizable focal symptoms were present. In May, 1908, a beginning loss of stereognostic perception in the left hand pointed to the position of the tumor in the right superior parietal lobe. It proved to be an encapsulated growth which was successfully removed. See Fig. 8.

I have already spoken of the fact that these patients, particularly in the presence of tumor, not infrequently show evidence before the operation of some respiratory embarrassment, and for this reason the administration of the anesthetic on the table in a position which assures free respiratory movements is a most essential precaution.

A special form of outrigger with head and shoulder supports (Figs. 2, 3 and 4) has been found necessary, however, only for suboccipital or high spinal operations in which a symmetrical exposure is desirable, for reasons—on the principle of dislocation—to be explained later.

I was led to adopt such a table extension owing to the respiratory difficulties which patients experienced[4] when placed in a prone position without such supports, and further by the added difficulty to the anesthetist which this position otherwise engenders. Since its adoption these posterior operations, so far as position goes, have proved no more trying than those on the more accessible cranial vault.

It has been possible in my 24 cerebellar cases, largely owing to this device, to complete the operation in one sitting and thus to avoid a "two stage" performance—especially undesirable in suboccipital work.

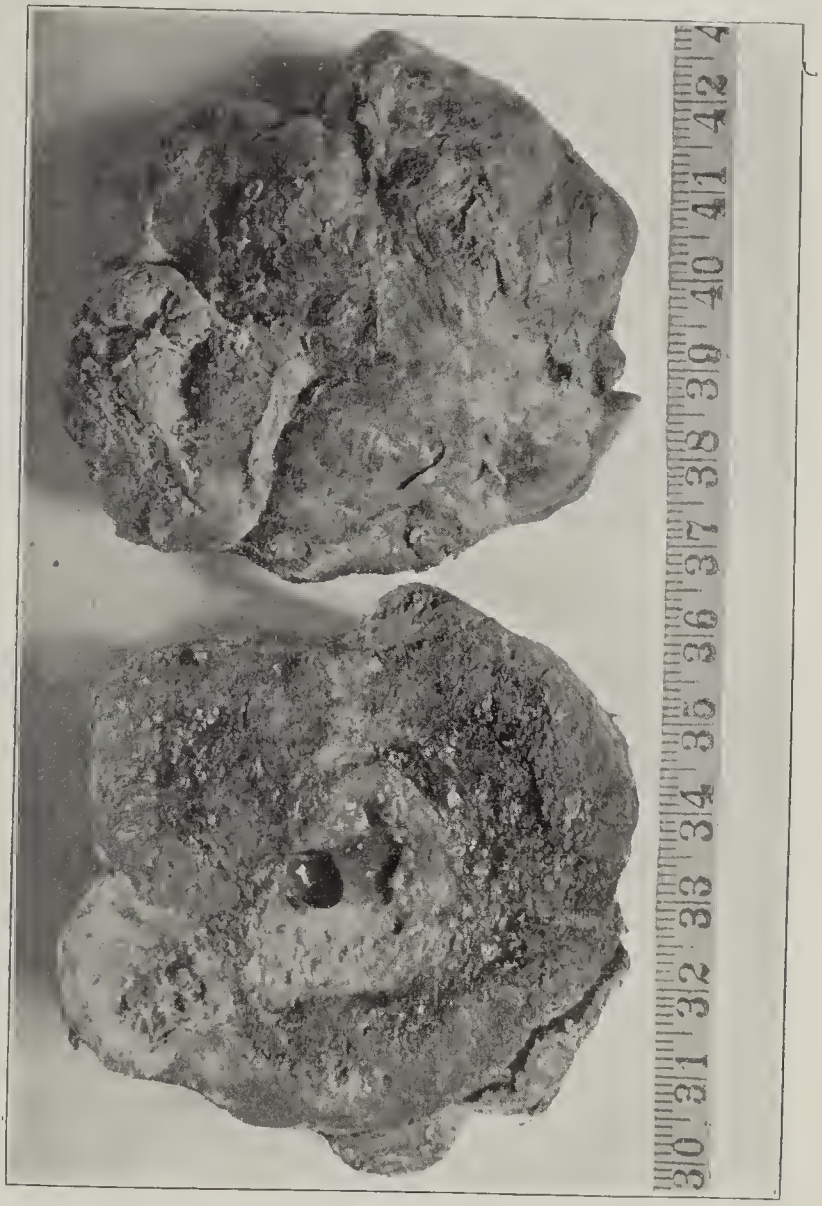

Fig. 8.—Shows (above) the external surface of the tumor removed from patient, Fig. 7; and (below) the median section of the growth which is beginning to undergo central cystic degeneration. (Size slightly reduced.)

With a patient in this prone position it is difficult for the anesthetist to gauge fully the variations in cardiac action, and during the past six months Dr. Davis has employed in these, as in all other operations indeed, a simple device, so satisfactory that we wonder why it has not long since come into general use—namely, the *continuous auscultation of cardiac and respiratory rhythm during the entire course of anesthesia.*

The idea arose from a practice in the Hunterian Laboratory of auscultating the heart during the production of experimental valvular lesions, and like other things has been carried from laboratory to clinic. The transmitter of a phenendoscope is secured by adhesive strips over the precordium and connects by a long tube with the anesthetist's ear, where the receiver is held by a device similar to a telephone operator's headgear (Fig. 4).

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[3] The only cranial operation in my entire series in which the wound has become infected occurred in another city where I had been persuaded to perform a decompressive operation for tumor, and where it was impossible to follow our usual routine.

[4] My first operation for a cerebello-pontine tumor resulted in a death from inhalation pneumonia—an experience which led to the adoption of this particular form of table extension. Since its employment I have had two successful extirpations of these lateral recess growths.

Uninterrupted information of the patient's condition is thus given, and the anesthetist need not disengage a hand for the occasional palpation of the pulse, which is all that he is usually expected to do. On several occasions, by the prompt appreciation of change in heartbeat or respiration thus acquired, it has been possible to avert what otherwise might have been surgical disasters, owing to the immediate warning which led to the cessation of certain disturbing manipulations.

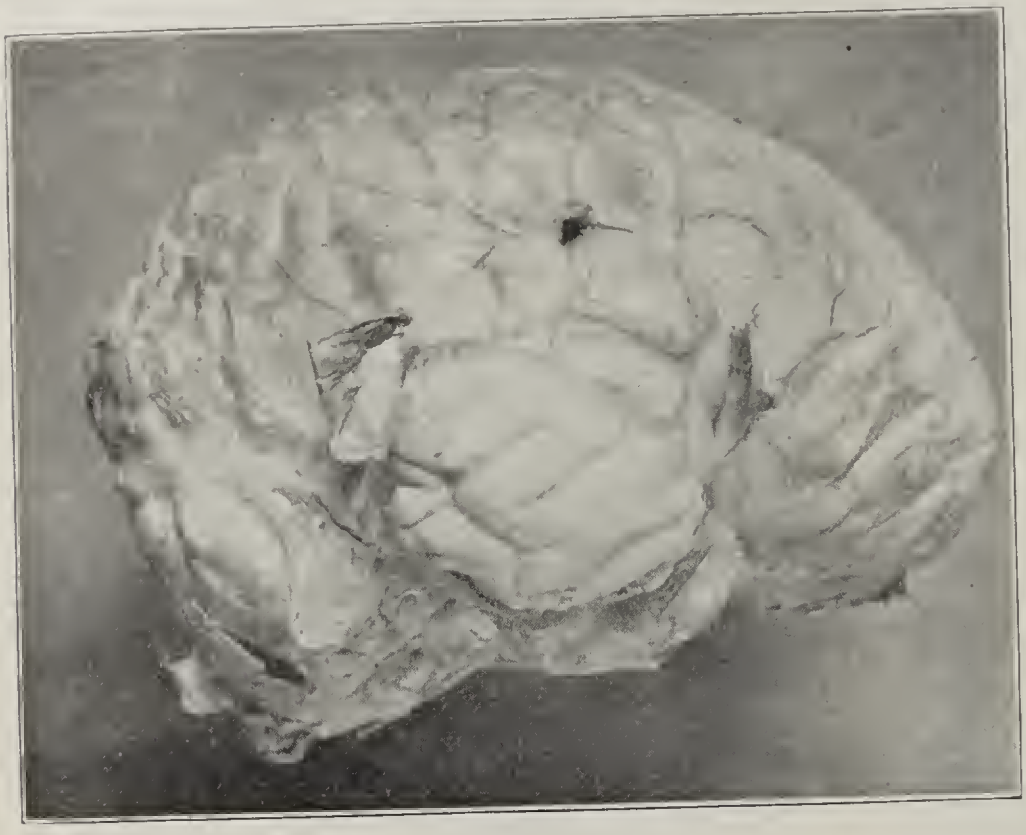

Figure 9.

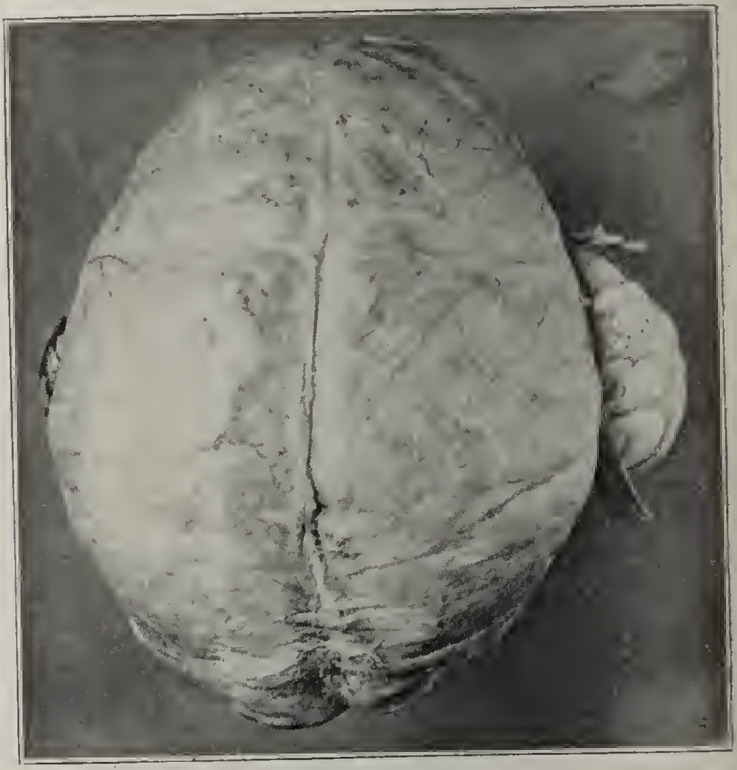

Figure 11.

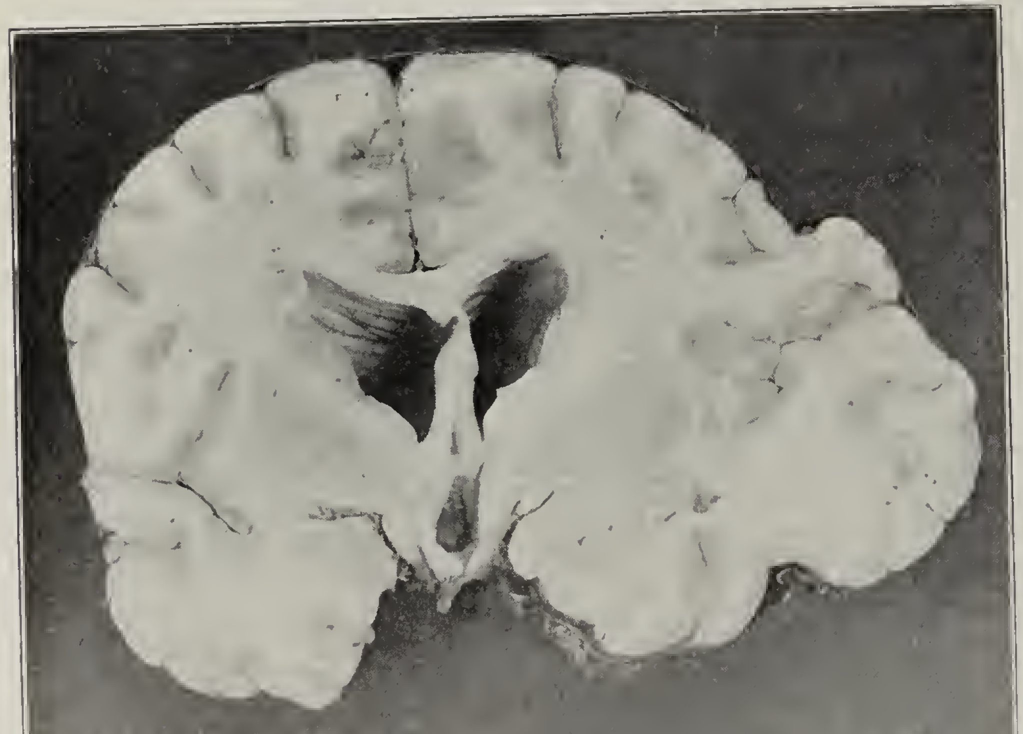

Figure 10.

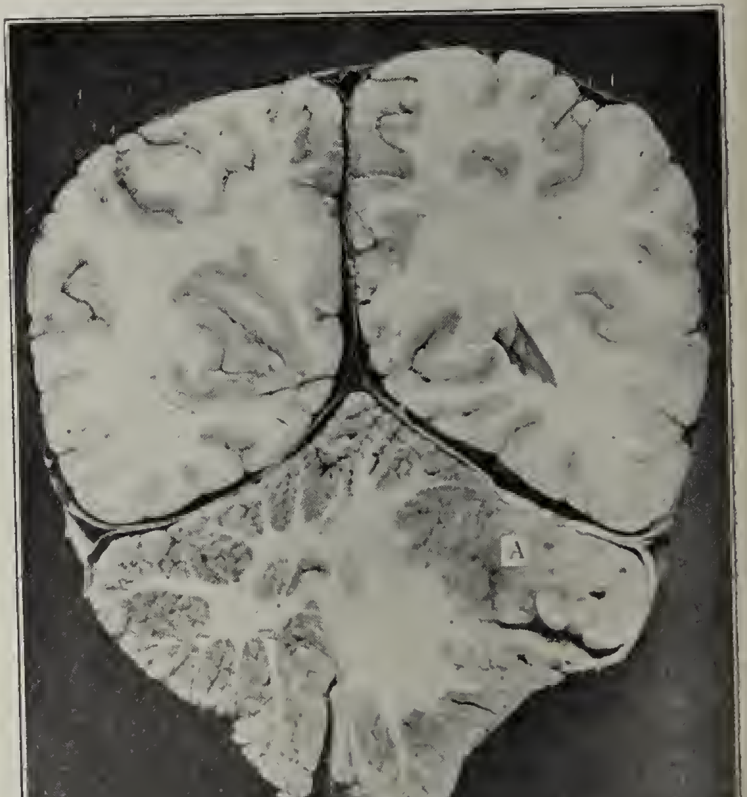

Figure 12.

Figs. 9, 10, 11 and 12.—Photographs of the brain and its envelopes from a patient in whom a right subtemporal decompression had been performed for unlocalizable tumor. Symptoms not greatly relieved in consequence of unsuspected obstructive hydrocephalus. A month later a misguided lumbar puncture led to a promptly fatal issue. Note in Figs. 9, 10 and 11 the situation and extent of protrusion with complete absence of cortical adhesions; the hydrocephalus in Fig. 10; the tumor at A in Fig. 12, a right cerebellar glioma.

[A series of lantern slides was shown at this point, illustrating Dr. Cushing's chosen method of performing the usual osteoplastic craniotomy.—Ed.]

DECOMPRESSIVE MEASURES

Adopting, as I presumed, for the first time in English the term *trépanation décompressive,* introduced by Jaboulay[5] and used later by Broca and Maubrac[6], together with suggestions offered chiefly by Horsley and Sænger, I described,[7] in October, 1905, a method of decompression for brain tumor by establishing a defect of bone and dura in the subtemporal region where a so-called mute area of the brain might protrude and yet receive a certain protection through the overlying muscle and fascia.

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[5] La trépanation décompressive (la mobilizaton de la voute du crane), Lyon Médical, 1896, lxxxiii, 73.

[6] Traitement chirurgical palliatif des tumeurs cérébrales, Arch. Général de Méd., 1906, i, 129.

[7] The Establishment of Cerebral Hernia as a Decompressive Measure for Inaccessible Brain Tumors, Sur., Gyn. and Obstet., October, 1905, 297.

Subsequent to the appearance of this paper Spiller and Frazier published an article[8] in which they collected, under the term "cerebral decompression," a long list of early cases in which exploratory operations for brain tumors had been followed by symptomatic benefit to the patient, even though the tumor was not found or removed, and these were spoken of as decompression operations. It must be clear to all that experiences of this kind were the forerunner of the decompression idea, and the possibility of palliation as the unlooked-for result of an exploration had been expressed by no one more concisely than by Robert F. Weir[8] as early as 1888; as follows:

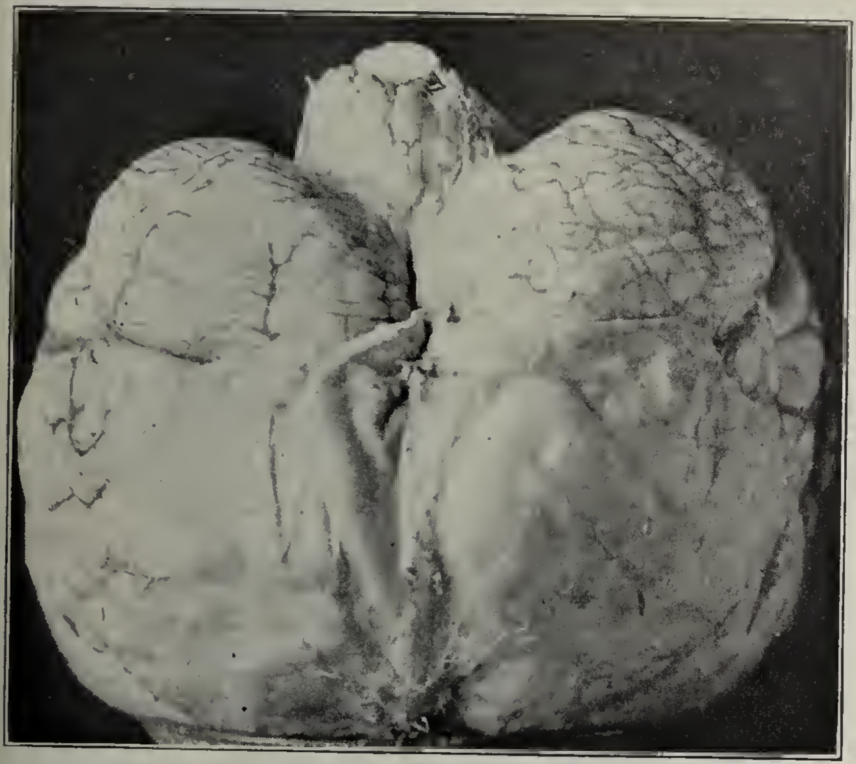

Fig. 13.—Photograph of posterior aspect of brain (inverted) in which multiple tuberculomas were present in the left hemisphere and cerebellum, and in which death resulted from lumbar puncture. Showing mould of cerebellomedullary hernia through foramen magnum.

> "One instructive point has appeared in connection with a case of my own, which is that though no tumor was found the patient's symptoms were materially improved from the relief afforded by taking away a goodly portion of the bone. The result may afford an additional reason for the justification of an exploratory operation, since if no tumor be found relief to the brain pressure can be at least temporarily obtained."

I particularly emphasized in my paper the fact that the operation which I proposed was conducted *primarily* for the purpose of relieving tension in cases of unlocalizable or inoperable tumors, and not that any craniectomy originally undertaken for exploratory purposes might in the end serve the purpose of relieving tension—a matter that had long been appreciated, as the quotation above indicates.

What I would wish again to lay stress on are the following facts:

1. The operation is conducted through a split-muscle incision which exposes the thinnest and most easily removed area of the cranial vault.

2. The exposed area of the brain is a "silent" area, the possible permanent damage to which in consequence of a forcible protrusion leaves no appreciable symptoms.

3. An undue protrusion is obviated by the protection of the resutured muscle, fascia and galea (Fig. 5).

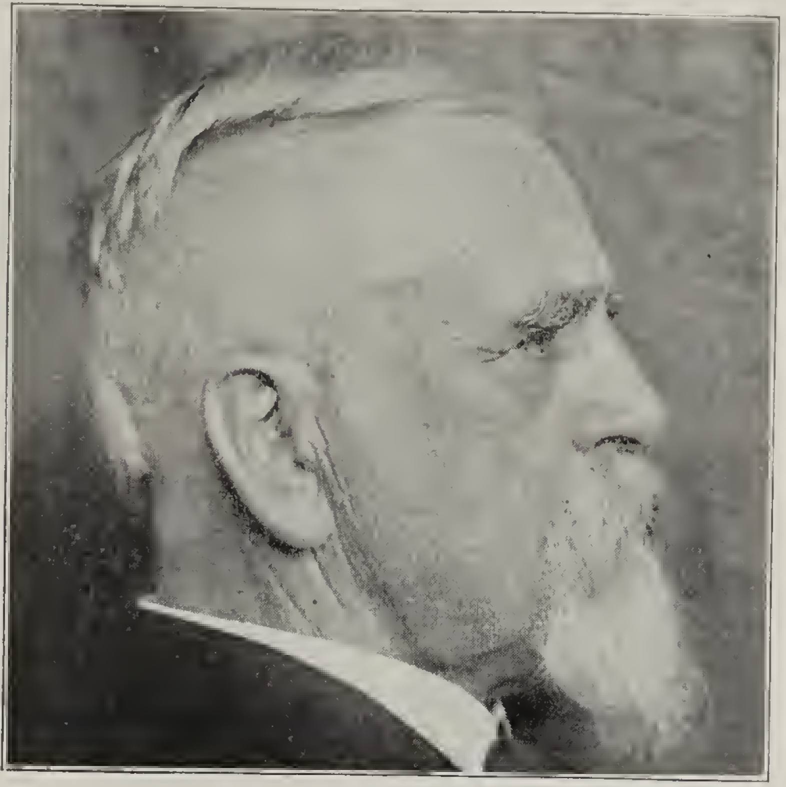

Fig. 14.—Photograph of patient eight days after a Gasserian ganglion operation to show limits of incision, which are here clearly apparent; also partial shaving of head.

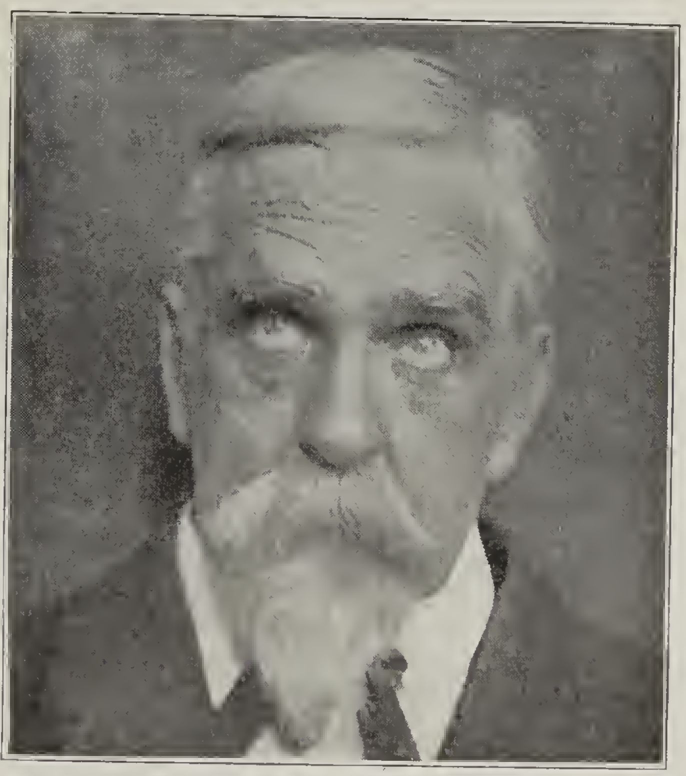

Fig. 15.—Same as Fig. 14, to show symmetrical wrinkling of brow and absence of other deforming consequences of the older operative methods.

4. Except in case of a growth so placed as to produce an internal hydrocephalus (Figs. 10, 11, 12, and 13), usually a considerable, often a complete, subsidence of symptoms may occur.

I have spoken elsewhere of the undesirability of decompression over the presumed seat of a tumor, for the consequent dislocation of the parts, from protrusion of the brain, often leads to hemorrhage into or around a vascular growth, which greatly augments its size and may lead to an enormous hernia (Fig. 6). In other words, an exploratory operation turned into a palliative or decompressive measure may be disastrous.

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[8] Cerebral Decompression. Palliative Operations in the Treatment of Tumors of the Brain Based on the Observation of Fourteen Cases. Univ. Penna. Med. Bull., 1906. xix, 146; also THE JOURNAL A. M. A., Sept. 1, 1906, 679; Sept. 8, 1906, 744; Sept. 15, 1906, 849; Sept. 22, 1906, 923.

[9] Weir and Sequin: Contribution to the Diagnosis and Surgical Treatment of Tumors of the Cerebrum. Amer. Jour. Med. Sci., 1888, xcvi, 227-228.

The subtemporal decompression is purposely made in a situation away from the growth and is not only, I think, the most desirable procedure for cases of tumor which present no localizing symptoms, but during the past year the measure has been used as a preliminary operation for the temporary relief of severe pressure symptoms, even when the location of the growth is evident and gives promise of being accessible at a later operation.

On a few occasions it has been possible through such a preliminary subtemporal decompression to preserve the osteoplastic flap raised at the subsequent operation for removal of the growth. Had the osteoplastic exploration constituted the primary operation, closure of the scalp would have been impossible without removal of the bone, and large defects of this kind in unprotected areas (that is, other than subtemporal or suboccipital ones) are distinctly undesirable, even though, as Horsley has shown, aside from the deformity they may lead to no serious consequences.

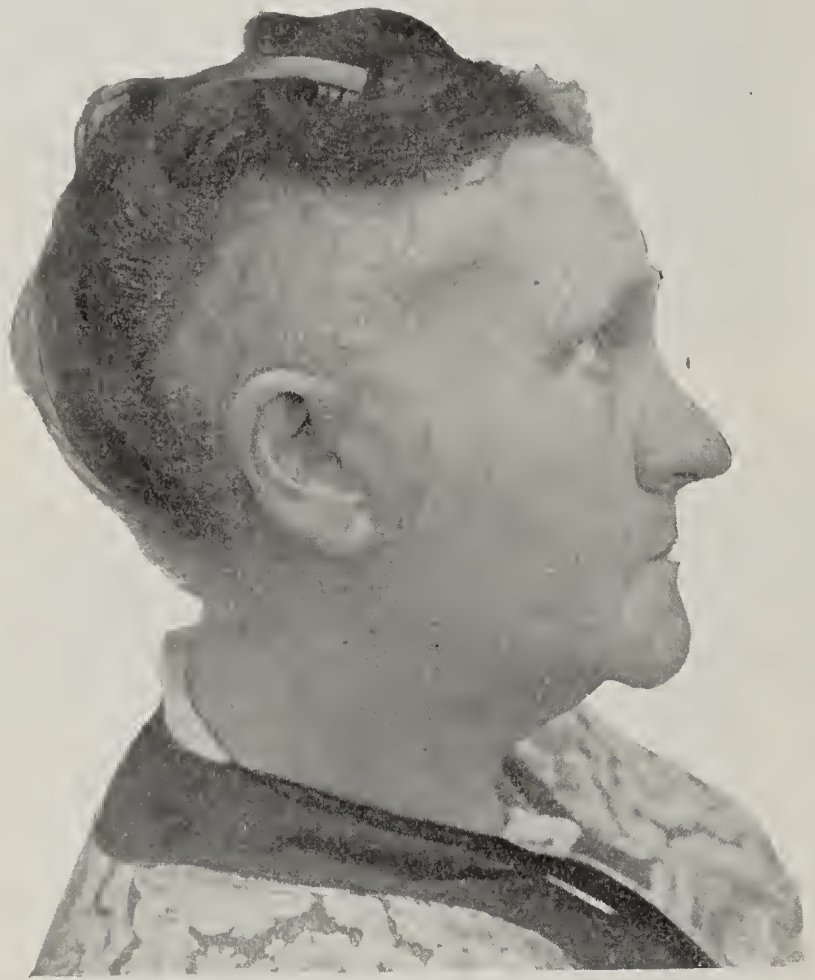

Fig. 16.—Photograph of patient seven days after the Gasserian ganglion operation. Note the invisible wound; the partial shaving of the head; the preserved action of the occipito-frontalis muscle.

I have stated on another occasion that no brain tumor may be so favorable for prompt operation as one which gives absolutely no clinical indications of its situation. Though difficult to make clear to many neurologists, the significance of this seemingly paradoxical statement is explicable in the light of some of our more recent experiences. For a number of years (the first subtemporal decompression was performed in September, 1903) these decompression operations have become a more or less routine measure in certain cases, until at the present time—taking the subtemporal operations alone—there have been about 100 all told, 60 of them for presumed supratentorial tumors. Though many of these patients remain comparatively free from all symptoms of pressure, what is more important, others have returned after periods varying from one to three years with an onset of symptoms pointing at last toward the situation of the lesion, which in a number of instances has been successfully removed (Fig. 7).

In other words, the decompression in a safe area has usually so relieved the general pressure symptoms as to make patients subjectively comfortable and with their eyesight retained—a considerabe number of them indeed capable of earning their livelihood. Of the cases in which the growth has not been localized at the time of decompression, in some it has emerged, as it were, from its silent area and has shown focal symptoms; in others it has remained silent and in some instances indeed may even have metamorphosed into a cyst. Few of these patients would, I believe, have continued to live more than a few weeks or months, and some of them have passed from an actual bedridden state to active life again.

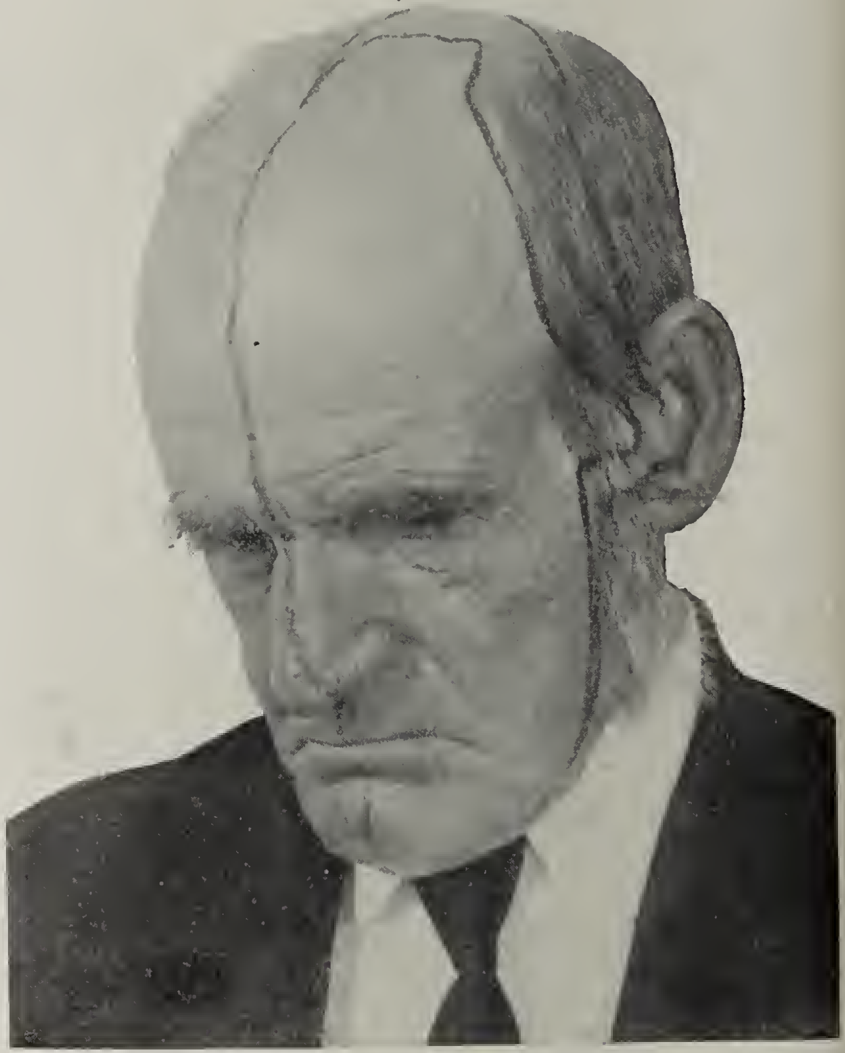

Fig. 17.—Showing persisting area of total anesthesia three years after a ganglion extirpation.

[At this point a number of lantern slides were shown, illustrating the steps of a subtemporal decompressive operation and of patients on whom the measure had been carried out, not only to relieve the increased tension of tumor but for other conditions associated with pressure, such as uremia and the cerebral edema accompanying basal fractures, cerebral arteriosclerosis, thrombosis and embolism of the cerebral vessels, etc.—Ed.]

LUMBAR PUNCTURE IN BRAIN TUMOR CASES

A brain tumor usually, though not invariably, increases the cerebral tension, causing thereby the underlying pressure symptoms of headache, dizziness, nausea or vomiting, and choked disk. This increase of cerebral tension leads, as we have seen, to a greater or less protrusion of exposed cortex through any operative defect which may have been made in the cranium and pachymeninx (Figs. 9, 10, 11, and 12). As is well known, Nature occasionally succeeds in relieving the tension made by a new growth—in the young through separation of the sutures, and occasionally in adult life, if the growth is a superficial one, by an area of pressure absorption.[10]

Furthermore a greater or less protrusion is inevitable through the normal opening at the foramen magnum—a natural defect in the cranial chamber. As a result of this the brain stem with a surrounding fringe of cerebellum is crowded down into the spinal canal—a condition which is especially marked in the presence of a subtentorial growth; for the tentorium in a measure serves to protect the cerebellum and hind-brain from the pressure effects of supratentorial (cerebral) growths.

This protrusion of brain stem—an actual hernia cerebelli—is of the utmost importance in its relation to the performance of lumbar puncture. For it is undoubtedly due to the presence of such a hernia that withdrawal of fluid by the lumbar meninges, especially in cases of cerebellar tumor, has so often been attended with early fatality from respiratory failure, the continued pressure from above sufficing, on the withdrawal of the fluid support from below, to further wedge the bulb into the foramen in such a way as to cause pressure anemia of the vital medullary centers.

Not a few instances of disaster in consequence of lumbar puncture have been recorded in the literature, and six have come under my personal observation—three of them were fatalities in the medical wards after puncture in cases of unsuspected cerebellar lesion,[11] and three have occurred in my own surgical experience (Figs. 9, 10, 11, 12, and 13). If the brain after such an accident be removed from the cranial chamber soon after death, and particularly if hardened *in situ,* it will show the imprint of the foraminal ring about the protrusion which has been tightly jammed into the opening.

In Figure 13 the mould of this cerebello-medullary hernia is well shown in the brain from a patient with multiple cerebral tuberculomata—a single large tubercle in the left cerebellum having been unsuspected. During the course of a subtemporal decompression, owing to the great tension of the dura, a lumbar puncture was performed before opening this membrane. The fluid, under great tension, spurted for a moment from the needle, but ceased to flow after about 4 c.c. had escaped, when respiration almost immediately ceased. Under artificial respiration the dura was quickly incised, and though for a few moments normal breathing was resumed it soon ceased and the heart continued to beat for three hours as an isolated organ, which doubtless could have been kept in action under artificial respiration for a period indefinitely longer.

This is far from a unique experience,[12] but it is cited here for the purpose of emphasizing the hazard of lumbar puncture which exists in the presence of increased subtentorial tension.

In tumors above the tentorium, however, the continuous withdrawal of fluid during the course of an operation for decompression or for extirpation of a growth often proves an invaluable aid, and since I first called attention to the practice[13] it has frequently been employed. Helpful as the measure is and without particular risk, I believe, in solid lesions or edemas increasing the tension of the hemispheres, the possibility of an unsuspected cerebellar growth should always be borne in mind and the puncture not made unless the dura is exposed and ready for immediate opening in case medullary symptoms supervene.

In suboccipital explorations, on the other hand, the puncture would often be as dangerous as it is unnecessary, for one of the most important steps of these operations, after incision of the dura low down near the removed margin of the foramen magnum, is to open the exposed posterior cysterna and thus allow the pent-up cerebrospinal fluid to escape from above. If this precaution is not carried out the cerebellar tension often causes the hemispheres to bulge through the first dural opening so markedly as to rupture the pia-arachnoid and thus to cause extravasations which of themselves, through edema, rapidly increase the tension already present.

THE PRINCIPLE OF OUTWARD DISLOCATION

This leads me to speak of the principle of dislocation without injury of normal cerebral or cerebellar tissue during an exploration or in the approach to a surface lesion more or less difficult of access, of which cerebellopontine tumors may be taken as a type. The thorough evacuation of cerebrospinal fluid from the basal cysternæ as mentioned above is of great assistance, but more important still is the bilateral opening with wide exposure of both cerebellar hemispheres. Under these circumstances, when one hemisphere is pressed to the side the other dislocates outward, giving a free view of the lateral recess without contusion of the easily damaged cerebellar tissue and without the field being obscured through blood staining. The latter is inevitable when a portion of the hemisphere is removed in order to give access to a tumor situated in this freely accessible angle. With a unilateral opening an equally free exposure is dangerous, if not impossible, without excision of a portion of the cerebellum.

This same principle is applicable to growths difficult of access in other situations, and I have found that in certain cases a preliminary subtemporal craniectomy, made some weeks or months before, proves sufficient for purposes of dislocation at a subsequent extirpation. For the approach to basal tumors in or near the midline I have occasionally made a large flap, with a wide dural opening, on the same side as that of the proposed exploration, and this has proved sufficient for thorough exposure in some cases, notably one of uncinate gyrus tumor and another of growth near the angular gyrus.

By applying this same principle I am confident that the best approach can be made to the pituitary body, though in these operations a bilateral opening is doubtless preferable—namely, a large exposure of the brain on the side opposite to that through which the pituitary fossa is to be exposed and a lesser cranial opening on the side of approach itself, with the smallest and lowest possible linear incision of dura. In this way the resistent membrane serves to protect the temporal lobe during its subsequent elevation, and through the large opening over the opposite hemisphere the brain readily dislocates outward in correspondence with the degree of elevation exerted during the approach to the hypophysis below the contralateral hemisphere.

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[10] It may be said that in most cases of increased pressure, minute herniæ occur at the situation of the arachnoidal villæ, those that I have seen being particularly abundant over the under surface of the temporal lobes. Dr. S. B. Wolback has demonstrated that these minute surface irregularities are actual herniæ of the cortex. Journ. of Med. Research, July, 1908.

[11] One of these cases was pictured and reported in the Mütter Lecture for 1901 (Am. Jour. Med. Sci., September, 1902, 398). Quincke has since called attention to this same process as one of the dangers of indiscriminate lumbar puncture, ("Diseases of the Nervous System," edited by Church and translated from "Die Deutsche Klinik," D. Appleton & Co., 1908, p. 233).

[12] I have recorded another case with 24 hours of artificial respiration, in my Mütter lecture, loc. cit.

[13] Technical Methods of Performing Certain Cranial Operations. Surg., Gyn. and Obstet., March, 1908, 237.

Dr. Lewis L. Reford and I have found that this method of Paulesco's, with some minor modifications of our own, is a most ideal way of exposing the pituitary body, at least in dogs.[14] We have found too in corroboration of his experiments that the hypophysis is essential to life—a clean, simple, bloodless extirpation, if total, being followed by death in about 48 hours. To the loss of just what one of the three portions of the gland, which Schäfer and Herring have described, this is due, we are as yet unaware, but the knowledge is enough to call a halt for the time being in attempted hypophyseal extirpations for tumor. It is the case of the thyroid and myxedema, the parathyroid and tetany, over again.

GASSERIAN GANGLION OPERATIONS

In some intracranial operations, however, the definite indications and necessary technical methods are well established—in no operation more definitely than that for trigeminal neuralgia of the major form. Here, although a certain amount of pressure against the temporal lobe is essential to a perfect exposure of the ganglion, this pressure is made against a brain not already under tension, as when a tumor is present, but against one susceptible of a certain amount of compression: hence in these operations the principle of dislocation need not be taken into account.

There is an element of danger, however, in too great pressure, and I think it can not be questioned but that the high temporal operation, so courageously originated some years ago by Hartley and Krause, entails more risk on this score than the more recent and lower methods of approach.

The degree of compression can be estimated if a careful chart of the pulse-rate be kept during the operation, for the vagus effect, shown by a retardation of pulse-rate, is proportionate to the degree of pressure-transmission against the medulla. In my earlier cases a pulse-rate as low as 60 per minute was not infrequent during the progress of the manipulations: this, however, has not occurred of late, doubtless through the experience gained in carrying out the enucleation through a very low and shallow opening.

Krause a year ago reported seven deaths in his series of 51 operations, and in all the fatal cases contusion of the temporal lobe was found postmortem—an evidence, I think, of the undue elevation necessitated by the high method of approach. I am able at the present time to report 74 ganglion operations, with only two deaths—both of the fatalities having occurred early in the series at a time when the effort was invariably made toward complete enucleation.

At present the procedure is greatly simplified by the avulsion from the pons of the sensory root alone, the ganglion being left in its bed with a half-inch gap between its posterior border and its original pontine attachment—a space which, even granting the possibility of central regeneration, could hardly be bridged by a new nerve. I think the method is preferable to the simple section of the nerve as proposed by Spiller and Frazier, not only for the reason given above, but also because it is possible to hook out the sensory foot intact, even in the many cases in which it is difficult or impossible to bring the structure sufficiently well into view to justify its actual division.

In the approach to the ganglion the incision (Fig. 14) should be so placed as to avoid (Fig. 15) the obtrusive droop of the brow which was an unavoidable consequence of the older methods owing to unilateral paralysis of the frontalis muscle. Similarly a careful closure of temporal muscle, fascia, and galea aponeurotica, can entirely prevent the objectionable flattening of the temporal region in consequence of atrophy of the muscle. Often the incision may be absolutely invisible a day or so after the sutures are removed (Fig. 16). The area of anesthesia remains permanent (Fig. 17); and the return of sensation to the forehead, or its retention there wholly or in part after the operation, indicates only a partial success and a possibility of return of pain in the ophthalmic division. There is no authentic case of recurrence of neuralgia after total extirpation or complete removal of the sensory root.

In all surgery I know of no more satisfactory measure than a successful ganglion operation nor of one which more certainly and more permanently relieves a larger measure of incapacitating pain. However, no one should attempt these operations who has not seen to the education of his own and his assisant's reflexes to the highest possible degree in the performance of every particular step by operations on animals and by constant and repeated practice on the cadaver. Otherwise it is much safer for him to cling to the methods of temporary relief through peripheral operations, whether they be restricted to the injection into the nerves of mordants or to the removal of such of the branches as can be withdrawn without leaving the patient's face scarred—something the ganglion operation does not, or should not, do.

SUMMARY

I have attempted to elucidate some matters in regard to a branch of surgery which in its present formative stage can only be safely undertaken with the best possible understanding of neurology. The few technical points which I have chosen to emphasize are:

1. The continuous auscultation of the heart-beat and respiration during anesthesia.
2. The subtemporal decompressive operation as an early measure and a step preliminary to a possible subsequent tumor extirpation.
3. The dangers of lumbar puncture in the presence of a degree of subtentorial pressure sufficient to produce a cerebello-medullary foraminal hernia.
4. The value of a continuous lumbar drain during the course of explorations for lesions of the hemispheres.
5. The principle of outward dislocation of normal tissue to avoid the risks of compression or mutilation during deep explorations.
6. The satisfaction of such intracranial procedures as the ganglion operation for trigeminal neuralgia when once they are put on a basis of comparative safety.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CUSHING, HARTLEY, M'KERNON AND COAKLEY*

Dr. John B. Murphy, Chicago: The important lesson all of these papers bring to us is that there is here a splendid field for excellent work, to be explored by trained hands, and that no other should attempt it. I wish to call attention to a few matters unconnected with the technic of these operations. The ligature is splendid for the control of hemorrhage. Ligation of the external carotid can be accomplished in a few seconds, and in one condition particularly this ligation has been neglected for a great many years at a great life cost, and that is in hemorrhage from the middle meningeal artery. The general practitioner who does not do much surgery can ligate the external carotid artery the moment he notes the first symptoms of hemorrhage of the middle meningeal artery. These symptoms are so clear-cut that the diagnosis can readily be made. One does not have to hurry with the intracranial operation or do it under unfavorable conditions, because after ligation of the external carotid artery one can do the operation when the patient is in a favorable condition for the removal or relief of the compression. An instrument devised by Dr. Neff is arranged to fit itself to any depth of cranium. It is an ordinary revolving drill and can be directed in any line desired. It does very good work. I have found no very satisfactory machine for cutting the cranium.

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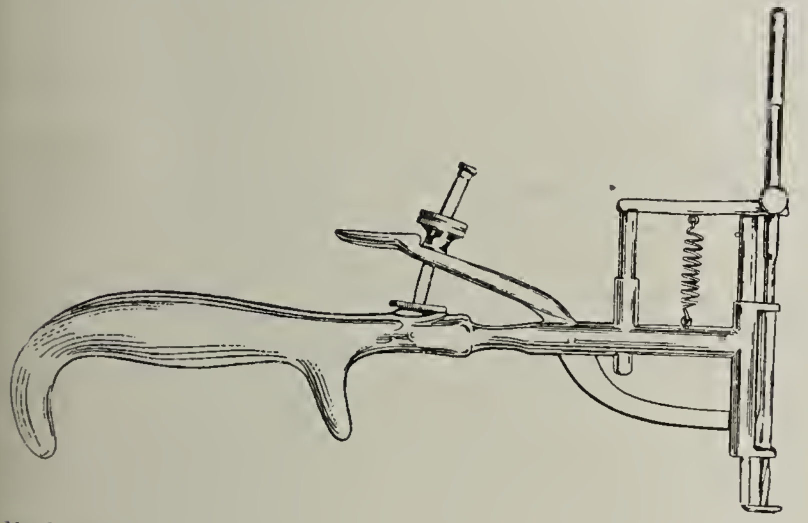
[14] Technical experience with difficult procedures such as this (and I may include the ganglion operation) can be acquired in no way so satisfactorily as by practice on living animals. Although the mere anatomic relations must be learned on the human cadaver before the operation can be transferred to man, nevertheless the experience of handling the central nervous tissues, of stopping bleeding from bone, membranes and brain, can be and should be acquired on the lower animals.

* The papers of Drs. Hartley, McKernon and Coakley appeared in The Journal last week.

The small size of the flap has hampered operations of this kind. That was brought out by Drs. Cushing and Hartley, showing that we may have a large-sized flap, but we must not have a profuse hemorrhage, because that is the greatest danger in all of these operations. The next important matter referred to was the palpation and examination of the brain after the dura mater had been opened. The experienced hand frequently can locate an encapsulated tumor or cyst. We have devised a double needle which has a blunt probe end and an opening so that when it is withdrawn one-sixteenth of an inch the lumen of the needle is opened and the contents of the cyst can easily be withdrawn. By keeping the opening closed until the capsule is punctured it is easy to withdraw any fluid.



Early model of cranial drill devised by Dr. Neff, referred to by Dr. Murphy.

Another practical matter is the advantage of the peripheral sacral cistern in drainage. In the infections with accumulations in the cerebrospinal tract you can avail yourself of the large sacral cistern or of the cerebellar cistern for the relief of pressure. The significance of the closure of the foramen of Majendie lies in the production of atrophy of the optic nerve—central hydrocephalus without peripheral hydrocephalus; if that continues optic atrophy always results and persists because regeneration is impossible. This operation I performed in 1896, by opening and establishing a communication between the central and peripheral cisterns. In the central compressions of the optic nerve it was found that the re-establishment of this opening would prevent atrophy of that nerve. I paid a very severe price recently in operating on a case of ependymal spina bifida with paralysis of the lower extremity. The foramen of Majendie unfortunately was closed. I noticed that the child had central accumulation in the ventricles, but I felt that the foramen of Majendie was open and I permitted the patient to return home. To my horror and surprise, within six weeks, I was notified that vision had entirely disappeared. There was a central accumulation and a complete atrophy before I was notified, when I could have easily—it is not a difficult operation—have resected a V-shaped piece of the velum.

Dr. A. Jansen, Berlin: Like Dr. Coakley, I have seen very few cases of cerebral complication. In my observation of about 800 operations on accessory sinuses I saw three patients, on whom operation had not been done, with purulent meningitis, and about 6 cases of large extradural abscesses. There was no case of brain abscess, and only one of a severe serous encephalomeningitis with unconsciousness, lasting several days. The result was recovery after a purulent focus in the posterior ethmoidal cells, near the optic foramen, had been emptied. When an operation is indicated on account of suppuration of the accessory sinuses, I have little fear of cerebral complications. This comes into consideration only when there is severe pain and other indications of retention of pus. I should like to call attention to the importance of serous meningitis and encephalomeningitis in their relation to purulent meningitis, and also to the fact that that purulent meningitis has been cured in a number of cases. Finally, I desire to call attention to the importance of the disturbances caused by cerebral complications affecting the vestibularis, appearing as disease of the nerve, basis or central organ (Deiters' nucleus). The principal lesions to be taken into consideration are abscess of the cerebellum or tumor of the auditory nerve. The complication of tumor of the auditory nerve with purulent labyrinthitis is especially hard to diagnose. In several such cases, lumbar puncture showed pneumococci in the fluid. The postmortem in one case showed an inoperable tumor of the auditory nerve, which had destroyed the cerebellum as far as the fourth ventricle. Nystagmus varies according to whether the peripheral end organ, the nerve, or the central organ is attacked. In the affection of the end organ, nystagmus is directed toward the healthy side of the head. In my case of tumor of the auditory nerve and in several abscesses of the cerebellum, it was directed toward both sides, but it varied. In looking toward the diseased side, the excursions were very extensive but infrequent; but in looking toward the healthy side the movements were very quick and minute. These differences seem to me to be of value in the diagnosis of tumor of the auditory nerve and suppuration of the labyrinth.

Dr. V. J. Baccus, Chicago: Since asepsis in the cranial region is even more important than in the abdominal cavity, attempts have been made to secure a perfect aseptic isolation of the operative field. Long ago Fenger and Murphy, while operating on the head, isolated the field of operation by carrying the rest of the aseptic sheet over the anesthetizer. In the lantern-slide demonstration of operative technic on the skull shown here, no provision was made to isolate the head from the nose and mouth of the patient and the masks and hands of the anesthetizer. This can readily be accomplished by encircling the head with the aseptic sheet and resting it on vertical table supports. The next important factor in exploratory operation on the cranium is to make a large flap. The ligation of the external carotid as recommended by Dr. Murphy need not be applied to all cases of skull surgery, as a routine procedure. According to statistics, the majority of surgeons do not ligate the external carotid artery as a preliminary step. When there is a possibility of injury to the middle meningeal artery, as in operating for the removal of the Gasserian ganglion, it may be necessary to resort to ligation of the external carotid.

Dr. Robert F. Weir, New York: Those of you who have lived long enough will, perhaps, remember the birth of modern brain surgery. In 1875-80, thanks to the urgent encouragement of some of my friends in neurologic practice, I was led to enter on this field. It was not a long invasion, because it dawned on me early that I was attacking tumors of the brain, most of which were malignant or which were local manifestations of a severe general disorder, such as tuberculosis and cancer. I learned soon that I was doing a very dangerous operation, and that I could give the patient only a comparatively short prolongation of life. It discouraged me, I admit. Also the results in connection with epilepsy were not very satisfactory as operations were then done. My zeal was not, however, quenched, and I entered on the work in other directions, such as entering the substance of the brain in cases of deep hemorrhages, or exposing by lifting up the brain en masse for traumatic hemorrhage at its base on one or both sides, or removing large surfaces of bone for the purpose of reaching and draining a suppurative meningitis. The great discouragement, however, I met brought me to the termination of my "brain" career and my enthusiasm departed and led me to go in other surgical directions.

As the outcome of my short experience, running over five or six years, three things of value have remained up to the present time. These have been alluded to in the admirable papers presented here to-day. The first was the rubber band around the head. We tried many ways to stop the annoying hemorrhage from the scalp. The rubber band I first resorted to at the suggestion of Dr. M. Allen Starr and it proved of such value as to retain its place in surgery. The second thing was the use of celluloid plates to fill in defects in the skull where bone had been destroyed by earlier operations, such as by multiple trephining or by grooving or by chiseling. I resorted to the use of these plates, perforated or non-perforated, also in fractures as well as in the brain tumor operations, following the example of the German surgeon, Fraenkel, and found their use very satisfactory. In one instance I kept track for five years of a patient in whom it was inserted for a large opening in the skull and found no disturbance arising from its retention. Dr. Cushing has alluded to the outcome of our experience of two unsuccessful attempts to find the tumor after a cerebral exposure. We succeeded here to an unexpected degree, however, in relieving the patient of distressing symptoms and advised then that such a procedure should be carried out in subsequent cases, which has been done to a large extent in recent years.

Dr. Willy Meyer, New York: On the basis of personal experience I favor proceeding in the same way in the posterior fossa of the skull as in other parts of the skull, namely, by arranging for an easy access to the brain by a wide removal of bone—wider than is usually advocated. It has been advised that operation for tumor of the occipital region be done in two stages, also that access to it, especially to those tumors situated at the ponto-cerebellar angle, be gained by partial or total removal of the respective cerebellar hemisphere. This advice, it seems to me, should not be accepted without thorough discussion. A number of such operations in two stages are on record in which the patients died shortly after the bone operation had been completed, and the tumor was never exposed. In the interest of asepsis, it seems to me, we should try to get through with the work in one sitting. Furthermore, it stands to reason that, if we can accomplish our aim with the cerebellum left intact, this must mean a gain to the patient.

With these points in view, and inspired by the excellent work of Cushing, Hartley and Frazier on this side of the Atlantic and of Krause abroad, I recently undertook an operation for tumor of the left auditory nerve in a girl, 27 years old. I do not think that osteoplastic operation can ever be done to advantage in this region, mainly on account of our inability to control hemorrhage properly, which, as is well known to those familiar with this kind of work, may prove alarming at times. (I would mention parenthetically that I have found Horsley's wax of great help in controlling hemorrhage in these cases.) Therefore, after having formed and turned down a large horseshoe-shaped skin-muscle-periosteal flap, and, according to Cushing, dividing it in the middle, I removed the entire occipital bone, first thinning it with a grooved chisel, then biting it with rongeur forceps. Of course, I carefully avoided the external occipital protuberance. The border of the foramen occipitale magnum was fully exposed. Then followed double ligature and division of the longitudinal sinus, heart-shaped incision of the dura mater and turning down of the flap. Now the entire cerebellum was before our eyes. With the help of a long brain spatula I reached the internal auditory foramen and, with the electric reflector, clearly saw the tumor, of the size of a small hickory nut, involving the auditory and facial nerves. This was bluntly removed. Acute edema of the brain prevented the proper return of the dura mater flap. The latter just sufficed to cover somewhat more than the lower half of the cerebellum. Injury to the exposed brain from the irregular, roughened occipital protuberance was carefully guarded against by gauze tamponade. The skin flap was sutured in place. The patient made a good recovery. Having been almost totally blind before operation, with staggering gait and all the other symptoms of brain tumor, she is now able to read almost the smallest print. Her gait is improving steadily; she has done some needlework within the last few weeks, and we may now hope that she will go on to complete recovery. This case shows that easy access to the cerebellum obtained by the removal of a large piece of bone enables us to avoid pressure injury to the medulla or pons and renders unnecessary the removal of portions of the cerebellar hemisphere.

Dr. Harvey Cushing, New York: Widely different operative methods have been advocated in this morning's session by the different speakers—methods which have the same end in view, namely, the most rapid way of entering the skull compatible with perfect safety. It goes to show partly that the individual needs of one operator are not necessarily those of another, and partly that familiarity with a given set of instruments breeds facility in their use. After all, the best osteoplastic method of exploration is chiefly a matter of technical interest. What those of us who are interested in neurologic surgery are trying to do is not so much to perfect methods of rapidly laying bare the surface of the brain as to perfect our ability to diagnose a cerebral lesion and to evolve the proper methods of dealing with it when once the skull has been opened. We are only at the beginning of these matters, though strides forward are being made daily by the leaders in this work. It does not make any difference whether the bone flap is turned down by one method or another—provided, indeed, a bone flap is necessary, and often in fact it is not. It is what is to be done on the inside that is vital, and for this some knowledge of neurology is absolutely necessary; and that is the plea I wish to make to-day—the necessity of a neurologic training for those who wish to follow this particular kind of work.

Dr. Weir's contributions to this field of surgery made twenty years ago are well known to all who have made themselves familiar with the early literature of the new cerebral surgery; but I think that he is a little too optimistic about some of these present endeavors of ours, and Dr. Murphy's unbounded enthusiasm must not make us go too fast. Thus, his anticipation of twenty-five extirpations of the pituitary body within the next year, if they are "successful," or, in other words, total, means unquestionably twenty-five deaths in the twenty-five cases, for recent work has shown that the pituitary body —or I may say a portion of the pituitary body—is absolutely essential to life.

Dr. Frank Hartley, New York: Two things of importance for the next year are the production of instruments which can be used by every one and of a simpler means of stopping hemorrhage. The various saws and drills which are used now, and which are necessary to do rapid work, require a long period of tuition before one can use them safely. Therefore, I think that it would be a great advantage to have, in the first place, instruments which could be used by any one with perfect ease and safety. In the second place, I think that the thing which will advance cerebral surgery more than any other will be some simple method of stopping hemorrhage. As soon as we stop the hemorrhage, we diminish the shock; when we diminish the shock and stop the hemorrhage, we can spend a time in enucleating the growth from the cerebellum or cerebrum or whatever point we are trying to reach.

Dr. Charles H. Frazier, Philadelphia: I feel very much as Dr. Cushing does about the development of cranial surgery. We are just making a beginning again in this field, it seems to me, after the setback which the work received at the hands of the German surgeons, notably von Bergmann, not many years ago. We have accomplished certain things, such as the development, I might almost say perfection, of the technic o exploratory operations for lesions anterior to the tentorium cerebelli, and the technic of operations on the Gasserian ganglion. As to operations for lesions posterior to the tentorium cerebelli the technic seems to me in many ways deficient. W have not, as Dr. Hartley pointed out, discovered a way of adequately controlling hemorrhage, and, no matter what effort we make, hemorrhage may be so profuse as to become alarming in a few minutes after the operation has been begun.

We have heard nothing to-day of the two-stage feature of cranial operations, and I take it that it has been very largely abandoned, and, I think, properly so. By means of blood-pressure observations we can determine with reasonable accuracy the condition of the patient, and there is no reason why, once the tumor or lesion has been exposed, we should not at once proceed to its removal. The dangers of infection from reopening the wound and of a second anesthetization are so great as to make the two-stage operation absolutely unjustifiable. The decompressive operation has become so popular of late that there is a danger of its adoption in cases in which an exploratory operation is clearly indicated. Although decompression entails less risk to the patient, it is less difficult and requires less experience. When there is the least suspicion of the presence and location of a lesion, it is the surgeon's duty first to explore the region under suspicion; failing to find it, he may then conclude the operation with the removal of as much of the dura and bone as may be necessary to effect decompression. If this course is not adopted, many operable lesions will be overlooked and the percentage of absolute recoveries proportionately decreased.

Dr. C. G. Coakley, New York: I did not go into the matter of deaths following operation at all. I merely spoke of the cases of sinus disease which in the last few years were almost invariably fatal because no operation was done; but the tendency now is to operate and a certain proportion of these patients will recover that would have died.

DECAPSULATION OF THE KIDNEYS FOR CHRONIC BRIGHT'S DISEASE

WITH A REPORT OF THE RESULTS, IMMEDIATE AND REMOTE, OBTAINED IN 102 CASES THUS TREATED *

GEORGE M. EDEBOHLS, M.D.

NEW YORK

When, in 1901, I suggested treating chronic Bright's disease by decapsulation of the kidneys, I placed myself under a moral obligation to report the results after a sufficient length of time had elapsed. In fulfilment of this obligation the present report is submitted:

The working theory on which I based my procedure of renal decapsulation for chronic Bright's disease was that by the removal of the impervious capsule an opportunity was created for the formation of new vascular connections between the blood vessels supplying the secreting structures of the kidney on the one hand and the blood vessels and tissues surrounding the kidney on the other. An additional blood supply is thus created for the kidney. The increased blood supply and activity of circulation are depended on to improve the working coefficient and gradually to restore the health of the kidney.

My observations on the kidneys of some of my patients who have died months and years after decapsulation, or whose kidneys I have decapsulated a second—and in one instance a third—time, have invariably demonstrated the formation of a more or less abundant new blood supply as the result of operation. While the creation of a new blood supply to the kidney readily explains the clinically established fact of continued and lasting improvement in the work of a diseased kidney after decapsulation, it fails to explain fully and satisfactorily the immediate beneficial effects so often witnessed. I have never in any of my operations for chronic Bright's disease found the capsule tightly stretched and compressing the kidney. Generally it fits the kidney, and sometimes the kidney even appears to be somewhat shrivelled or contracted within the loosely fitting capsule. Even in far-advanced chronic interstitial nephritis with greatly thickened capsule, the reduction in size of the kidney appears to be due rather to contraction of the new fibrous interstitial tissue of the kidney itself than to compression of the capsule. I believe that the immediate good effects of decapsulation can be explained by the necessary manipulation, amounting in reality to a massage of the kidney, during operation. The immediate stimulation of the existing blood supply of the kidney thus effected, supplemented by the relief to congestion afforded by the direct abstraction of more or less blood from the organ during operation, suffices for the immediate needs of the kidney and carries it along until its supplementary new circulation becomes established. If we can cure chronic Bright's disease by renal decapsulation we can well afford to wait until time and further observation bring the explanation of the exact physiologic effects of the operation.

One invariable effect of renal decapsulation is the formation of a new capsule. This becomes distinctly organized in from three weeks to three months, is sometimes thicker, sometimes thinner, but always more succulent and vascular than the original. It has been suggested that this new capsule must inevitably contract and lead to injurious compression of the kidney with a return of the symptoms. This argument is not based on actual observation, nor is it in harmony with the results of animal experimentation, or with the clinical facts. I now give but little thought to the question of possible danger of contraction of the new capsule. The immediate effect of decapsulation is to increase the daily output of urea and cause the disappearance or lessening of uremic manifestations. I have known a daily excretion of 6 grams or less of urea, prior to operation, to be increased to a steady output of 30 to 35 grams within a month after operation.

Renal decapsulation enables any given kidney to do the best work which it is possible for that particular kidney to do. I now decapsulate every kidney operated on for any purpose, and believe that the other kidney should be explored and decapsulated before completing a nephrectomy. For the purposes of this report the diseases of the kidney are classified as: first, interstitial nephritis, those cases in which the gross evidences of inflammation of the connective tissue of the kidney predominate; second, parenchymatous nephritis, those in which the involvement of the secretory apparatus forms the salient feature; and, third, diffuse nephritis, those inflammations of the kidney characterized by implication in fairly equal degree of both the parenchyma and the connective tissue of the organ.

The diagnosis of chronic nephritis on the living subject is easy after some experience, the pathologic changes being more appreciable with the blood circulating through the kidney than they are after death. It is easy to recognize in the adherent capsule, nodulation, granular condition of the subcapsular surface, shrinking, unequal contraction, and occasional cyst formation, a chronic interstitial nephritis; or by the enlargement, cloudy swelling, mottling, and discolorations due to circulatory and degenerative changes, a chronic parenchymatous nephritis; or by the thickening, general or localized, of the capsule, and the secondary inflammatory changes in the perirenal fat common to both varieties, a chronic diffuse nephritis. The variations in density and hardness, quite frequently varying widely in different parts of the same organ, are also readily appreciated. I now find no difficulty in promptly determining at operation whether or not a kidney is affected with chronic Bright's disease.

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* Owing to the illness of the late Dr. Edebohls, which prevented his attendance at the Section on Surgery and Anatomy of the American Medical Association, Fifty-ninth Annual Session, Chicago, June, 1908, this paper was read by Dr. Samuel Lloyd. Because of lack of space, the article is here abbreviated by the omission of the elaborate bibliography which appears in the Transactions of the Section and in the author's reprints.

I now advise renal decapsulation for every sufferer who consults me for chronic Bright's disease, and who has a reasonable expectation of not less than a month of life without operation. The three conditions which lead me to advise renal decapsulation are: First, the clear and unequivocal establishment of the diagnosis of chronic Bright's disease; second, the absence in a given case of absolute contraindications to any operation; third, the possibility of securing the services of a surgeon practically familiar with the surgery of the kidney.

As soon as a nephritis has become chronic it is an absolute indication for decapsulation. The earlier in the course of chronic nephritis an operation is performed the better will be the patient's chances of a perfect cure. Renal decapsulation is indicated in all varieties of chronic nephritis. I no longer advise against operation on account of advanced age, provided the patient be otherwise in reasonably fair condition. It must be borne in mind that all patients with chronic Bright's disease have more or less hypertrophy of the heart. As long as the enlargement is mainly hypertrophic and not due to dilatation, and as long as the hypertrophy is concentric, an anesthetic may be administered with a reasonable degree of safety. It is only when dilatation of the heart predominates over the hypertrophy that the danger of sudden death from acute dilatation is ever present, and no general anesthetic should be administered to such a patient. In my opinion the most ominous auscultatory sign of predominant dilatation of the heart and danger of sudden death is insufficiency of the aortic valves, as denoted by an intermittent aortic regurgitant murmur occurring every third, fourth, or fifth beat, and even less frequently. When this condition is clearly present and can not be removed by suitable medication, the patient is very near the end of life and I advise against operation. During the course of recent years I have had the unexpected pleasure a number of times, on examining patients at periods remote from operation, of finding that very pronounced cardiac hypertrophies and derangements had become totally insignificant, and in some cases had even entirely disappeared, as the health of the kidneys was gradually regained. These changes for the better in the condition of the heart I have come to regard as the surest indication that the health of the kidneys is improving.

Retinitis albuminurica demands careful consideration in determining for or against renal decapsulation. Edema or dropsy of the retina must be differentiated from true retinitis with hemorrhage or exudates. The former may disappear, the same as a dropsy in any other part of the body. The importance of true retinitis albuminurica in relation to renal decapsulation lies in the fact that it is one of the late manifestations of chronic Bright's disease. Its occurrence signifies that the general changes produced throughout the body by the disease are so far advanced that they will cause death, even though the function and health of the kidneys can be restored by operation. It also indicates such widespread disease of the vascular system that the danger of rupture of blood vessels in any part of the body is always imminent. Among the first 72 patients, 9 had retinitis albuminurica at the time of operation. The unfavorable outcome in these cases has led me for the past three years to decline to operate on patients who had well-marked albuminuric retinitis. The only point that requires emphasis in the operation is the necessity of securing union by first intention.

The changes in the patient's condition and general health after decapsulation are nearly always impressive, and in some cases simply marvellous. The improvement is progressive, continuing and increasing even after the patient has resumed his usual avocation. This is due to the improved work of the kidneys, as denoted especially by the increased daily urea output.

My own experience with renal redecapsulation has thus far not been very encouraging. Were it not for the impression created by the case of Peabody, I should feel opposed to further trial of a second decapsulation in cases in which the first operation failed to initiate the cure. The only indication for a second decapsulation that would appeal to me would be in the case of a patient acquiring a new chronic nephritis after having been entirely cured of a first chronic nephritis by the first decapsulation.

Renal decapsulation for puerperal convulsions of renal origin are really renal decapsulations for subacute or chronic nephritis, at least that has been my experience.

Whatever merit may be claimed for or accorded this report of the result of my renal decapsulations for chronic Bright's disease must be based entirely on the fidelity and persistence of purpose with which the histories and postoperative fortunes of my patients have been followed and recorded. This report embraces all my operations performed on the kidneys with the hope of curing or improving existing chronic Bright's disease up to the end of May, 1906, the patients numbering 102 all told. Nearly fifteen years have elapsed since the first operation, and fifteen months represent the shortest period of observation after operating in any of the surviving cases—an average of five years for each of the 102 cases has elapsed since operation. All but 3 of the 102 patients are fully accounted for; the 3 cases unaccounted for were lost sight of years ago.

With 99 of my 102 patients I have managed to keep in touch continuously from the day of operation until either the date of their death or the present day. In the case of those who died, I have succeeded in obtaining the exact date as well as the cause of death in each instance. The vast majority of my cases were private: scarcely half a dozen belong to the class of hospital-ward cases. This has been of material assistance in following the after history of these patients. The patients themselves have freely and voluntarily cooperated in the attempt to solve the question of the curability of chronic Bright's disease. Whenever I have failed to hear from a patient for a period of six months I have made inquiry either of the patient or of the attending physician. I consider myself exceptionally fortunate in having succeeded in obtaining from all but one or two a twenty-four-hour specimen of urine at fairly regular intervals of time since the operation. The last specimen of urine from all but three of the survivors has been obtained within the past few months.

SUMMARY OF CASES

Since the publication of my book in 1904 I have continued to follow and record the further histories and fortunes of my surviving patients, as well as of those operated on in 1904, 1905, and the first half of 1906. I have thus managed to keep together this entire clinical material as a compact whole. I fully realize that in order to obtain recognition and acceptance by the profession at large for the surgical treatment of Bright's disease a sufficiently large number of cases of chronic nephritis observed for a sufficient length of time after renal decapsulation was an absolute essential. I believe that this report will show that this purpose has now been fulfilled. This report will probably be my final one,[1] and it is hoped that it will be received and accepted by the profession in full and complete discharge of the moral obligation assumed by myself when I first proposed to treat chronic Bright's disease, as such, by surgical measures.

SEX

Of my 102 patients 50 were male and 52 female.

AGE

The youngest patient was 4½ years, the oldest 67 years of age. The average age of the 102 patients at the time of operation was 39 years and 8 months.

OCCUPATION

Notes concerning the occupation of patients were rarely made, the matter not being deemed of sufficient practical interest. Fourteen of my patients were themselves physicians, and five were immediate members of physicians' families.

HISTORY PRIOR TO OPERATION

The majority of the patients at and before the time of operation presented either all or the most serious of the well-known clinical features of the disease. Some suffered in one way or another without having such a pointed history as unmistakably to indicate chronic Bright's disease. A few were absolutely unaware of any serious impairment of health until the occurrence of paralysis, of retinitis albuminurica, of uremic convulsions, or the discovery of albumin and casts in the urine on application for life insurance brought them suddenly face to face with the fact that they were affected with a fatal malady. It is a well-known fact that chronic Bright's disease frequently develops and progresses in an insidious manner, so that the advanced and final stages of the malady are often reached before the patient is aware that there is anything greatly wrong.

PHYSICAL CONDITION AT TIME OF OPERATION

Equally great with the differences in the symptoms produced by the disease were the physical manifestations and objective signs presented by the various patients on examination prior to operation. In comparatively few there were absolutely no manifestations of chronic nephritis except such as examination of the urine revealed. Others, again, suffered from all conceivable ravages of the disease in distant parts of the body—the brain, the visual organs, the heart and lungs, the digestive system, etc. Between the two extremes mentioned all shades of variation were encountered.

LENGTH OF EXISTENCE OF CHRONIC BRIGHT'S DISEASE PRIOR TO OPERATION

One of the most difficult things to determine is the exact date of the beginning of chronic nephritis. Perhaps the only time when this can be done with absolute exactness is when the chronic nephritis is the outcome or the continuation of an acute nephritis occurring either as a primary affection or as a complication of other diseases: influenza, scarlatina, typhoid fever, diphtheria and other general infections in which the kidneys are liable to become involved. Even then our conclusion that the nephritis dates from such an event may not be correct. The patient may have had chronic nephritis prior to the occurrence of the infectious disease, and the acute nephritis supposedly induced by the infection may in reality have been only an acute exacerbation of an already existing nephritis. Uncertainty in this respect pertains even to those cases of nephritis which the history indicates as having originated during a pregnancy.

Subject to the restrictions and limitations just stated, an attempt has been made to determine the probable duration of the chronic nephritis prior to operation in each patient from the length of time that the symptoms have existed. Judged by this admittedly defective standard, the average duration of chronic Bright's disease prior to operation in my 102 cases was four years. That the average duration, as thus estimated, falls far within the real limits is very certain.

In 85 of the 102 patients the period of time prior to operation at which examination of the urine first revealed the presence of chronic Bright's disease could be accurately determined. In these 85 patients the duration of chronic Bright's disease prior to operation, as known from urinalysis averaged 2 years and 11 months.

DATE OF OPERATION

The first of my 102 patients was operated on Nov. 29, 1892; the last on May 31, 1906. Nearly fifteen years have passed since the first operation, and fifteen months have elapsed between the last operation and the date of this report.

PLACE OF OPERATION

One hundred and nine operations were performed on the kidney or kidneys of my 102 patients, 7 of the patients having two kidney operations. The 109 operations were performed in the following places:

My private hospital	40
New York Postgraduate Hospital	37
Home of the patient	15
St. Francis Hospital, New York	14
Galt General Hospital, Galt, Ontario, Canada	1
Dr. H. D. Fry's private hospital, Washington, D. C.	1
Virginia Hospital, Richmond, Va	1

NATURE OF OPERATIONS PERFORMED ON THE KIDNEYS.

	Sittings.	Patients.	Operations.
Decapsulation of both kidneys	1	69	69
Redecapsulation of both kidneys	1	..	4
Decapsulation and fixation of both kidneys	1	17	17
Decapsulation and fixation of both kidneys	2	2	4
Decapsulation of both kidneys and fixation of right kidney	1	4	4
Decapsulation of one kidney and removal of the other	1	2	2
Decapsulation of one kidney and removal of the other	2	1	2
Decapsulation and fixation of right kidney	.	7	7

It will be noted that in 7 cases only one kidney, always the right, was operated on; while in 95 cases both kidneys were submitted to operation. Ninety-two of the 95 bilateral operations were performed at one sitting; in three instances the right and left kidneys were operated on at two separate sittings. Both kidneys of two patients were decapsulated twice, and both kidneys of one patient three times.

ANESTHETIC

The following list shows the number of operations in which each of several anesthetics was employed, alone or in combination:

Nitrous oxid and ether	63
Ether	19
Chloroform	11
Chloroform and ether	4
Chloroform and oxygen	1
Nitrous oxid and chloroform	1
Nitrous oxid, ether and chloroform	1
Nitrous oxid, oxygen, ether and chloroform	1
Nitrous oxid and oxygen	8

I have had the good fortune in the majority of these 109 operations to have at my command the services of specialists and acknowledged experts in the administration of anesthetics, and when such was the case the choice of anesthetic was left with the anesthetist. I can see no good reason, however, why any surgeon should not use in his kidney operations the same anesthetic to which he is accustomed in his operative work generally. To this broad rule there are exceptions, special reasons for the preference of a particular anesthetic being now and then given by the predominance of particular complications, especially those affecting the heart, lungs and vascular system. Under these conditions the choice of anesthetic must be made on generally understood and accepted principles, and it should always be borne in mind that in operations on the kidneys of patients suffering from chronic nephritis the danger is, broadly speaking, greater from the anesthesia than from the operation.

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[1] EDITOR'S NOTE: Dr. Edebohls died Aug. 8, 1908.

ADDITIONAL OPERATIONS

A number of operations additional to the kidney operations were performed by me on a certain proportion of the 102 patients. The additional operations, although many of them were of a severe character, were attended with no mortality. In some instances the kidney and the additional operation or operations were performed at the same sitting; in some the additional operation or operations either antedated or followed operation on the kidneys.

VARIETY OF NEPHRITIS AS ESTABLISHED AT OPERATION

Right and left chronic interstitial	31
Left chronic interstitial, right kidney normal	4
Right chronic interstitial, left kidney normal	1
Right and left chronic diffuse	34
Left chronic diffuse, right kidney normal	3
Right chronic interstitial, left chronic diffuse	6
Right and left chronic parenchymatous	16
Right chronic diffuse, left kidney not operated on	1
Right chronic interstitial, left kidney not operated on	6

The only difficulty in the classification of the variety of nephritis that presented itself was in the cases of three patients whose kidneys were decapsulated for the cure of puerperal convulsions. In these three cases a subacute parenchymatous nephritis was encountered. As there was much evidence, however, both from the condition of the kidneys and in one case from the history of the patient, that the subacute nephritis encountered at operation was but an exacerbation of a previously existing chronic nephritis, these cases have been classified under the head of chronic parenchymatous nephritis.

From the above classification it will be seen that one variety of nephritis may affect one kidney, and a second variety the other kidney of the same individual—right chronic interstitial and left chronic diffuse nephritis having been observed no less than six times.

UNILATERAL NEPHRITIS

Chronic nephritis affecting one kidney only was noted in a strikingly large proportion of the 102 cases. In 8 patients, in whom both kidneys were exposed at operation, one kidney was found healthy and the other diseased, the unilateral chronic nephritis being of the interstitial variety in 5, and of the diffuse variety in 3 cases. Of 7 patients in whom only one kidney was operated on, 4 were completely cured of their former chronic interstitial nephritis and have remained cured for periods of time varying between five and fourteen years; therefore, these 4 patients must either be regarded as having had a healthy kidney on the side not operated on, or, if it be assumed that the second kidney also was diseased at the time of operation, the decapsulation of one of a pair of diseased kidneys must be credited not alone with restoring the health of the kidney operated on, but of that of its fellow kidney as well. I incline to the former of these two explanations as the more probable. In 8 of the 102 cases, therefore, the chronic nephritis was proved beyond a reasonable doubt to be confined to one kidney, and that such was the case in at least 4 other patients the final outcome makes extremely probable. These observations I am compelled to interpret as establishing beyond controversy the fact that chronic nephritis may be encountered as a unilateral affection in a hitherto unsuspected proportion of cases.

RENAL AND PERIRENAL CONDITIONS COMPLICATING THE CHRONIC NEPHRITIS

Polycystic degeneration of left kidney	3
Polycystic degeneration of right kidney	1
Bilateral pyelonephritis, with miliary abscesses	2
Unilateral pyelonephritis, with miliary abscesses	1
Left acute suppurative perinephritis	1
Right chronic perinephritis	5
Right and left chronic perinephritis	14

WOUND HEALING

Of the 205 lumbar incisions made in the 109 operations on these 102 patients, 200 healed by primary union throughout. The failure to obtain primary union in the remaining five incisions was due to the following causes:

One intractable patient infected both wounds by repeatedly tearing off all dressings	2
Breaking down of an acute perinephritis antedating operation	1
Suppuration of a deep perirenal hematoma	1
Slight leakage of urine from surface of kidney	1

In not a single case was the breaking down of the wound the result of infection introduced at operation.

ANALYSIS OF RESULTS

Of the 102 patients 10 died within two weeks following operation, 39 died at periods of time more or less remote from operation, 3 disappeared from observation after leaving the hospital, and 50 are known to be living.

OPERATIVE MORTALITY

The operative mortality may be stated as 9.8 per cent. In reality, however, as 7 patients were operated on twice, 109 operations were performed on one or both kidneys. One of these patients died after a second decapsulation. Figured in this way, there were 11 deaths in 109 renal decapsulations for chronic Bright's disease, an operative mortality of 10.1 per cent. In round numbers, therefore, my operative mortality was 10 per cent.

This 10 per cent. mortality is fairly attributable to the disease itself and to its complications rather than to the operation. Bilateral renal decapsulation could be performed by an expert in renal surgery on 100 perfectly healthy human beings without losing a single life. In judging my own mortality, the fact must be taken into consideration that for one reason or another I accepted for operation cases in which the fatal outcome was almost a foregone conclusion. Patients, as well as their physicians (the two sometimes represented in the same person), insisted that they were entitled to the benefit of the doubt, and requested or even demanded operation.

Six of the operative deaths occurred in the first 40, 5 in the last 69 operations. All of the 10 patients who died within fifteen days following operation were males. The average age of the 10 patients was 45 years and 6 months.

The average duration of chronic nephritis prior to operation in these 10 patients, as indicated by the symptoms, was 4 years 11.6 months; as known from urinalysis, 3 years 1.7 months.

Decapsulation of both kidneys at one sitting was performed on each of these 10 patients.

Of the 10 patients, 7 suffered from chronic interstitial nephritis, 2 from chronic diffuse nephritis, and one from chronic parenchymatous nephritis, the disease in every instance being bilateral.

The cause of death was acute dilatation of the heart in 4 cases, uremia in 3, cerebral hemorrhage and uremia in 1, acute dilatation of the heart and edema of the lungs in 1, and acute lobar pneumonia in 1.

LATER DEATHS

Thirty-nine patients died at periods of time more or less remote from operation and from causes in no wise connected with the operation; of these 26 were males and 13 females.

The average age of the 39 patients at the time of operation was 41 years and 10 months.

The average duration of chronic nephritis prior to operation in these 39 patients, as indicated by the symptoms, was 4 years 7.3 months; as known by urinalysis, 2 years 7 months.

Decapsulation of both kidneys was performed on 24 of these patients; decapsulation and fixation of both kidneys on 2; decapsulation of both kidneys with fixation of the right on 1; decapsulation and fixation of the right kidney on 1; decapsulation of the right kidney and removal of the left on 1.

Of the 39 patients, 17 suffered from right and left chronic interstitial nephritis; 1 from right chronic interstitial nephritis; 3 from right chronic interstitial and left chronic diffuse nephritis; 8 from right and left chronic diffuse nephritis; 2 from left chronic diffuse nephritis; 1 from right chronic diffuse nephritis, and 7 from right and left chronic parenchymatous nephritis.

Wound healing was by primary union throughout in each of the 77 incisions made on these 39 patients.

Of the 39 patients, 1 died as the result of abdominal hysterectomy eight years after her kidney operation; 1 died of an operation for ruptured tubal pregnancy one year after operation on her kidneys; 1 died of septic pneumonia due to suppurative coxitis; 1 died of chronic pleuropneumonia; 1 died of gangrene of the tonsils and palate following grip; 1 died of cerebral embolism in the course of grip; 1 died of heart failure and uremia in the course of grip; 3 died of cerebral hemorrhage; 1 died of suppurative pyelonephritis; 4 died of edema of the lungs; 1 died of endocarditis; 2 died of valvular disease of the heart; 4 died of acute dilatation of the heart; 1 died of diabetic gangrene of the lower extremities, and 16 died of uremia.

Of these 39 later deaths, 10 were due to causes that stood in no direct relation to chronic nephritis—2, for instance, died of diabetes. Three other patients succumbed to grip. Including these last 3 cases, 29 of the 39 later deaths may fairly be ascribed to chronic nephritis and to its sequelæ and complications.

The longest period of time between operation and death was eight years; the shortest, fifteen days. The average duration of life after operation was 1 year 4 months and 20 days.

In these 39 patients, 11 received no benefit from the operation; in 1, the possible benefit from operation was prevented by suppurative coxitis; the complications of the advanced stages of chronic Bright's disease nullified the benefits of operation in the remaining 10.

Four experienced slight and temporary improvement only. A peculiar feature of this temporary improvement consisted in the fact that the patient's general health and well-being were decidedly improved, so much so that three of the four who were bedridden for months preceding operation were able to return to work and to remain at work until within a very short time before death. This improvement in general health, however, was not accompanied by any improvement in the condition of the kidneys. Albumin and casts continued in the same or even greater abundance than before operation. The daily output of urea, however, was always greater than before operation, and the consequent lessening of uremia probably explains the improvement in general health and well-being. In other words, the functional activity of the kidneys was temporarily improved by decapsulation, although the fatal organic changes continued unchecked.

Eight patients experienced moderate improvement, the average duration of such improvement amounting to 1 year and 10 months.

Sixteen patients experienced decided improvement, lasting in 3 cases until death from causes other than chronic nephritis. The average duration of decided improvement for these 16 cases was 1 year and 2 months.

THE SURVIVORS

There are 53 survivors. The youngest was 4 years and 7 months, and the oldest was 67 years of age at the time of operation. The average age of the 53 survivors at the time of operation was 38 years and 11 months. An average period of fully five years for each of the survivors has elapsed since operation, making the average age of the survivors at the present time (September, 1907) 43 years and 11 months.

The average duration of chronic nephritis in the 53 survivors, as judged from the history and symptoms, was 3 years 6.9 months. The average period before operation at which albumin and casts were first discovered in the urine was 3 years 1.2 months.

The following operations were performed on the 53 survivors:

Decapsulation of both kidneys	25
Decapsulation and fixation of both kidneys	17
Decapsulation of both kidneys and fixation of right kidney	3
Decapsulation and fixation of right kidney	6
Decapsulation of right kidney and left nephrectomy	2

The 53 survivors had, and a number of them still have, the following varieties of nephritis:

Right and left chronic interstitial	7
Left chronic interstitial, right kidney normal	4
Right and left chronic diffuse	24
Left chronic diffuse, right kidney normal	1
Left chronic diffuse, right chronic interstitial	3
Right and left chronic parenchymatous	8
Right chronic interstitial, left kidney not operated on	6

The first of the 53 was operated on 14 years and 10 months ago; and the last, 1 year and 3 months ago. The average length of time since operation is a little over five years for each.

The histories of these 53 patients have been followed in all but three instances since the time of operation. In the three cases alluded to the final result is unknown. The life history of each of the remaining 50 has been obtained and recorded, and the final results to date of the 53 patients may be stated in a general way as follows:

Final result unknown	3
Unimproved, or but little improved	6
Improved	11
Cured	33

Before proceeding to an analysis of this list, it is but fair to state that the results are in reality a little better than indicated by the above figures. Thus, of 2 patients who died after operations performed by other surgeons one year and eight years respectively, following renal decapsulation, there is reason to believe that one was cured, while the other was certainly improved. Both of these patients now figure in the list of later deaths, instead of appearing among the survivors. There is also very little doubt in my mind that the number of cured patients will in the near future be increased by a few accessions from those now classed as improved.

Of the 6 survivors recorded as unimproved, only 1 has really experienced no amelioration of any kind. The other 5 all experienced improvement in either general health or in the urine, or in both. All of the 5, however, are at present in better health than before the operation. In 2 of the 5 an associated pulmonary tuberculosis precludes all hope of further betterment.

Of the 11 cases classed as improved, both the general health and the condition of the urine show steady and progressive improvement, continuous from the date of operation to the present day; 3 of the 11 appear to be on the eve of restoration to complete health, their general condition being good and their urine almost normal.

Finally, 33 patients have been completely cured of their former chronic nephritis as a result of the operation performed on their kidneys. In every case the urine has become normal at varying periods of time following the operation and, with the exception of four patients whose urine was found normal for the first time within a few months of this report, has remained normal for a period of six months and upward. These patients, with the four exceptions mentioned, have, therefore, fully met the requirements necessary to entitle them to be regarded as cured. These requirements are: "The urine must remain free from albumin and casts, and the daily urea output be normal, or approximately so, for a period of at least six months following the verification of the disappearance of albumin and casts, and the patient must be free from the symptoms of chronic Bright's disease from which he or she formerly suffered."

It should be added that the vast majority of my patients received no further treatment of any kind for their chronic nephritis after operation; they were not even subjected to the usual restrictions of diet. Whatever benefit they received, therefore, must be ascribed solely to the effects of renal decapsulation.

As already stated, the cure of chronic nephritis is only started by renal decapsulation, and the element of time is essential to obtain the full advantages of the operation. In some patients the health of the kidneys was restored in a few months after operation, while in others the same result was reached only after a period of three years.

To prove that cure or improvement of chronic nephritis after renal decapsulation is due to the operation, it must be shown: First, that cure or improvement follows operation with practical uniformity; second, that improvement obtained by operation is steadily progressive in the majority of cases; third, that a cure once obtained **is, as a** rule, lasting. The first of these conditions has been fulfilled in 81 of the 102 patients; the second in an equal number, 48 of the number progressing steadily up to a certain point, varying with each case, but falling short of complete cure. That some of the 48 will eventually reach complete health I am very confident. This confidence is based on further experience and developments in connection with the "survivors" of my report of 1904. Of the 53 survivors in this report, the 17 who were classed in 1904 as cured are all alive and perfectly well at the present day; while of the 20 patients who were classed as improved, 4 have attained perfect health and now appear in the list of cures.

The third condition, that a cure once obtained must, as a rule, be lasting, has thus far been fulfilled to the extent to be detailed later on by every one of the 33 patients.

Fifteen of the women on the cured list were married at the time of operation; 4 have married since operation; 2 women have given birth to one child each since operation; a third woman has gone through two pregnancies, giving birth to three children. The five children are alive and well. The mothers suffered no kidney disturbance of any kind during pregnancy or since, and are to-day in the enjoyment of perfect health.

SUMMARY OF DATA RELATING TO CURED PATIENTS

These number 33—4 men, 28 women and 1 female child. The youngest cured patient was 4½ years old at the time of operation; the oldest, 67 years. The average age of the cured at the time of operation was 33 years. Five years, on an average, having elapsed since operation, the present average age of the cured is 38 years.

The average duration of chronic nephritis before operation was 2 years and 8 months for each of the 33 patients; comparison with the average duration before operation of 4 years for the total number of 102 patients; 4 years 11.6 months for the 10 patients who died within two weeks following operation; 4 years 7.3 months for the 39 later deaths; and 3 years 6.9 months for the 53 survivors, speaks louder than words for early operation.

The varieties of chronic nephritis of which these 33 patients were cured were as follows:

Right and left interstitial	5
Right interstitial, left kidney not operated on	4
Left interstitial, right kidney normal	4
Right and left diffuse	11
Left diffuse, right kidney normal	1
Right and left parenchymatous	6
Right interstitial, left diffuse	2

In 13 cases, therefore, the chronic nephritis was interstitial; in 12 diffuse; in 6 parenchymatous, and in 2 interstitial on the right side and diffuse on the left.

The shortest time between operation and cure was one month; the longest, 3 years; 18 patients recovered full health in less than a year after operation; 10 required between 1 and 2 years; 4 did not attain full health until between 2 and 3 years after operation; and in one case fully 3 years elapsed between operation and cure. The average time after operation at which full health of the kidneys was reached was 11 months for each of the 33 patients.

Deducting 11 months, the average time after operation at which the urine became normal, from 5 years, the average time since operation, gives an average period of health of 4 years and 1 month thus far gained for each of the 33 patients.

In the 33 cured patients, the average duration of chronic nephritis was 1 year and 10 months for each of the 13 interstitial cases; 3 years and 5 months for the 12 diffuse cases; 1 year and 1 month for the 6 parenchymatous cases; and 2 years for the 2 right interstitial and left diffuse cases.

The average length of time after operation at which the urine became normal was 6 months for the insterstitial cases; 1 year and 2 months for the parenchymatous cases; and 8 months for the right interstitial and left diffuse cases.

SUMMARY OF RESULTS AND REMARKS

The results obtained in my first 102 decapsulations of the kidneys for chronic Bright's disease have been detailed fully, frankly and without reservation.

In the first place, renal decapsulation for chronic Bright's disease may be charged with 10 deaths following the operation. Let us admit for the sake of argument that these 10 deaths were all due to operation—a matter by no means settled, as practically every one of the 10 patients was within a few weeks, if not days, of the natural termination of life by disease. These 10 deaths as a result of operation are fully offset by an equal or larger number of patients snatched from impending death by operation. At least 12 others of my patients, who were considered at death's door when I operated, have had months and years added to their lives by the operation, and a number of the 12 are alive and well to-day. The sum total of life added as a result of operation in these 12 cases very far exceeds the curtailment of life which the operation may have caused in the 10 patients who died soon after, as a result of operation. The added years of life, in addition, were for the greater part years of comparative health, comfort and usefulness, as compared with the days or weeks of suffering which, had operation not been performed, would have been the lot of the 10 unfortunates who died.

To put it another way: Of 22 sufferers from chronic nephritis who came to me for operation, and whose deaths were immediately imminent by virtue of the disease, 12 were saved by operation, while in 10 the attempt to save life failed.

Of the 39 remote deaths none were due to operation. Twenty-nine of the 39 patients ultimately died of chronic nephritis or its complications. Of these only 11 received no appreciable benefit from operation. The worst that can be charged against operation in these 11 cases is that the operation did no good; it certainly did no harm. Eighteen of the 29, as well as the 10 patients who finally died of causes other than chronic nephritis, were all more or less benefited by the operation, the duration of improvement experienced by these 28 patients amounting to a total of more than 33 years.

Of the surviving patients, even the 6 classed by me as unimproved have experienced such marked benefit in general health that, personally, each of the 6 is abundantly satisfied with the results of operation.

Next, of the 11 patients who have all experienced decided improvement in general health and in the condition of the urine as the result of operation, a number appear to be on the high road to complete health, and bid fair later on to augment the list of cures.

Finally we reach the 33 cures of chronic Bright's disease attained as a result of operation. These 33 cures alone would justify all the work that has been done, even if no benefit had accrued to the remainder of my patients. The justification, in my opinion, will still hold good, even if some of the cases now classed as cured should relapse, or in the future become the victims of a new nephritis.

Of the entire 102 patients, therefore, 21 received no benefit from operation, while 81 patients experienced amelioration varying all the way from slight and temporary improvement to complete cure. In 12 cases the operation proved directly life-saving by rescuing the patient from impending death.

In judging the above results, the fact should be borne in mind that the immense majority of my patients came for operation only after all other measures and treatment had failed to arrest the progress of their chronic nephritis. A great number were on the very eve of dissolution, and the desperate character of my series of 102 cases will probably not be duplicated by any surgeon in the future. Better results than those recorded here will undoubtedly be obtained as soon as sufferers from chronic nephritis seek relief and cure in early operation.

In the meanwhile, these results, 33 cures among 99 patients whose ultimate fate is known—obtained in a hitherto incurable malady, and one which, according to the United States census of 1900, ranks sixth in the list of diseases causing death, not alone justify the surgical treatment of chronic Bright's disease, but establish that treatment as at present the main if not the only hope of a very large class of sufferers.

For the present, in view of the helplessness of medicine in the presence of established chronic Bright's disease, the advance in treatment represented by renal decapsulation should be welcomed by every physician called upon to treat chronic nephritis. Nor is the physician justified in taking the position that only after all other measures have failed will he resort to decapsulation. That is giving neither the operation nor his patient a fair chance, to which the latter at least is certainly entitled. For even at present I am able to affirm, as the result of experience, that renal decapsulation applied early in the course of a chronic nephritis, and in the absence of complications, is almost free from danger in expert hands, and is almost a certain cure.

That physicians are not unwilling on occasion to try in their own persons methods of treatment which promise more than those heretofore known to medical science, seems indicated by the fact that of my 102 patients no less than 14 were physicians, and 5 others were members of the immediate families of physicians. One physician and his wife were both operated on during the same afternoon.

Much of what has been said in this paper rests upon the assumption that the curability of chronic Bright's disease by decapsulation of the kidneys is a proved fact. Regarding it as such, I feel that my expectation and hopes of years ago have been in large measure realized, and that the promise of a yet fuller realization appears bright.

12 West Fiftieth Street.

The Dark Ages of Tuberculosis to End.—I have lived through many of the long, dark years of ignorance, hopelessness and apathy. . . . But I have lived also to see the dawn of the new knowledge, to see the fall of the death rate of tuberculosis, to see hundreds who have been rescued, to see whole communities growing up of men and women whose lives have been saved and who are engaged in saving the lives of others.——Dr. E. L. Trudeau.

THE SUTURE: ITS PLACE IN SURGERY *

HENRY O. MARCY, M.D.

BOSTON

The history of the ligature and the suture is, in a measure, the exponent of the history of surgery. Surgery may also be accepted as a fair exponent of the rise, fall and progress of civilization.

PREHISTORIC SURGERY

Always prominent in the very dim and shadowy past, two of the professions, with which the third is more or less intimately blended, come into bold relief. In the differentiation of duties, even in the tribal relations, there was set apart a liberal representation of the brighter intellects for determining the relation of man to his brother and to that which all men have believed more or less clearly, the possible after-life. The rules of living determined by these men assume more or less formal expression in the codes of laws of the state and the church. The physical needs of mankind became at once apparent, and these were ministered unto, in differentiation from either spiritual or political needs by the so-called medicine-men of the savage tribes and priests and soothsayers of the barbaric ages. The need for the care of wounds and injuries produced a class of those especially trained, who have been denominated surgeons.

GREEK AND ROMAN SURGERY

Homer clearly portrays the active, beneficent service of the military surgeon. The fragmentary history of the Egyptian and Assyrian civilizations clearly teaches the honorable part assigned to his service. Pompeii, although a suburban city, has yielded abundant evidence of the surgeon's art in both war and peace. Pompeiian frescoes portray his service. The instruments which he used are seen to-day in the great museum at Naples in considerable variety. This is as would be expected, since the mental processes act ever in the same accord, and a recognized need stimulates the meeting of the demand.

Roman civilization reached the climax of development in the early centuries of the Christian era, but, as in the case of Egypt, Assyria and Greece, unfortunately, many most important questions in regard to the development of the arts and sciences can at the best be only partially answered, since the storehouses of the most precious knowledge of the Romans were destroyed with the downfall of their civilization. We know, however, that even to-day we may learn much from the civil code and military regulations which dominated Rome's highest development. In both the civil and the military service the surgical profession was honored and the service rendered was of most signal value.

ANCIENT USE OF THE LIGATURE

The ligature played an important part in the armamentarium of Roman surgeons.

Celsus, living in the first century, one of the most remarkable of the Roman surgeons, gives special directions as to the use of sutures in a great variety of surgical affections. In illustration may be cited the penetration of the sac in the umbilical hernia of children with a needle armed with a double thread, the ligation being made on either side by close knots. Celsus described the ligature as of ancient origin and stated that it was used by the Alexandrian school of medicine, with the teachings of which he was apparently familiar.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908. Because of lack of space the article is here abbreviated by the omission of a history of sutures, but the complete article appears in the Transactions of the Section and in the author's reprints.

Galen (131-201 A. D.) tied arteries on living subjects and experimented on animals to show the circulation of the blood. He foreshadowed the discoveries of Harvey and demonstrated by the double ligature of the artery on living animals that the artery contained blood and not air. For a variety of surgical purposes he ligatured arteries in continuity, but not in amputations.

AMBROSE PARÉ

Ambrose Paré was born in 1517. In 1552 he first tied the vessels of the leg in amputation. This brilliant man was then a surgeon in the army at the beginning of his notable career. Like many other notable discoveries, this was born of the inspiration of the moment. A prominent member of his own staff was severely wounded in the leg and Paré writes: "I had to finish the cutting of it off, which I did without applying hot irons."

One is almost tempted to stray from the subject of this paper in his sympathy for the great innovator, who, like many since his day, struggled against conservatism. It would be interesting to outline the battle royal which Paré fought to establish the principle and practice of the ligation of arteries in amputations.

Paré's one monumental contribution to surgery, his great book, lies open before me as I write. My copy, bearing date 1582, is in its original binding of calf, once held together by clasps. On the fly-leaf are the autographs of distinguished previous owners, and although in good preservation, its pages bear evidence of frequent use.

Paré's later life was crowned with many honors. He writes:

> God is my witness, and men are not ignorant of it, that I have labored more than forty years to throw light on the art of surgery and bring it to perfection, and in this labor I have striven so hard to attain my end that the ancients have nought to excel us save the discovery of first principles; and posterity will not be able to surpass us (be it said without offense) save by some additions such as are easily made to things already discovered.

PARÉ'S INTRODUCTION OF THE LIGATURE FOR ARTERIES

The fact that Paré did succeed in establishing on a firm basis the innovation of tying wounded arteries is far more noteworthy than would at first appear, since it also changed the mode of dressing of the wound. At this period gunshot wounds were treated with boiling oil, in the belief that the gunpowder in some way acted as a poison in the wound. It will be noted that the cautery effect of the boiling oil, although producing most agonizing suffering, caused the primary sterilization of the wound, and that there was an abundant leucocytic proliferation beneath the necrosed layer, which in a measure prevented subsequent infection.

VESALIUS AND HEISTER

Vesalius in the sixteenth century mentioned the ligature as a relic of the past, greatly underestimated in value because of the lack of anatomical knowledge.

Heister's Surgery was the text-book of continental Europe for two generations, and its study to-day will richly reward any student who would be the thorough master of his profession. In his last edition, 1739, he writes:

> The necessary apparatus for dressings seems by no means complete without Ligatures; Chords, Bonds and Strings, and these of different sorts, some fine, others coarse, strong, made either of flax, or hemp, or cloth, or silk, or horsehair, according to the nature of the disorder; for these things are almost constantly required.

HUNTER'S LIGATION OF EXTERNAL CAROTID

In 1785 John Hunter tied the external carotid in a buck. The antler of the side became cold, and he debated of its future existence; later it was warm and well nourished. Two weeks after, he killed the animal and found the ligature in place and the artery occluded, but the collateral circulation was increased so that the nutrition of the antler was restored. This was the foundation study which led to his advocacy and practice of the ligation of arteries for the cure of aneurism.

Dr. Wright Post of New York, one of Hunter's students, in 1796 performed Hunter's operation, the ligation of the femoral artery in aneurism, and in 1813 he successfully ligated the external iliac, the second operation of its kind to be performed.

HAIRE'S MODIFICATION OF THE LIGATION

Mr. Haire of England,[1] in 1786, introduced the method of cutting off both ends of the ligature applied to the artery close to the knot and letting the wound heal over it. This method was practiced by a considerable number of surgeons, but very naturally fell into disuse, because it was decidedly the exception to have primary union, since the wounds, as a rule, became infected.

LIGATURE MATERIALS

Ligature materials, linen and hemp, were known and used for a great many purposes at a very remote period, antedating written history. Flax ready prepared for spinning has been found with the remains of the cave-dwellers of Europe. Silk was used in China for centuries before the Christian era. The beautiful fabrics of the far East were in use in Rome during the first century and were often sold for an equal weight in gold. Cotton was cultivated in Egypt during the period of its early civilization. The surgeons of the early periods were furnished with a variety of material for ligature almost equal to the present.

In the Odyssey the strings of the old Greek harp are described as made from the twisted intestines of sheep. It is extremely probable that these strings were manufactured as the catgut of to-day is, since it is the connective tissue sheath of the intestine only which could have furnished suitable material. The ancient Egyptian harp is said to have been strung with a similar material. The celebrated Arabian writer Rhazes, who practiced surgery in Bagdad A. D. 900, described the stitching of wounds of the abdomen with the strings of the harp, and Albucasis describes the stitching together of wounds of the bowel with a fine thread made from the twisted intestine of an animal.

INTRODUCTION OF ANIMAL LIGATURES

More recently, the animal ligature was introduced by Dr. Physick of Philadelphia, in the year 1806, but no account of his experience was published until 1816. The history of its uses is a most interesting chapter. The surgeons for a generation in America, and to a less degree in England as well, ligated arteries extensively with absorbable material.

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[1] Hennen, John: Principles of Military Surgery, ed. 2, p. 181.

HORATIO GATES JAMESON

The profession is indebted to the really monumental scientific studies of Dr. Horatio Gates Jameson of Baltimore, one of the leading surgeons of the period.[2] His experimental studies were in a very large measure duplicated by Lord Lister a generation later. There is abundant evidence that Dr. Jameson was a singularly clean surgeon. His basic studies were made on various animals, and nearly all the wounds were evidently uninfected, since primary union was decidedly the rule. I have been at large pains to follow in detail the history of this extraordinary man as a surgeon, and I judge from his reports that it was the exception that suppuration ensued in his operative wounds made in fairly well vitalized structures.

Few men did so much to give credit to early American surgery as Dr. Jameson, who, from 1820 to 1840, carried the fame of Baltimore as a seat of medical and surgical research to all parts of the civilized world. This truly great surgeon was born in York, Pa., in the year 1778. His father, David Jameson, also a physician, had a most interesting and adventurous career. A native of Scotland and graduated doctor of medicine at the University of Edinburgh, he emigrated to Charleston, S. C., in 1740. He was accompanied on the voyage by Dr. Hugh Mercer, who settled at Fredericksburg, Va., and became a brigadier-general in the Continental army, losing his life, as is well known, at the battle of Princeton, in 1777.

Dr. David Jameson removed from Charleston and settled at York, Pa. He died at Shippensburg, in the same state, about the close of the century. He was a lieutenant-colonel in the French and Indian war and was badly wounded during that period in an engagement with the Indians. During the revolution he was colonel of the third battalion of York County Association. In 1842 the son gave a charming description of his home at York, in a Baltimore periodical; also an account of his father's voyage across the Atlantic, describing, among its hardships, the short allowance of musty bread and foul water and the rusty salt beef doled out, yet consumed by crew and passengers with avidity.

Dr. H. G. Jameson studied medicine under his father and began practice in 1795, at the early age of seventeen.

During the war of 1812 he held the office of surgeon to the United States troops at Baltimore, for which service his widow received a pension after his death.

He was physician to the city jail for several years; from 1814 to 1835 he was surgeon to Baltimore hospital, and from 1821 to 1835 he was consulting physician to the board of health.

In 1830, on special invitation, he visited Europe, sailing by the packet running from Baltimore to Germany, and read before the medical section of the Society of German Naturalists and Physicians, which met in September of that year at Hamburg, a paper on the "Noncontagiousness of Yellow Fever." He was the only American delegate on this occasion and the first American to attend these meetings, and he felt deeply the honor of his position. His paper was read in translation at the meeting and was published on his return, in his journal. During his brief stay of two months in Europe he traveled through various European countries, staying longest at Copenhagen, to the American representative at which city he bore dispatches from our government at Washington.

In 1835, while on his return from Texas, where he had purchased lands, he received and accepted an offer of a chair in and the presidency of the Ohio Medical College, at Cincinnati. His colleagues there were Drs. Gross, Drake, Rivers and J. B. Rogers, the last his late colleague at Baltimore. He removed thither with his family in October, 1835, and lectured during the ensuing session.

During a visit to New York he was taken suddenly ill, and died, Aug. 24, 1855, aged 76 years. His remains were brought back to Baltimore cemetery, corner of Gay street and Boundary avenue.

NEGLECT OF ANIMAL LIGATURES

I have gone to some pains in tracing the history of the ligature, since, in the light of modern knowledge, it teaches the reasons for success or failure in the treatment of wounds, all dependent on the then unknown factor of infection. This, in a general way, was in a measure understood; but the key which seemed at one time to lead to success appeared again to be utterly lost in the learned dissertations on inflammation—a condition which seemed inevitable in the repair processes of wounds. Thus it came to pass that the animal ligature was discarded and forgotten.

LORD LISTER

Based on the monumental labors of Lord Lister, surgery has been brought to its present perfection by a contribution of scientific workers. We all point with pride equal to that of Paré and sometimes wonder what may be left to our successors for contribution of equal value. Lord Lister attained the end sought, but by means which now seem in large measure superfluous. He made and maintained a wound in an aseptic state, and in very large degree taught us the reason why. He was slow to discard the use of drainage, which seemed to him essential, and for a long period his sutures, although of catgut, were interrupted, taken through and through the parts to be united, but always to include the skin.

When I was his pupil in 1870 he pointed out to us—an observation which I am sure was original with him—the active cell proliferation in the deeper layer of the skin. He often showed us that the imbedded suture at this point was frequently nearly divided, when the portion in the deeper part of the wound showed little if any change. He also called attention to the developing colony of bacteria which usually penetrated only the superficial layers of the skin, the stitch abscess. In this way he in a measure foreshadowed the later contributions of great value which demonstrated that bacteria of certain varieties were normally present in the layers of the skin, especially in the sweat ducts and hair follicles. Here they undoubtedly play an important physiologic rôle in the proliferation and destruction of the dying exfoliating cells—an instance of rare temerity on the part of Nature, who harnesses into her service a most potent enemy, which in other relations may cause death. Here the *Micrococcus pyogenes albus* plays a rôle of importance, yet as a possible active enemy, equaled only in danger by that of the *Bacillus coli communis* transposed from within its normal habitat in the intestine.

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[2] A Brief Sketch of One of Baltimore's Greatest Men, Horatio Gates Jameson, M.D.: His Most Valuable Contribution to Surgery: The Occlusion of Arteries by the Buried Animal Ligature. Henry O. Marcy, M.D., Trans. Southern Surgical and Gynecological Assn., 1906.

REASONS FOR NEGLECT OF ANIMAL SUTURES

When we recall the multiplied experiences of a very considerable number of America's most distinguished surgeons with the use of the animal ligature, and the frequent publications on the subject extending over a quarter of a century and incorporated into a number of prominent text-books on the surgery of the time, we are confronted with two important queries.

First, how could this method of the ligation of the arteries so soon have fallen into disuse?

Second, how was it possible that a subsequent generation could have been so absolutely ignorant of such a wide experience published and republished in both America and England?

The first question is easy to answer. Wound infection was the rule, and when infection occurred the selection of ligature material was a choice of evils. The silk ligature, with one end cut off and the other to serve as a drain, was generally adopted. To Lord Lister is undoubtedly due the honor of having reintroduced the animal ligature into surgical practice—on an entirely different basis, however, since he was the first to show that wound inflammations were caused by the introduction of something from without which acted as a ferment, and that that something consisted of very minute organisms of a low order, which reproduced and which were the cause of the so-called wound inflammations. This having been made clear and the demonstration ample that necrosed tissues in subcutaneous wounds were absorbed, it followed as a sequence that animal tissues applied about an artery in the form of a ligature might also be carefully disposed of by absorption, and hence we find, under a new stimulus and with a new reason, Lord Lister paralleled the experimental studies of Dr. Jameson, of which he was ignorant.

LISTER'S EARLY TEACHINGS

Early in 1870 I had the good fortune to become the first American pupil in Edinburgh of Mr. Lister, afterward Lord Lister. He was then comparatively unknown. I sought to profit by the instruction of the famous Professor Syme and thus learned that Mr. Lister had married the daughter of Professor Syme. This distinguished man died during my residence in Edinburgh. I was warned not to make the acquaintance of Mr. Lister, since he was considered an enthusiastic believer in a surgical heresy. Men who should have been his best supporters in the university would not recognize him.

I thought I knew surgery. I had had a large experience as a surgeon and medical director in the Civil War. For some years I had been a postgraduate student and instructor in Harvard Medical College. For the previous year I had been a student in Berlin under the celebrated professors Virchow, Martin and Langenbeck. Here was a comparatively young, obscure Scotchman, who demonstrated to me daily that severe wounds might be made with impunity in almost any part of the body, and compound fractures recover without inflammation with the same safety as simple ones. I shall never forget my first morning with Mr. Lister in the old Edinburgh infirmary, where he showed me three resections of the elbow joint in children, in which the repair processes were going on without edema, pain or fever. Arteries were ligated with seeming impunity, and even the knee joint, hitherto the dread of all surgeons, was opened with safety. Fortunately my knowledge of surgery was sufficient to teach me the value of these new demonstrations, and with notebook in hand I followed the master with daily increasing admiration and profit.

It is true that we now look on many of Mr. Lister's early procedures as cumbersome and unnecessary. Results, however, furnish the criterion of success. In these he was not wanting. The carbolic acid incorporated in the lac-plaster as a wound dressing was soon discarded. The carbolic spray, for good reason, was discontinued. The spray came near being the ruin of Mr. Lister's reputation and wrecking of the whole system of antiseptic surgery. This was made the most of by Mr. Lister's personal opponents, who would see in it the only contribution that Mr. Lister had attempted to make to surgery, purposely ignoring the scientific principles on which he sought to base the new teaching and that the spray was simply recognized as a means to the end of preventing infection during the operation.

"Away with the spray," said his rivals in London, who looked on his advent there only with a jealous eye. "Fort mit dem Spray," reëchoed his German adversaries, who at the time accepted grudgingly any contribution from France or England. American critics took up the refrain, and the new teaching can hardly be said to have been established in a general way until after the International Medical Congress in London in 1881. Here was fought the battle royal, an occasion which those of us who participated will never forget.

Drainage and abundant absorbable dressings lasted longer and are still in use by some surgeons, even in aseptic wounds. They may be accepted as a *sine qua non* in infected wounds. One reason why Mr. Lister for so long a period insisted on drainage and absorbable dressings was his fear that the serous effusion was too abundant to be absorbed or become vitalized. A second and perhaps equally important reason was that he closed his wounds by interrupted sutures and looked on the possibility of an infection traversing the line of the suture. It does not appear to have occurred to him at this early period that sutures could safely be buried even in well-vitalized structures.

AUTHOR'S EARLY USE OF BURIED ANIMAL SUTURES

On Feb. 19, 1871, in consultation with Dr. A. P. Clarke of Cambridge, I operated on a patient, Mrs. M., aged 50, who had suffered for years from hernia. Five days previous she was seized with severe pain in the inguinal region, accompanied by vomiting. Long continued and careful taxis had failed to reduce the hernia, and for twenty-four hours the vomiting had been stercoraceous, and the patient seemed *in extremis*. The hernia tumor was the size of an egg, protruding from the external inguinal ring. A careful dissection exposed the sac, which was closely adherent to the surrounding parts. The constriction was at the internal ring and was divided with some difficulty. The hernial contents were reduced, and the sac, unopened, was returned within the ring. Two stitches of medium-sized catgut were taken directly through the deeper structures about the ring. The wound was dressed antiseptically, and from Dr. Clark's notes, taken at the time, I find that the patient steadily progressed without pain or accident and was convalescent in three weeks. The result was a radical cure of the hernia, although the canal was not closed for this purpose. The opening into the abdomen was so large that we feared the escape of the contents, especially as the patient was afflicted with a severe chronic bronchitis. I only expected the sutures to hold the parts *in situ* temporarily. Mrs. M. died six years after the operation, and was troubled with the cough during the entire period, but the canal remained firmly closed at her death. She did not wear a truss after the operation.

On March 10, 1871, assisted by Dr. W. W. Wellington of Cambridge, I operated on Mrs. L., aged 45, suffering with strangulated hernia, usually retained by a truss. It was on the left side and direct inguinal in variety. The sac was returned unopened; the canal was closed by three large sized catgut sutures, taken deeply through the pillars of the ring, and the wound carefully dressed antiseptically with Lister's carbolized lac-plaster. When examined the following June, the cicatrix was linear, and a firm deposit of new tissue could be felt, marking the site of the buried sutures. I reported these cases at the meeting of the County Medical Society, Oct. 11, 1871, and published[7] a paper discussing the subject, Nov. 16, 1871. In closing I remarked:

> As far as my observation has extended, this is a new use of the carbolized catgut ligature and suggests a still wider field of application. No method of operation for the radical cure of hernia appears more feasible, is probably attended with less danger, and at the same time affords a means of closing and strengthening the weakened ring, which is so desirable, and yet, with all the ingenious devices of surgery, is so difficult to obtain.

Although I continued to operate from time to time, as occasion demanded, in cases of strangulated hernia, and in every case closed the ring with buried animal sutures, it was not until Feb. 4, 1878, that I deliberately attempted the radical cure of a reducible hernia. This patient I had some time previously (Dec. 2, 1877) cured of a large, old irreducible omental hernia of the right side, which had become complicated by the descent of a strangulated loop of intestine. In this instance I dissected the sac and carefully closed the ring and structures of the abdominal wall. A truss retained imperfectly a large direct inguinal hernia on the left side, for which Mrs. W. besought cure, although she was 70 years of age. In the operation I was assisted by Dr. A. L. Norris of Cambridge, who cheerfully gave his approval. In this I was the more fortunate, since until that time my advocacy of operative measures for the cure of hernia in non-strangulated cases had been considered unjustifiable.

The above described experiences paved the way for my application of buried sutures in a great variety of wounds. They were, however, based on a long series of experimental studies in animals, in which I was ably assisted by the late surgeon general, Dr. A. P. Holt, and my laboratory assistant, Dr. S. N. Nelson. These researches were from time to time published in extenso.[8] It was clearly demonstrated that the catgut was first surrounded by leucocytes, invaded by them, and that, *pari passu*, new connective tissue cells in large degree replaced the suture material, leaving a living band of well vitalized structure, which in a measure reinforced the coapted parts. Later these demonstrations and deductions were amply verified by the splendid research work of Ballance and Edwards.

INFECTION FROM CATGUT SUTURE

Up to this time I had been singularly fortunate in not having a single case of wound infection traceable to the catgut suture material. I had personally prepared it after the formula advised by Mr. Lister.

In the pressure of a large general hospital practice my supply of catgut gave out. I obtained catgut from a reputable English house and at once had a series of wound infections of a most serious character. In three major operations, one patient died from infection and the others made a slow and imperfect recovery. Bacteriologic study showed that this catgut contained staphylococci. The fruitage of this unfortunate experience caused me to determine that catgut was in itself naturally defective as a suture material and not easy of sterilization. I found that the catgut of commerce was manufactured, briefly, as follows:

The small intestine of the sheep is permitted to undergo a process of decomposition until the more resisting connective tissue sheath can be separated as a firm, white fibrous cylinder, not unlike the sausage-skin of the butcher. This connective tissue sheath is necessarily infected by bacteria in considerable variety. It is split longitudinally into different widths, stretched, twisted and dried.

The violin-string of commerce, as every one knows, in its dry state is remarkably strong; and yet there is a yielding of its fiber sufficient to demand repeated increased tension, or tuning, in order to secure the requisite musical tone. A study of the histologic elements of the connective tissue sheath of the intestine in animals makes it perfectly apparent why catgut necessarily falls far short of the ideal material for sutures. The ultimate fibers are disposed in oblique rather than parallel lines, obviously to permit the easy distension of the viscus. Otherwise the intestinal canal could not easily accomodate itself to its contents. The longitudinal splitting of the sheath of the intestine necessarily cuts these fibers at an angle, leaving a resulting product not unlike that produced by the dividing of a very delicate silk gauze on the bias. Any attempt to twist an oblique section of silk gauze into a cord results in a weak and most unsatisfactory product. The difference between the twisted silk fabric and the twisted catgut lies in the fact that the cement substance, collagen, holds the connective tissue fibers in a much closer union. This, however, is subject to an easy absorption of water and gives in the undried ribbon of the intestinal sheath a soft, flat, slippery, elastic product unsuited to any constriction purposes. Immerse catgut for a short period in any watery solution and note its changes. It first becomes swollen, and this is the reason why the catgut suture is threaded through the needle with difficulty. After a long immersion it can be untwisted, leaving as result the more or less softened, flattened band. This is why the knot of a catgut ligature is untrustworthy. The fault is inherent in the material, not in the surgeon. As a crucial experiment, select a beautiful coil of catgut, use it as a fish-line and note the results. Then remember that the buried suture material is immersed in the fluids of the body and must of necessity undergo a process of maceration.

The experience of these many years has shown that although catgut can unquestionably be sterilized, the process is by no means an easy or satisfactory one. The cement substances holding the connective tissue fibers is necessarily damaged, first in the process of separation of the connective-tissue sheath from the other components of the intestine. This is still further damaged, as well as the fibers themselves, by nearly every process in use for sterilization. Influenced by these studies, I at once instituted an active search for better suture material. I then for the first time discovered the remarkable facts already narrated at some length, and found, to my astonishment, that for a generation animal ligatures, introduced by Dr. Physick, had been extensively used in America, all of which experience had been forgotten and lost. Of the very considerable variety of material used for ligatures it was clearly apparent that the tendons of animals were anatomically the best, since the fibers were parallel and they could be prepared with less injury to the cement substance in the ligation of arteries and had been used for the ligation of the pedicle of ovarian tumors by Dr. Bellenger of South Carolina in 1830 and later by Dr. Eve of Nashville, Tenn.

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[7] A New Use of Carbolized Catgut Sutures, Boston Med. and Surg. Jour., viii, 316.

[8] Radical Cure of Hernia by the Antiseptic Use of the Carbolized Catgut Ligature, Tr. A. M. A., 1878, p. 295; Animal Ligatures. Ann. Anat. and Surg., 1881, 252; The Animal Ligature. New England Med. Month., June 15, 1883, 387; Surgical Advantages of the Buried Animal Suture, The Journal A. M. A., July 21, 1888, xi, 71; The Animal Suture; Its Place in Surgery, Am. Assn. Obst. and Gynec., 1889.

SEARCH FOR SUITABLE SUTURE MATERIAL

I found nothing suitable in the tissues of domestic animals; although a comparatively good ligature material was obtained from the tendons of the ox, it was rare to find fibers fitted for sutures. I knew that the Indian women of the northwest used tendons in place of thread for the sewing of their skins.

In the tents of the Dakotas I found willing teachers. The fascia lata of the buffalo was used for suture material, and this failing, that taken from the moose. From this source I obtained a fairly satisfactory product. The hind leg of the moose also furnished a fairly good material. The tendons from the crane and ostrich are of ample length. I obtained tendons from the tail of the whale four feet long, and large and strong enough to serve as ropes.

The peculiarity, however, of all these tendons is that the fibers interlace, an extremely wise provision for Nature's use, but not suited to the manufacture of fine thread. Dr. Simmons of South Carolina sent me tendons from the tail of the fox squirrel; and, for the first time, I learned that in this animal the disposition of the psoas muscle is different from that of any other animal I had then examined, in that each fasciculus of the muscle has its own separate tendon extending to the very extremity of the tail. In the squirrel they are extremely beautiful, not much larger than coarse hairs, but only six or seven inches long. My desire now was for larger squirrels. My late friend, Dr. Hunter McGuire of Richmond, furnished me the opossum for dissection. Here I found the same anatomical distribution as in the squirrel, but the tendons were still too short to serve for most suture material, although beautifully fine and even. The books on comparative anatomy were singularly oblivious on the peculiar anatomic distribution of the tendinous structures of the tails of animals, but at last I thought that I had found the key: Since the opossum was a marsupial, it was extremely probable that the construction of the tails of this entire group would be similar

At this time I had under care a retired Australian merchant, from whom I sought instruction. His playful reply was that he knew that the tails of these animals made excellent soup, but as a personal favor he would have the subject investigated and have a report made me In due time the answer came in a considerable bundle of tendons from the tail of the wallaby, a species of small kangaroo. The problem at last seemed settled, and I have never since received finer specimens.

There is a considerable difference in the number, but each tail contains usually from twenty to thirty tendons. The smaller varieties of the animal furnish tendons in sizes of considerable variety, and but few of them too large for use. The anatomic disposition remains the same in the larger species, and specimens from these animals are not seldom three feet in length and strong enough to draw a carriage. Although there are few interlacing fibers in these tendons, and although when split with care they furnish much excellent suture material, they are never quite so even, sound, smooth or strong as whole tendons.

Their method of preservation is of importance. The tendons must be taken from freshly killed animals, kept straight, quickly dried and kept dry in shipment. As most surgeons know, the ultimate fibers of a tendon are parallel, overspacing each other in a uniform manner, are held together by a cement substance and constitute some of the strongest structures of the body. Carefully selected tendon sutures of equal weight are stronger than silver wire. Such strength, however, is of minor consideration, since great tension on sutures is seldom required.

PRESERVATION OF TENDON SUTURES

The processes of preparation of tendon sutures are not difficult. Good tendon is comparatively aseptic. The tendons are soaked in a one to a thousand corrosive sublimate solution until soft. They are then easily cleaned and separated and dried straight on wet, sterile towels. The further preparation consists in immersion in a weak solution of formaldehyd, about one part to two hundred of sterile water. They are then chromicized in the usual manner and dried. The tendons are then permanently put up in boiled linseed oil, to which has been added one-twentieth part of carbolic acid crystals.

It will be noted that this is not an important departure from the method first recommended by Mr. Lister. I have tried nearly every method advocated from time to time, besides many experimental studies of my own, but nothing has proved so satisfactory. When preserved in alcohol, after a time tendon and catgut become brittle. When kept dry the material depreciates in value and after a time becomes untrustworthy; on the contrary, preserved in the carbolized oil, I think the suture material is rather better after some months. I now have specimens of catgut prepared over thirty years ago which are satisfactory and trustworthy.

In regard to the preparation of catgut there is still much discussion, owing, as I think, in large degree to the inherent defects already referred to.

In order to prevent the putrefactive changes in the separation of the connective-tissue sheath of the intestine, the intestine from freshly killed animals has been utilized. The fibrous coat is separated in a comparatively aseptic state This, of course, when properly done, is of great advantage. The sterilization is also effected before the twisting process takes place. Various antiseptics have been used to be incorporated in the sheath before the twisting, the most valuable of which are the silver salts, especially the iodid, and pyoktanin. It is asserted by the advocates of these processes that there is a manifest advantage from the incorporation of these antiseptics into the suture material to last during the entire period of their usefulness within the tissues. There can be no doubt that these chemicals exercise a marked inhibitory power on the reproduction of bacteria, but it is safe to assume, without argument, that if no bacteria have been introduced into the wound, either by the suture material or by manipulative processes, there are no bacteria to inhibit, and therefore the use of these chemicals in such wounds is of very doubtful value. On the other hand, I do not believe, judging from my own experience, that they are particularly deleterious agents. Chemicals of any sort introduced into wounds can not of themselves be considered advantageous; yet most surgeons irrigate wounds with the sublimate solutions freely and for years it has been my daily habit to soak my tendon sutures in a warm, one to a thousand bichlorid of mercury solution, for a half hour before using. I have thought this advantageous in freeing the tendons from oil, which in a warm solution soon floats on top, while the softening of the sutures causes them to be more supple, and therefore more easy of application.

SUBCUTANEOUS SUTURES

The history of subcutaneous suturing is less satisfactory. It is now well known that the hair follicles and sweat ducts are the abiding places of bacteria and that the superficial epithelial layers of the cuticle are in a way freed for easy desquamation by the ever-present countless numbers of the *Micrococcus pyogenes albus*. Any of these bacteria drawn into the wound by improper suturing are favorably planted for colonization. The surgeon may very safely suture the deeper structures of an aseptic wound, accurately coapting like tissues. This should, of course, be done by continuous sewing and it must be remembered that undue constriction is to be avoided. One of the important maxims ever to be kept in mind, however, is coaptation and not constriction.

Subcutaneous suturing is more difficult. In the first place, the suture should be sufficiently fine and not chromicized, that its absorption may be assured before the normal process of skin growth brings it to the surface. The suture material itself is not exposed to invading bacteria. The stitches must penetrate only the very deeper layer of skin and must be taken from side to side so that each stitch enters exactly opposite the emergence of the preceding one. In this way by gentle traction the skin edges are brought into even coaptation, the last suture is fixed with a half knot and the needle emerges at some distance from the end of the incision. The wound is carefully dried and sealed with iodoform collodion. The ends of the suture are drawn on, cut short and allowed to retract beneath the skin. The iodoform has a distinct inhibitive power on the development of bacteria of the skin. In this way, wound treatment is reduced to its lowest terms of simplicity and safety. No drainage should ever be permitted in aseptic wounds in healthy structures. To this rule even the amputation of the thigh is no exception. An aseptic wound thus made and sealed must remain aseptic, and primary union will follow.

DISADVANTAGES OF METALLIC SUTURES

I have referred to the early use of wire which was reintroduced to the profession by Drs. Sims, Emmet and others. The work of Dr. Sims in establishing the cure of vesicovaginal fistula will ever remain a monumental contribution to surgery. I do not think that I have ever seen a more dextrous operator. He may justly be accredited as the founder of gynesic surgery. He attributed a large degree of his success in plastic surgery to the use of silver wire interrupted sutures. Following the teaching of this distinguished author metallic sutures soon became popular. Their superiority over linen or silk in septic wounds, then the rule, is self-evident. Metallic sutures may be buried and remain indefinitely in the tissues. As a rule, however, they are necessarily a source of irritation, being foreign bodies, and sooner or later must be removed.

PROPERTIES OF SILK SUTURES

Silk or linen suture material is easily made aseptic or antiseptic by heat, impregnation with iodid of silver, pyoktanin, etc. During the indefinite past, the instruction had been to wax well the ligature. The beeswax incorporated into the fiber rendered it not only smooth and less irritating, but, as we now know, lessened the liability of the ligature to become filled with bacteria. One of Mr. Lister's early experiments was the immersion of the silk in a hot bath of melted beeswax to which 10 per cent. of carbolic acid had been added. The superfluous wax was removed by repeated drawing of the suture material through a fold of cloth.

Silk as a buried suture has the advantage of being easily sterilized, and its strength permits the use of very fine thread, it being important to minimize the amount of unabsorbable material buried in the tissues. Silk in itself is an animal product and may be absorbed, but the absorption is such a decided exception that silk may be classed as an unabsorbable material. The evidence is so conclusive as not to admit of argument that silk ligatures, even when small, interrupted and cut close to the knot, are a frequent source of discomfort and suffering.

I have in my possession three loops of silk ligature with the following exceptional history: About three months prior to my operation the patient had had the ovaries and tubes removed by one of the leading New York surgeons. Primary union followed and she was discharged convalescent four weeks later. After a time she was seized with the most frightful torture from vesical irritation. There was an almost constant desire to urinate, never followed by relief. She had been kept almost constantly under the influence of morphin, although still in a state of extreme suffering. Under ether I dilated the urethra and removed three calculi the size of small cherries. Two were free in the bladder, but a third was still attached to the posterior wall of the bladder by a portion of the ligature. Each contained as the nucleus the interrupted silk suture unchanged, with the knot still remaining firm.

ADVANTAGES OF TENDON SUTURES

Although there are surgeons who still use silk as a buried suture, the number is far less than formerly. One of the more prominent New York hospital surgeons told me only recently that nearly all the New York surgeons used kangaroo tendon sutures almost exclusively.

METHOD OF SUTURING

If absorbable sutures are to be used, how may they best be applied? Coaptation and fixation, at rest, of like structures with as little force applied as possible, is the object sought. More suture material than is required for these purposes is detrimental. The suture must be applied with a minimum of devitalization of the tissues which are coapted. The interrupted suture is faulty in that it holds at only the single point of application; and in order to make complete coaptation in large wounds, undue compression, often to the devitalization of the part constricted, must be used. Each stitch necessitates a knot.

The interrupted suture is the legacy of the fathers, and used by them distinctly with the purpose of removal. In order to relieve the tension of the exudation of fluids, a stitch was cut from time to time as thought desirable.

If the wound remains aseptic, primary union will supervene, and the stitches taken through the skin for the purpose of removal have no advantage in being single. Thus taken, the interrupted stitches coaptate far less evenly and securely the included tissues, and require much more time to apply them than do continuous stitches. If the seamstress or the tailor made our clothes in this manner, we should wonder at their bungling methods. The principle is precisely the same with the surgeon; and, even if he has to serve an apprenticeship to the tailor, he should certainly not be less dextrous, since Nature's most precious coat should be most artistically repaired.

Like structures, as far as possible, should be coapted; fascia to fascia, muscle to muscle. Fine continuous running sutures, taken rapidly, accomplish this purpose in a manner so as not to leave pockets for the accumulation of fluids. The accumulations as well as larger tendons applied in many layers, we know, if aseptic, will usually be cared for by Nature's processes, but it is a part of our art to minimize the burden, instead of making the effort to determine how much she can accomplish in this direction. The over-and-over suture, glovers' stitch, is undoubtedly the one in more common use, but it does not serve the purpose in the coaptation of wound structures nearly as well as the parallel stitch, in which the needle is inserted deep within the tissues parallel to the long axis of the wound, and each succeeding stitch is made by introducing the needle exactly opposite the emergence of the preceding one. In this way, on tension, coaptation is evenly secured, and the suture material crosses the incision at right angles and by this means the suture is completely buried in healthy, closely coaptated structures. Sometimes, for example, in the reconstruction of the inguinal canal, the closure of the peritoneum and the fascia, there is a decided advantage in sewing a double line of sutures, just as the shoemaker sews leather, the needle with eye near the point serving as a shuttle to carry the suture. It must, however, be remembered that much force is inadvisable, since coaptation, and not constriction, is the purpose.

In sewing, the needle is of importance as well as the suture, and the profession is greatly indebted to Hagadorn for his valuable addition to our armamentarium in this direction. The medium sizes of fully curved needles serve best, since they can usually be used by the fingers without the aid of forceps.

The continuous suture requires but a single knot, and is less liable to cause undue constriction than the interrupted suture, since a compensation occurs, equalizing the force applied to the entire suture. This I consider of the first importance, since under the influence of earlier teaching, most surgeons still use too much force. Injury and devitalization of the tissues is the consequence. The extraordinary strength of tendon is in a measure a fault, since its unyielding character admits easily of undue force.

The frequent inquiry is made for larger tendon, "since I must have it very strong." Some time ago one of Europe's most distinguished surgeons operated in my clinic. He would have only braided silk, and in its application broke all his sutures finer than No. 8. Such force must necessarily cause necrosis of all the enclosed structures.

All aseptic wounds closed with buried aseptic tendon sutures will remain aseptic and in well vitalized structures will be followed by primary union. There is no danger of subsequent infection, no expensive and troublesome dressings are required; the anxious forebodings of the surgeon "lest something go wrong with his wound" is avoided; no sutures are to be removed, relieving greatly the dread and anxiety of the patient; safety is greatly enhanced and the period of convalescence is shortened. When the work has been done with care the resultant cicatrix is scarcely visible, a matter of much importance in some portions of the body. Operations hitherto impossible have been rendered feasible by the use of buried absorbable sutures; for example, the reconstruction of the pelvic structures, the closing of rents in the peritoneum, etc. The reconstruction of the obliquity of the inguinal canal for the cure of hernia in the male has become an almost everyday occurrence. It was for this very purpose that I first used the buried animal suture in 1870, and am now in my five hundredth series of cases with over 90 per cent. of resultant cures. My operation under various names is now practiced in every part of the civilized world, for the cure of the female vesicovaginal and rectovaginal fistula. The reformed structures may be greatly strengthened by the rejoining of the sundered tissues by means of lines of buried sutures, as contrasted with a single layer of interrupted sutures, for example, the closure of the abdominal wall in laparotomy. Here, in the closure of the wound by a single line of interrupted sutures, about 10 per cent. of the cases result in hernia at the line of the incision. Not seldom an abdominal bandage is ordered to be worn for a year. This I consider worse than useless. When closed in layers, the composite structures are rejoined, and in primary union hernia should be altogether avoided. In over two thousand laparotomies of this character I have had but a single subsequent hernia. Indeed, this is but to be expected, since like structures are joined, and the suture itself is replaced by a living band of connective tissue. To-day the aim of the surgeon is to reconstruct and restore, as far as possible, to the normal pattern, all the healthy tissues remaining for manipulation. To this end a tumor is removed, and the parts completely closed, if possible. Although our mission is necessarily iconoclastic, the service should be rendered with such gentleness of measures that Nature accepts it as her best ally, and a double blessing follows the ministration of the surgeon, not alone in the averting of the threatened danger, but also in the accomplishment of the same with the minimum of pain and suffering, and the maximum of safety. I consider the buried animal suture my best contribution to surgery.

With all the emphasis of an earnest conviction, I commend to every aseptic surgeon familiarization with the methods of wound closure by means of buried absorbable sutures, preferably tendon, and predict not only that they will receive early general adoption, but that, in importance, they will hold the first place in the technic of modern aseptic wound treatment.

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ABSTRACT OF DISCUSSION

Dr. Harvey P. Jack, Canisteo, N. Y.: Kocher, in his latest work, expresses wonder that so many of us continue to use absorbable sutures; he reports 100 cases of aseptic breaking-down of wounds. Catgut, chromicized or formalized, has been the only suture material that I have used since I began the practice of surgery. I will report one more case of aseptic breaking-down of the wound somewhat in detail, that you may be able to give some solution of the cause of breaking-down. The case was one of hysteromyomectomy; the time consumed was only thirty-five to forty-five minutes, and the wound was closed in layers by means of No. 2 chromic catgut, made by one of the best manufacturing houses in the United States. The patient did well for two weeks with normal temperature; then I was summoned to the hospital by the statement that the patient had vomited up her intestines. The wound had broken open and a large part of the small intestines was lying on the abdominal wall. I introduced three layers of sutures, using catgut for the buried sutures and re-enforcing that with silkworm gut. The woman made a perfect recovery and left the hospital three weeks from the time of entrance. The patient was pronouncedly gouty. Whether that had anything to do with the rupture of the catgut I do not know. She was also a neurasthenic, although she had been carefully prepared for the operation and re-enforced in every way. It was, however, with much difficulty that she was properly nourished. But the catgut in the wound was absorbed almost entirely at the end of two weeks. Since that experience I have closed the peritoneum with silk. The suture material was thirty-day catgut.

Dr. D. Tod Gilliam, Columbus: For a good many years I have used absorbable sutures in my abdominal work, and up to six months ago I have used the method of closing the abdominal wound by overlapping the fascia as we do in the hernial cases. I used the chromicized gut and found that I was having a great many cases in which the wound would open—not down to the abdominal cavity, but the outer layers would open. There was no suppuration, but a secretion of serum, and it was due undoubtedly to the irritation of the unabsorbed catgut. I am sorry to say that by reason of this I have been obliged to come back to the old method of the silkworm suture, using the method known as the "figure-of-eight suture." It is not satisfactory to me in all respects, but I have had so much evil result from the chromicized gut that I have been obliged to return to this antique method.

Dr. A. Ernest Gallant, New York: My experience shows that difficulty in the abdominal wound has often been due to my having tied a double knot in the suture material. While absorption of the suture takes place the knot remains as an irritant because of its consistency.

Dr. Henry O. Marcy, Boston: One who will carefully read the paper *in extenso* will find that the criticisms made and many others have been answered. In the case in which the No. 2 thirty-day catgut was used and the tissues broke down, I think that there was something wrong with the repair process and not with the catgut. You all know that two weeks will give carefully coapted structures time to unite. It is a good plan, with a long abdominal wall, to restrain muscular action. I put on a strip or two of adhesive plaster to hold the abdominal wall at rest. Well-selected kangaroo tendon will hold much longer than catgut. It is an important matter to have few knots and to put coapted structures at rest without there being any undue constriction—in other words, to immobilize the wound.

The Economic Cost of Tuberculosis.—The total cost in the United States exceeds $1,100,000,000 per annum. Of this cost about two-fifths, or over $440,000,000 per annum, falls on others than the consumptive. An effort to reduce the mortality by one-fourth would be worth, if necessary, an investment of $5,500,000,000. The erection of isolation hospitals for incurables is probably the most profitable method at present of reducing the cost of tuberculosis.—Prof. Irving Fisher.

Clinical Notes

DIPHTHERITIC CONJUNCTIVITIS

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This paper is not written from the standpoint of the specialist but from that of the general practitioner. It does not present anything new for consideration, but it calls attention to a condition which is more frequent than is commonly supposed.

FREQUENCY

Jacobi of New York says that about the year 1850 diphtheritic conjunctivitis was frequent and destructive. DeSchweinitz declared it rare in America and England and very prevalent in France and Germany. Since that period the number of cases reported has been less. In pre-antitoxin days Graefe reported three cases and three deaths; Gilbert, four; Widimark, one.

In 1904 Kooken reported eighty-one cases of diphtheria, in forty-seven of which diphtheritic conjunctivitis was present. In 1904 Juler also reported one case. In 1906-7 Bruns, having a splendid opportunity in the south, reported thirty-six cases. The *British Medical Journal*, the *Lancet*, and The Journal report no cases for 1906.

McCollom declares that the conjunctiva is rarely attacked by the Klebs-Loeffler bacillus. Of our local men, Dr. A. Barkan reports a small number of cases secondary to nasal diphtheria, also a number of cases of pseudo-diphtheritic conjunctivitis. Dr. W. B. Lewitt reports one "in which there was a distinct membrane at the inner angle of the eyes."

CLASS: PRIMARY OR SECONDARY

The majority of the few cases reported have been secondary, and most commonly secondary to nasal diphtheria.

Stephenson makes note of a number of cases secondary to "bronchial diphtheria," and to "running ears." Barkan writes of a number of "pseudodiphtheritic" cases "in the wake of blennorrhea in the adult and in the new-born.

Lewitt's case "was in connection with a most malignant case in which the larynx, pharynx and nasal cavities were involved. In the mouth the membrane covered a portion of the hard palate."

The secondary cases are from autoinoculation from discharges from other infected areas.

In the *Lancet* of Jan. 4, 1908, Slater reports a case of a girl who was treated for some eye inflammation; a week or two later several white patches were found on the vulva and spread elsewhere on the skin. Antisyphilitic treatment was tried for two years. Then after inoculation of agar and blood serum tubes and experiments on guinea-pigs, the Klebs-Loeffler bacillus was found. Diphtheria antitoxin was given and immediate improvement followed. Slater believes that the patient's eyes were the primary seat of infection.

Primary cases in attendants on patients in tonsillar cases have been reported, the discharge having been coughed by the patient into the eyes of the attendant.

SYMPTOMS

The period of incubation is from twenty-four hours to four days. McCollom says that diphtheria differs from other infectious diseases, as the process of infection is similar to that of a dissecting wound. The organism finds access through an abrasion of the mucous membrane as an infection is produced from the prick of a needle at autopsy or a scratch during dissection.

The eyelids may have been red and inflamed for a few days or a few weeks. They become swollen and very painful. The child cries at every attempt to open his eyes. A membrane, gray or whitish-gray, like that found on the diphtheritic tonsils, forms on the conjunctiva. It may be delicate and thin, thick and strong, or in small patches, according to the severity of the disease. It may or may not extend to the cornea. Iris prolapsis, severe ulceration of the cornea and loss of sight may result. The removal of the membrane leaves a granular bleeding surface. The formation of the membrane may be attended by a seropurulent discharge which may contain the Klebs-Loeffler bacillus, accompanied by the *Bacillus xerosis*, the *Streptococcus pyogenes*, and the *Staphylococcus*. The lids may be glued together and much swollen.

The constitutional disturbance is as great as in other forms of diphtheria. The toxin generated in twenty-four hours is sufficient to produce death in severe cases. The effect on the heart must be constantly borne in mind. Systolic murmurs are frequent. The pulse is of peculiar soft character and if very rapid demands immediate attention; if very slow it predicts fatal results.

The glands of the neck may or may not be enlarged. Sterling writes of one case with a severe adenitis. Stephenson speaks particularly of the preauricular glands being involved. Italian and French writers report cases of diphtheritic conjunctivitis having no membrane, but a granular bleeding surface containing the Klebs-Loeffler bacillus, and yielding to antitoxin.

Diagnosis is easy with the aid of the microscope. The diphtheria bacillus can be distinguished from the pseudo-diphtheria bacillus by its losing its gentian violet more quickly when in alcohol than does the pseudo-diphtheria bacillus. The true diphtheria bacillus gives an acid reaction in neutral bouillon, and the xerosis never does. The injection of diphtheria suspension into guinea-pigs causes constitutional disturbance, while the pseudo-diphtheria causes a swelling only at the point of puncture.

TREATMENT

Before antitoxin days silver solutions, peroxid of hydrogen, borax, boracic acid and camphor washes were used, with great mortality. Recovery, if this took place, required from eighteen to twenty-four days.

Since the administration of antitoxin fatalities have dropped from 60 per cent. to 3 per cent. As in other classes of diphtheria invasion, the earlier the administration of antitoxin the better. Some foreign ophthalmologists deny that early injection of antitoxin prevents corneal invasion. Most Americans agree with them; Bull does not.

Dr. Lewitt advocates large doses of antitoxin, with no local treatment. Dr. Barkan recommends, in the treatment of true diphtheria, the injection of antitoxin; in the pseudo-diphtheria the use of silver salts; when the cornea becomes implicated, pilocarpin rather than atropin on account of the tension-decreasing properties of the first. Pilocarpin is used by some practitioners as an antipyretic, but it is denounced by others for its debilitating effects. Antitoxin renders the use of antipyretics unnecessary.

The following report of two cases may be of some interest:

CASE 1.—*Patient.*—Y. Z., aged 1 year, was seen by me for the first time three hours before he died. He had been attended by a physician for seven days and had been treated for bronchitis.

Examination.—The child lay in a stupor, clammy to the touch, with eyelids much swollen, as large as walnuts; protruding just below the rim was a fringe of thick grayish-white exudate. The breathing was halting and slow. The pulse was slow and irregular. When the child's mouth was forced open, the tonsils, soft palate, and part of the hard palate were seen to be covered with membrane. The eyelids were fastened together. When they were forced apart, a thick gray membrane was seen to cover the conjunctiva of the entire eye. A portion of this membrane was removed and sent to Dr. Webster for microscopic examination.

History and Clinical Course.—The serious condition of the child was explained to the parents, who had believed that the child had a "severe cold in its eyes and in its chest." The following information was drawn from the mother: The child had been taken, about two weeks before, to see a neighbor whose child had a "cold in the eyes." A short time after, the child was feverish, cried, and refused its bottle; its eyes became sore and swollen. It cried whenever its eyes were touched. It grew constantly worse until death. Dr. Webster reported the membrane as diphtheritic.

The infection of this child's eyes must have been secondary to the tonsillar diphtheria. A question remains unanswered: Did this child's throat become infected when he visited the child with the sore eyes?

CASE 2.—*Patient.*—A. B., 2 years old, was brought to my office. He had been suffering with a cold in the head for two days.

Examination.—The patient's nose discharged a thin watery fluid which irritated the skin wherever it touched. The discharge from his eyes was seropurulent. The eyelids were puffy and painful. When the eyelids were everted, small patches of gray membrane were seen on the conjunctiva. Examination of the tonsils and nose was negative. A specimen of membrane was sent to the laboratory for examination.

Treatment and Clinical Course.—Four thousand units of antitoxin were given the patient as soon as he could be put to bed. The next morning there was some improvement, but 4,000 units more were administered. In three days the patches of membrane had peeled off, and the nasal discharge had ceased. The laboratory report was that the membrane was diphtheritic. The child was kept in bed one week longer and completely recovered. This was undoubtedly a case of primary infection.

"Running ears," "sore eyes" and "discharging noses" may be considered by the laity as harmless ills, but there is no doubt that from these apparently harmless cases severe epidemics of diphtheria may result. It is also certain that this form of diphtheria is more prevalent than is supposed. Special supervision should be exercised in schools, and children displaying such symptoms be promptly sent home, with instruction to have the attention of their physicians. The medical profession should be on the alert to recognize the disease.

1050 Jackson Street.

Infant Feeding.—G. R. Pisek, in the *American Journal of Obstetrics and Diseases of Women and Children*, states that to be a successful infant feeder one should have a clear idea of (1) the general principles of animal nutrition; (2) the peculiarities of digestion in infants and young animals; (3) the food materials which may be used in feeding infants; (4) the methods of preparing foods; (5) the indications and contraindications for different kinds of food. With a working conception of these subjects, any physician may become a good infant feeder with practice.

RESECTION OF CECUM AND LOWER PORTION OF ILEUM

FOR FECAL FISTULA RESULTING FROM PERFORATION OF AN ACUTE GANGRENOUS APPENDIX

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Patient.—C. R. J., a man, aged 46, weighing 240 pounds, had been ill for two weeks when I first saw him.

Examination.—The patient had a temperature of 103.2 F., cold clammy sweat, rapid feeble pulse, and complained of great pain in the lower abdomen and right side, where there was a large mass extending upward to the lower border of the ribs on the right side. By abdominal palpation I found extensive induration over McBurney's point extending one inch to the left of the median line. No pus had been passed by rectum. A diagnosis of acute perforative appendicitis with abscess was made.

First Operation.—I made an exploratory incision over McBurney's point, two inches in length, and going carefully through the peritoneum, found a large walled-off abscess, which ruptured as soon as I had opened into the peritoneum. Large quantities of pus and fecal matter of a very offensive odor gushed forth, which was carefully sponged away with dry sterile gauze. A great quantity of gas also escaped. Owing to the shock and the degree of infection I did not attempt to remove the appendix, so introduced tubular drainage, and placed one or two through sutures through the abdominal wall.

Postoperative History.—The patient rallied well from shock, but suffered much from an acute eczema caused by the irritation of fecal discharge, somewhat mitigated by the use of powdered zinc oxid and talc, equal parts. For the next month there was no improvement, so far as the fecal fistula was concerned. For almost two weeks rectal alimentation alone (peptonized milk and beef tea) was given.

Second Operation.—I opened through the old incision, dissected out the fistula, a long tedious operation—sponged the field of operation, kept it clean, found the head of the colon, but could not raise it, owing to dense adhesions and fear of infecting the general peritoneal cavity. The appendix, which was large and gangrenous, was adherent at the tip to the anterior mesenteric portion of the ileum about one-quarter of an inch from its juncture with cecum; the base had ulcerated and sloughed away, leaving a perforation in the colon. I broke up the adhesions, removed the appendix, freshened the perforation and closed it with a double layer of sutures, closed the abdominal incision with a few silkworm-gut sutures, and supplied drainage as usual.

Postoperative History.—The patient was kept on rectal diet for three days, after which slight nutriment by mouth was allowed. On the fourth dressing fecal matter poured out in considerable quantity. I waited four weeks more for some show of improvement. Meantime, the abdominal wound was irrigated four times daily with normal saline solution; and large pads of sterile gauze and absorbent cotton were place on the fistula, which was dressed several times a day with equal parts of zinc oxid and talc.

Third Operation.—I enlarged the original incision, dissecting away the edges of the fistula in the bowel, sewing through and through the site of the fistula and turning in with subperitoneal stitches.

Postoperative History.—Rectal alimentation was again resorted to for seventy-two hours. The wound was dressed as usual; on the third dressing fecal matter, as before, was present in abundance. Knowing now the uselessness of waiting, I fed my patient eggs, beef, etc., for four weeks, until his general condition had improved.

Fourth Operation.—I completely excised the diseased parts, with end-to-side anastomosis with Murphy's button. Thoroughly asepticizing the field of operation by irrigation with normal saline solution, I enlarged the original incision, removing all scar tissue, carefully dissecting down to the colon, broke up all of the adhesions, sponged the field of operation with dry gauze sponges, brought the head of the colon up into the incision, clamped off about three inches of the colon with an enterostomy clamp, divided the colon between two clamps; clamped off the ileum in same manner, covered the cut ends with wet hot sterile sponges wrung out of hot saline solution, clamped off and ligated the mesentery after the manner of Ochsner. I then closed all bleeding points, closed the proximal end of the colon by overhand suture of celluloid linen, invaginated it and closed with subperitoneal suture. One end of the Murphy button was introduced into the end of the ileum in the usual manner, and the other was introduced into the anterior surface of the colon about four inches above the point where it had been resected. The toilet of the peritoneum was carefully made, the abdomen closed by layers, and a small tubular drain introduced.

Subsequent History.—The patient was given a small quantity of warm water every hour until next morning; then he was given a small quantity of beef broth and other nourishment. The wound was dressed the second day and drainage removed; a very small fecal fistula resulted, which closed six weeks after operation, and patient at this date, three months after last operation, is following his usual vocation, that of a barber, and says that he never felt better in his life.

CONTINUOUS VICARIOUS MENSTRUATION FROM THE BREASTS

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Apropos of the article by Dr. George Gellhorn,[1] St. Louis, a brief review of a most unusual condition of the apparatus of gestation appearing in the case of a young woman just dismissed from my care will, I am sure, prove interesting:

Patient.—Miss M. L., aged 32, a virgin, well-developed, with a wealth of magnificent black hair which, when uncoiled, reached to her feet, was brought to my office last summer by a near relative of the patient, with a history of progressive depression merging into melancholia, and a comparatively recent suspicion of suicidal tendency, which was the direct cause for alarm on the part of those interested in her.

History.—The patient came to this city from Canada about fourteen years ago. She had been a parlor maid until two years ago, when, because of a tragedy in the household in which she worked, the home was broken up. She first menstruated at the age of twelve or thirteen. The function was regular until stopped by a severe attack of measles about two years later. At the end of a year or so it was resumed, only to cease again within a few months, since which time the menses have never reappeared normally. In place of the usual menstrual activity there appeared a discharge of blood—sometimes a thin fluid mixed with blood—from both nipples, and from that day to the present, the patient has had constantly to keep in her corsage two tampons of absorbent cotton, one of which at least, the right, has had to be changed once each day.

An ocular demonstration of this remarkable phenomenon was given me in my office on more than one occasion. Thorough vaginal examination by Dr. Charles H. Hare and myself revealed a rudimentary, undeveloped or possibly atrophied condition of uterus and ovaries. Recent unwise conversation with well-meaning, but ignorant and superstitious individuals had brought about the mental state which led her friends to bring the young woman to me. Faithfully administered psychotherapeusis at my hands (without the assistance of our Boston Emmanuel movement, I might add, or other church instrumentality) over a period of some weeks brought about a complete restoration of the patient's well-being, and she is now, as she was before, one of the most optimistic and light-hearted of the young people in her set, but at last accounts the mammary glands were still giving a daily sanguineous discharge. The question of marriage was brought up during the course of treatment, but circumstances seemed entirely to preclude such a possibility. My belief is that the results of such a step would be of value.

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[1] Abnormal Secretion from the Mammary Glands in Non-Pregnant Women, The Journal A. M. A., Nov. 28, 1908, li, 1839.

From a brief correspondence with Dr. George Gellhorn about the case I received the logical suggestion that the use of styptics combined with ovarian extract might lead the menstrual afflux of blood once more to the uterus, and if opportunity offers I shall certainly advise such a method in lieu of the seeming impossibility of marriage.

168 Huntington Avenue.

NOTES ON FAMILY GOITER

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The following instance of transmission of goiter through four generations is of interest, especially in this country, where the endemic causes of goiter do not seem to be present:

Patient.—Pauline M., 18 years old, was admitted to the surgical service of the Moses Taylor Hospital on account of an enlargement of the thyroid gland which had been present about four years. During the last three months she had had considerable dyspnea and discomfort from the tumor. The right lobe and isthmus of the gland were removed, and on microscopic examination proved to be of typical parenchymatous structure. The patient made an uninterrupted recovery. The following notes show the course of this disease through the family.

Fourth Generation.—The patient, Pauline M., as above noted. A brother, aged 19, has a symmetrical swelling of the thyroid gland which causes considerable dyspnea. A sister, 16 years old, has a marked enlargement of the left side of the thyroid which does not cause any symptoms. There are four other brothers and two sisters, all below the age of puberty, and none shows thyroid enlargements.

Third Generation.—The patient's mother has a large, pendulous, goiter involving principally the right side. She has considerable dyspnea and discomfort. Her voice is harsh, her speech sibilant, and she has slight exopthalmos. I verified the above cases by personal examination. The pulse rates in all were normal and there were no signs of hyperthyroidism. In this generation the patient had five uncles and five aunts. Two of the aunts had large goiters, none of the uncles had this trouble.

Second Generation.—The patient's maternal grandmother, who was born in Berlin and came to this country in 1860, had a large goiter. The generations mentioned above were all born in America. In this generation there were two great-aunts who had goiter and two great-uncles and two other great-aunts who did not have goiter.

First Generation.—The patient's maternal great-grandmother, who lived in Berlin all her life, also had a large goiter. There is no knowledge of other members of this generation.

The patient's father came to this country from Stuttgart in 1873. There has never been any goiter in his family to his knowledge.

SUMMARY

In the patient's generation there are one brother and one sister with goiter. The mother, grandmother and great-grandmother had goiter, and two aunts and two great-aunts had goiter.

It is interesting to note that as far as the knowledge of the family goes, the disease was entirely confined to the female members until the present generation, in which one boy is affected.

Therapeutics

COLDS

It is generally understood by a cold that an acute rhinitis (coryza), acute pharyngitis, and perhaps acute laryngitis, tracheitis and bronchitis, one or more of these conditions, is present. The causes of "catching cold" are: infection, impure air, dust, a local tendency, a general tendency.

Most colds are contagious, more or less directly, and are likely "to run" through families, offices, stores and schools, once having started.

Impure air breathed in crowded rooms or vehicles, or in stuffy, ill-ventilated sitting-rooms or bedrooms is a distinct cause of nasal and throat congestions.

Dust-laden air, whether in buildings, vehicles or on the streets is conducive to nasal and throat irritation sufficiently to cause colds, and it is obviously noticeable that when cities neglect to water their streets, as they often do in the late fall (before, in the northern cities, the snow lays the dust) and in early spring, that catarrhal affections of the upper air passages are enormously increased.

A local tendency to colds is caused by chronic hypertrophies and congestions of the nose and throat, subacute or chronic catarrhs of these regions, by any condition of the lungs or heart that would tend to cause congestions of these mucous membranes, and especially by such a condition of the nose or nasopharynx mucous membrane (hypertrophy and adenoids) as will cause mouth breathing more or less constantly. Such patients are more prone to acute infections of the throat and lungs than are those who breathe through their nostrils.

A general tendency to colds is produced by a hypersusceptibility, or a diminished resistance power, to the ever-present germs and irritant dust particles in the atmosphere. Such a condition is brought about by any chronic debility or subnormal condition of the patient, be it anemia or a more serious condition. In many instances this general tendency to colds lasts a lifetime, and it may even occur in families, and any amount of hygienic care, good food and tonics may not prevent the frequent recurrences of colds. Such patients, if possible, should live in a climate that is not subject to radical changes in temperature and in a locality that is as dust-free as possible.

PROPHYLAXIS

To prevent colds such measures should be instituted as will prevent the above causes, and the order of their importance is really in the inverse order of the list of causes named. The general tendency to colds should be prevented by hygienic living, which means outdoor air and fresh, clean indoor air, and as fresh air while at work as can be acquired with the surroundings in which the person must be. Overheated rooms predispose to colds and are insanitary. An over-amount of clothing is inadvisable, but just what clothing is proper for each patient must be decided by good judgment and careful advice. Physical exercise or gymnastics should be advised for those who do not labor. Cold sponging in the morning of the face, neck and chest is advisable, and any treatment, massage, hydrotherapeutic or other, that will tend to make the general circulation of the skin better will prevent catching cold. Of course circulatory and digestive disturbances must be corrected, and the proper eating of the proper food for the climate and time of year is a great aid by preventing such disturbances of secretions and excretions as cause the congestions that allow colds to develop.

Chronic inflammation of the upper air passages must be cured if possible. Local hypertrophies and superfluous glandular tissue should be removed.

Boards of health should have power to cause the prevention of street dust plagues and to cause proper cleanliness of public vehicles and public gathering places like halls, theaters, etc. A general public education on the seriousness of, and the infections carried by, unnecessary dust would soon cause such state legislation and city ordinances as would prevent this unnecessary nuisance. Many dusty occupations are made dustless by proper ventilating or suction apparatus, and where such prevention of dust is possible it should be required by law.

It is certainly inexcusable in this age to cause clerks in stores, or operators in factories, or children in schools, to have so few cubic feet of air space per individual as to allow impure air. Individual instances of such conditions are, of course, frequent and many, but the trend of public opinion and of public officials and of boards of health is to prevent these conditions. Many families are still very careless about the air in their rooms, and especially in their bedrooms. While urging plenty of fresh air during sleep, it is not advisable nor advised that enough windows, or windows and doors, be kept open to allow of strong drafts. The best plan is to have the doors of the sleeping-room closed, unless the room is very small, and one or more windows widely open.

The prevention of the spread of colds by infection in the household is simple, and it should be generally known that they are contagious and that a patient coughing and sneezing should prevent spraying by the constant use of his handkerchief. He also should keep away, or be kept away, from close contact with any other individual, unless, of course, the patient is a child. The patient should use plenty of handkerchiefs so as always to have a clean one at hand, and the handkerchiefs should be put into a handkerchief bag and then washed separately from other clothing. The rooms in which a patient with a severe sneezing and coughing cold has been, even for a short time, should be well aired. This is better for the patient and better for the rest of the family.

In public vehicles or in any public place, whether in schools, in stores or in factories, a patient with a cold and cough should always use his handkerchief and prevent spraying of the atmosphere. The more this is insisted on the less frequently will diphtheria, tonsillitis, pneumonia, tuberculosis, and even colds, occur. Spitting ordinances are now in evidence in most cities and should be in the smaller towns. It is indecent to spit in any place except receptacles prepared for that purpose, or, if must be, in the street gutters, and a patient with even nothing more than an ordinary sore throat or a simple bronchitis should seek running water into which he may expectorate if he does not care to use his handkerchief. An antiseptic cleansing spray or gargle for a patient who has a cold will prevent the infection of others.

ABORTIVE TREATMENT

A cold having been caught, the attempt to abort it is made by draining the blood vessels (catharsis, sweating) and thus relieving the local congestion, or by dilating the peripheral circulation and thus relieving tension, or by locally treating the inflamed mucous membrane either by astringents or by vasoconstrictors or by drugs that dry up the mucous secretion. During this first and acute stage of acute colds, and especially of coryza, various drugs and methods are used to further the indication for the relief of the local blood tension and the congestion of the local mucous membrane.

In four recent issues of the *New York Medical Journal* (Oct. 31, Nov. 7, Nov. 14 and Nov. 21, 1908), sixteen physicians have outlined what they considered the best treatment to abort colds. It is interesting to note that of these sixteen, fourteen advised the use of Dover's powder and two morphin. Four only advised a coal-tar product and then acetphenetidinum (phenacetin). Three advised Turkish baths, seven a hot foot bath, one a hot sitz bath, two hot lemonade, and two alcohol, presumably in some hot liquid. Five would give aconite, one veratrum viride and six would give quinin. One administers castor oil, three give calomel in one dose, two give calomel in divided doses, and one follows the calomel with a saline. Three would give salines alone. Sweet spirits of niter or a nitrate was advised by five. Atropin was advised by four, belladonna by three. Locally suprarenal extract in some form was advised by four, and various sprays containing camphor, menthol, etc., were advised by six physicians. Later, various sprays or washes, among which may be mentioned Dobell's solution, Seiler's tablet solution or boric acid solution, were recommended.

It is thus seen that the method of depletion of the blood vessels and the relief of local congestions most advised is that of sweating. Theoretically the best means to produce this kind of a sweat is by the Turkish bath or by hot-air treatment, the body baking as it is termed.

The next best would be a hot tub-bath, after which the patient is put to bed, with hot lemonade or other hot drinks, with or without alcohol, as deemed advisable. Most patients will not bother, however, with such treatment, and substitutes, as hot foot-baths and hot sitz baths are more likely to be employed, and if even these methods are not used, and even with these methods, Dover's powder in dose of 0.60 gram (10 grains), as the patient goes to bed, is certainly good treatment.

The administration of quinin to abort colds is not now much recommended by physicians, although often used by the laity. A dose sufficient to act as a derivative and perhaps inhibit the migration of the white blood corpuscles from the congested vessels, which it seems to be able to do, must be large enough to cause unpleasant cinchonism. Also the tendency of colds during the last few years has been to cause inflammation of the middle-ear. This being the case, physicians have become wary of using any drug like quinin which will cause middle-ear hyperemia and perhaps predispose to inflammation of the middle-ear. Theoretically, also, as most nasopharyngeal inflammations are due to some germ, leucocytosis and ameboid activity are needed to combat the infection, and quinin, if it does not actually inhibit leucocytosis, does inhibit the ameboid activity of the polymorphonuclear leucocytes. Consequently quinin and perhaps salicylic acid should not be administered unless there is some specific indication for them.

(*To be continued*)

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THE FOOD VALUE OF MOSSES, SEAWEEDS AND SIMILAR ARTICLES

There has been a growing tendency to recommend for general consumption, as well as for special dietaries, a number of forms of carbohydrates that have not previously received much consideration as articles of diet and sources of nourishment. This tendency probably owes its recent growth to the combined influence of various cults and faddists, to commercial enterprise, and to the efforts to secure carbohydrate foods that might be used in place of starch and sugar in the menu of the diabetic. With this motley backing it is not strange that the claims made for the value of these unusual food stuffs have been commonly more enthusiastic than judicial, and that they have been used widely without due consideration of their real value as determined by observation and experiment. The careful review of the present status of our actual knowledge on this subject by Professor Mendel,[1] in whose laboratory much work along these lines is being done, comes at an opportune time.

These unusual carbohydrate foods, of which Iceland moss, agar agar, Jerusalem artichokes, dulse and salep are examples, are for the most part substances that long have been known as occasional articles of diet, and in some countries, especially Japan, they are commonly used as food, and the chief novelty about them consists in the attempt to increase their use as food in this country and in Europe. Most of them come from the lichens and algæ, and are cheaply and abundantly obtained in the localities in which they naturally occur; a few are derived from higher plants, as either gums or storage organs. In common they produce, on cooking and preparation for food, gelatinous or gummy products, and analysis shows them to be composed almost entirely of carbohydrates and therefore apparently highly nutritious. However, we are at last coming to appreciate that the food value of a substance can not be determined by ascertaining the amount of carbohydrates, fat and nitrogenous materials it may contain, for any and all these constituents may be present, but of no value because they are not available. This is particularly true of the carbohydrates, because the digestive enzymes which attack them are strongly specific, each enzyme limiting its action to one or to a few carbohydrates, in marked contrast to the proteolytic enzymes pepsin and trypsin which attack nearly all proteins. It is commonly understood that man can not utilize cellulose, as can some other animals, because he is not provided with digestive enzymes which can decompose the insoluble cellulose into assimilable sugars, but it is not so well appreciated that the peculiar carbohydrates of the algæ and lichens are closely allied to cellulose both as to chemical composition and availability. They are all formed of large aggregates of molecules of some sort of sugar united through a process of dehydration, which can be set free by a reverse process of hydration; and while cellulose is a polymer of the highly available glucose, the carbohydrates of the lichens, algæ and gums are for the most part polymers of less familiar, and probably less utilizable carbohydrates, such as pentose, methyl-pentose; galactose, and mannose. Therefore, before we can judge of the food value of any complex carbohydrate we must first know whether it can be hydrolyzed in the alimentary tract, and whether the sugars derived from it can be utilized in the metabolism of the human body. As a matter of fact, we have very little reliable evidence concerning the carbohydrates under discussion, and that which we have is largely negative.

As a typical case in point may be taken the history of inulin in modern dietetics. This substance is found in many of the compositæ, the chief source being in the tubers of the dahlia, and on hydrolysis it yields levulose. Now as levulose is readily used by the human organism, and especially as diabetics are supposed to tolerate levulose much better than dextrose, it is not surprising that inulin-containing substances have been recommended as substitutes for starchy foods in diabetes. Nevertheless, when tested experimentally it is found that salivary, gastric, pancreatic and intestinal juices all fail to hydrolyze inulin into lactose; furthermore, when fed to hungered animals it does not increase the glycogen-content of the liver as levulose does. Apparently, then, the inulin which is eaten is not utilized, and, therefore, it is not strange that the clinicians who gave it in place of starch to their diabetic patients found that it did not increase the sugar in the urine; neither would sawdust increase glycosuria, but that is scarcely sufficient reason for substituting it for bread.

Much the same results have been obtained with the polysaccharides of the algæ and lichens in so far as they have been studied; for example, Saiki examined a number of the preparations of this class which are used so abundantly in Japan, and found that they are utilized but poorly when taken into the alimentary tract, and it was demonstrated that Iceland moss resists attacks not only by the digestive enzymes but by the intestinal bacteria as well. These substances also, like inulin, have been recommended because they do not increase the glycosuria of the diabetic, but it is not probable that the diabetic will find them very satisfactory for the purpose of nutrition or for preventing acidosis.

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[1] Zentralbl. f. d. gesamte Physiol. u. Pathol. des Stoffwechsels, 1908, No. 17.

Professor Mendel concludes his paper as follows: "The results of the experimental studies should warn us against the hasty acceptance of every so-called carbohydrate food stuff as real nutritive material. We must build on the basis of exact studies of metabolism. Many of the modern products have doubtless a deserved place in dietetics as accessory food stuffs both in health and disease, entirely independent of any actual nutritive function. And what has been said concerning the carbohydrates applies to the other components; for example, it has been believed that some of the algæ which are rich in nitrogen possess especial value because of the high protein content which the nitrogen is supposed to indicate. However, my experience with mushrooms, in which the abundant nitrogen was found to represent unavailable nitrogenous substances rather than proteins, teaches the need of caution in estimating the food value of such forms of plant life. Perhaps the fact that so few of the suggested food stuffs discussed above have found any general recognition, although they are widely disseminated in Nature, may be accepted as an instinctive expression of their lack of real nutritive value."

THE NOBEL PRIZE FOR 1908: METCHNIKOFF—EHRLICH

The Nobel prize in medicine for 1908 has been given to Metchnikoff and Ehrlich, the full prize having been divided. Whatever the reasons and motives may have been that led the wise men in Stockholm thus to divide the prize, there is no question whatsoever but that in the opinion of those competent to judge of the value of the scientific work of Metchnikoff and Ehrlich, each has earned the undivided prize. This is so apparent that special considerations in addition to those of individual merit must have led the committee to divide the prize. Speculation as to what these special considerations may have been would be useless. On the other hand, a glance or two at the work of the two prize-winners is in order.

Originally a Russian zoologist, Metchnikoff became our first great comparative pathologist. His chief credit is the establishment by extensive comparative studies of the occurrence of phagocytosis in all classes of animals and its significance in infections. In all animals the most striking phenomenon in the reactions to infection and injury seemed to him to be phagocytosis and hence arose the phagocytic theory of healing and immunity. This theory Metchnikoff and his followers defended with great skill and ingenuity against the violent attacks on it by the adherents of the humoral theory of immunity, especially in Germany. The resulting controversy proved a powerful stimulus to investigation and a degree of harmony has been reached as it has become clear, on the one hand, that cells are essential to the production of the antibodies that give to the fluids of the body their protective and healing properties, and, on the other hand, that the fluids of the body are essential to phagocytosis. In other words, neither theory alone accounts fully for the phenomena of healing and immunity, but both taken together go far toward furnishing a satisfactory explanation. Phagocytosis will ever be regarded as an important means of defense and healing, a few lingering, repetitive protests in Germany to the contrary notwithstanding.

Since the controversy in regard to phagocytosis passed its height, Metchnikoff has carried out important experiments on the inoculation of syphilis in apes and monkeys—this in conjunction with Roux—and in addition he has occupied himself with his interesting speculations on the prolongation of human life, concerning the value of which opinion is divided.

Familiar through his early and special work on the differentiation by selective staining of leucocytes, Paul Ehrlich is best known as the father of the side-chain theory. First advanced in order to explain the action of bacterial and other toxins and the formation of antitoxins, it soon proved equally applicable to the explanation of the action of antigens and the formation of antibodies in general.

The theory is so familiar that it is not necessary to restate it except in the briefest possible form: A toxin or any other antigen is without action unless bound by suitable molecular chains in the cells—receptors—but when so bound the antigen causes injury to the cell and in the process of repair there results an overproduction of receptors which on passing into the blood constitute the antibody for the antigen in question because the antigen is now bound and neutralized before it can reach the cell. Antibodies are free cell receptors and the elements that, when situated in the cells, are essential for the action of toxins, for instance, are also the means of healing when free in the blood. This beautiful theory is one of the greatest in science. It has been and is still of the greatest usefulness in stimulating and guiding investigation in the field of immunity and of related biochemical phenomena.

Numerous new words coined by Ehrlich in accord with this theory have proved helpful in facilitating discussion of new facts and ideas and have passed into current international usage.

Guided by the principles of the side-chain theory Ehrlich developed a method for standardizing antidiphtheria serum which has been adopted officially and is now used daily by most countries, including our own.

More recently Ehrlich has advanced interesting considerations in regard to experimental cancer in mice, immunity to which he explained on the basis of the side-chain theory, and he has also found help in his theory in his recent and brilliant chemo-therapeutic studies,[1] the aim of which is nothing less than to discover new chemical substances with specific curative properties for certain infections, at present more particularly trypanosomiasis.

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[1] THE JOURNAL, Dec. 5, 1908, p. 1976.

The name of Ehrlich will live in honor in the history of medicine because his theory has promoted rational treatment of infectious diseases and aided our understanding of biochemical manifestations.

THE EVOLUTION OF THE CEREBRAL CORTEX

The problem of the structure and functions of the cerebral cortex is intimately bound up with its evolutionary history. This history has been assiduously studied during the whole modern period of comparative anatomy, notable contributions coming from Edinger and Elliot Smith, who have shown how the whole forebrain has been built up around what is in the human brain one of its relatively unimportant parts, the olfactory apparatus. The earliest cerebral cortex to appear was olfactory in function, the hippocampal formation, and has been termed the "archipallium" to distinguish it from the more recently evolved cortical centers for the other senses and their motor return paths, the neopallium.

The fundamental and far-reaching character of this distinction is confirmed by the researches of Flechsig on the sequence of development of the conduction paths in the human cerebrum, for he finds that the olfactory cortical connections come to maturity in general earlier than those of the neopallium.

A notable series of researches bearing on the phylogeny of the forebrain has recently come from Edinger's laboratory at Frankfurt, and the chief results are incorporated in the second volume of the seventh edition of Edinger's[1] lectures on the central nervous system. The most important point is that the earliest cortex cerebri was evolved, not merely as an olfactory cerebral center, but as an organ of correlation for all the organs of sense and motion connected with the nose, mouth and lips, a sensation complex termed by Edinger the "oral sense" (*Oralsinn*, Edinger, *Schnüffelsinn*, Kappers).

In the lowest vertebrates the olfactory paths are certainly the most important elements of this complex, but as we ascend the animal series other sensory conduction paths to the forebrain are progressively added. In reptiles and birds there is a strong secondary tactile path from the nuclei of the trigeminus to the forebrain, but this does not reach the cortex. The corpus striatum in these animals is very large and here the reflexes of the oral sense are elaborated, the cortex being very imperfectly developed.

The true olfactory cortex (called the hippocampus or the archipallium) in the earlier phylogenetic stages greatly predominates over the neopallium; nevertheless both appear very early and, according to these latest researches, their evolution is mutually interdependent.

Thus the architectural motive which first called forth the cortex cerebri was the demand for a more extensive and flexible type of correlation center for the reflexes concerned with feeding and finding food. The visual and acoustic paths were very early added to the neopallial part of the wall of the hemisphere and later (in the mammals) the functions of the forebrain were enlarged to include all of the more complex reactions to stimuli coming from objects at a distance from the body, or, as Sherrington[2] expresses it, the forebrain becomes the integrating organ for the distance receptors.

Some of these reactions are, no doubt, unconscious reflexes — very complex, perhaps, yet wholly mechanical. Reflexes of this type are common to the whole of the basal or stem portion of the brain. On the other hand, the sense organs which receive impressions from remote objects, such as the eye and ear (distance receptors of Sherrington) may involve a type of response very unlike the reaction of the body to stimuli whose sources are in contact with the body. In the latter case the adaptive response follows immediately on the stimulus, and the more perfectly it is mechanized the better.

But the reaction to a distant object, say the prey of a carnivorous beast, involves two separate factors: (1) an anticipatory reaction (movement toward the prey and seizing it), and (2) the consummatory reaction (mastication and swallowing). Since the anticipatory phase of itself gives no immediate satisfaction, it follows that this complex reaction to distant objects involves much more elaborate associational processes in the nervous system than the simpler response to contact stimuli; and the more complex the anticipatory phase becomes, the more intricate the necessary coordinating mechanism must be. It is in this more complex type of distance reaction alone that a high degree of intelligence is necessary; indeed, here only where foresight (literal and figurative) precedes the satisfying consummatory reaction, is the participation of intelligence desirable or possible to any great degree, as Sherrington has clearly shown in the work cited above.

The cerebral cortex, then, became the chief organ of intelligence because it only is structurally adapted to serve the complicated correlations of sensory stimuli involved in the anticipatory reactions which alone call for special intelligent adaptations.

In some of the lower mammals the sense of smell is apparently the most important of the distance receptors, and here the archipallium is the most important part of the cerebral cortex. In these cases the mental imagery is doubtless elaborated very largely in terms of olfactory sensations. In man, however, the most important associations are in terms of sight and hearing. Accordingly, the neopallium dominates the human brain.[3]

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[1] Vorlesungen über den Bau der nervösen Zentralorgane, Vergleichende Anatomie des Gehirns, Leipsic, ed. 7, vol. ii, 1908.

[2] The Integrative Action of the Nervous System. New York, 1906.

The study of the minute structure of the cerebral cortex is now pursued more actively than ever before, and the chief problem here is the correlation of the demonstrable anatomic differences between the different cortical areas with the sensorimotor associational and projection fibers which put these areas into functional relation with each other and with the periphery. Until these facts are much more fully known than at present it will be impossible to elaborate the doctrine of cortical localization on a firm basis.

HOW TYPHOID BACILLI MAY REACH THE GALL BLADDER

The modern microbe carrier presents many interesting and difficult problems that await solution. In the case of the typhoid carrier the great question is how to rid the intestinal tract of typhoid bacilli which appear to live on there or to be eliminated by way of the intestinal contents, sometimes for remarkably long periods.

The theory has been advanced that in these cases the bacilli live on and multiply in the contents of the gall bladder whence they pass into the intestines and appear in the feces. This theory which has many facts in its favor naturally led to the idea that removal or drainage and irrigation of the gall bladder would permanently free the carrier of his bacilli. On account of the great importance of the carrier in spreading typhoid fever this would have been a most welcome solution of a problem surrounded by many and novel difficulties, but apparently the conditions are not so simple as was at first assumed. It was soon found that the disappearance of the bacilli from the feces after operations on the gall bladder in some cases was only temporary. It seems certain, therefore, that, at least in some cases, the bacilli find a permanent abode elsewhere than in this viscus.

Certain observations indicate that one such place is furnished by the larger bile ducts. The cystic duct has been found completely obliterated by impacted calculi in the case of a paratyphoid carrier so that the gall bladder could not be regarded as the reservoir for the bacilli which continued to be eliminated in the feces after cholecystostomy. Highly interesting results pointing in the same direction have been obtained by recent microscopic studies of the gall bladder and bile ducts in typhoid fever and experimental typhoid infection.

Chiari and others long since called attention to the act that anatomic changes in the gall bladder occur n typhoid fever, but the exact mode of origin of hese changes does not seem to have been made out. Joseph Koch,[1] in an instance of beginning typhoid cholecystitis, found marked inflammatory infiltrations into the mucosa, especially at the summits of the folds, often enclosing dense masses of bacilli which gave all the appearance of being capillary emboli. From these foci the bacilli are assumed to have passed through the epithelium into the contents of the gall bladder. Heretofore the bacilli have been thought to reach the interior of the gall bladder by way of the biliary secretion, but it would seem that they may do so from the capillaries in its walls as well, and the point should receive special attention hereafter.

In order still further to study this question, Koch injected rabbits intravenously with typhoid bacilli, which he found would reach the interior of the gall bladder even when the cystic duct was tied beforehand. He claims to be able to follow the transit of the bacilli through the wall from emboli in the capillaries of the submucosa. Not only the walls of the gall bladder but also those of the larger bile ducts of the rabbits showed the same inflammatory changes as were found in the human gall bladder.

This localization of the bacilli in the walls of the biliary apparatus may be the reason why the process of bacillary elimination continues for such a long time in many carriers, as well as why it has proved so resistant to the means so far used to cut it short. A thorough study of a large amount of typhoid material with special reference to the manner of invasion of the bile by the typhoid bacilli is desirable. Koch's human material is too small to permit of the acceptance of his interesting results as definite, and comprehensive knowledge is necessary in order to learn how best to deal with the carrier.

WALKING

An item in our London letter this week again calls attention to a form of exercise as healthful as, in this country, it is uncommon. Surgeon-Major Hinton, who enjoys the distinction of being the oldest member of the Royal College of Surgeons, in his ninety-fifth year is reported as "walking for pleasure five miles or more a day." How many Americans—physicians or laymen—of even one-third the age of this veteran surgeon walk half that distance daily? In the country the buggy, in the city the ubiquitous street car, and in both the ever-increasing number of automobiles, all operate to make us a nation of riders rather than of walkers. While within the past year walking has been taken up as a passing fad, pedestrianism as a recreation is practically unknown in this country. So much is this so that a man seen walking along a country road is mentally estimated as either a book agent or a tramp — the estimate varying according to his general appearance. Thus a vicious circle is established and the thought of being considered eccentric operates to make walking unpopular. Yet from a hygienic standpoint there is probably no healthier or more invigorating form of exercise. The various ingenious substitutes in the form of calisthenics are, as is the case with all substitutes, a poor excuse for the real article. Horseback riding, which seems to be popular among a certain class, is probably equal to walking as a form of exercise. But horseback riding is possible only for the few, certainly not for the average city dweller. Walking is possible for all, and a brisk four- or five-mile walk, taken not as a duty but as a recreation, is a physical and mental tonic of no mean value. Did it cost money instead of involving effort it would be more popular.

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[3] A fuller treatment of these interesting comparative studies vill be found in an address recently delivered by Professor Edinger efore the Third Congress for Experimental Psychology and rinted in English translation under the title, The Relation of omparative Anatomy to Comparative Psychology, in the Jour. omp. Neurol. and Psychol., November, 1908.

[1] Centralbl. f. Bakt., 1908, xlii, (Supplement) 54.

THE BEGINNING OF THE CONTRACTION OF THE VENTRICLE OF THE HEART

There has long been dispute as to whether the ventricle of the heart begins to contract at its base or at its apex. The proximity of the base of the heart to the auricle or atrium lends color to the view that the basal portion of the ventricle contracts first. The recent studies of Tawara, Retzger and others on the distribution of the stimulus-conducting system continuous with the bundle of His have shown that the fibers pass downward into each ventricle to the region of the papillary muscles, where they break up into arborizations and are distributed thence partly toward the base of the heart, partly toward its apex. This anatomic distribution suggested that the base of the papillary muscles and the lowermost portions of the wall of the ventricle must receive the stimulus to contraction before the muscle fibers at the base of the heart. This probability has been subjected recently to experimental test by Rehfisch.[1] Working on the dog's heart by physiologic methods he has been able to demonstrate in graphic curves that the heart's apex receives the impulse to contraction before any other part of the ventricular wall, and that the stimulus to contraction is propagated to the base of the heart from it. These experiments of Rehfisch seem to be convincing, and if he is right the fact may perhaps be applied by clinicians in explaining the phenomena which pertain to the emptying of the ventricle in myocardial disease.

TUBERCULOSIS CURES

Probably no disease has been the subject of so much altruistic and altogether unselfish study, and its eradication the object of so great an amount of self-sacrificing labor, as has tuberculosis. Conversely, no other disease has been made the basis of so much heartless fraud in the exploitation of commercial "cures." The reason for the latter is not hard to find. Sufferers from tuberculosis die slowly and until the very last they are persistently optimistic as to the outcome. The average consumptive, even though intelligent above the ordinary, is ever ready to grasp the proverbial straw in the form of any much-vaunted "specific" for his dreaded malady. Such material as this is to the "consumption cure" faker what the confirmed gambler is to the tipster. From the sordid and brutal standpoint of the medical quack the victim of tuberculosis is an easy prey. These facts, patent to every one who has looked into the innumerable "cures" on the market, are well exemplified in the article on another page[1] dealing with an institution of this kind. We have investigated this cruel fake with some degree of thoroughness, and we believe a perusal of the results, while not pleasant reading, will prove instructive. It should be borne in mind, however, that this particular concern is but a type. Scattered all over this country are scores, yes hundreds, of other similarly vaunted "cures." The Journal can expose but a few of them; their elimination can be brought about only by enlightening the public on their inherent worthlessness and viciousness, and this duty devolves on the medical profession.

Medical News

ILLINOIS

Estate to University.—By the will of Dr. James G. Wheeler, Broughton, the James Milliken University, Decatur, will come into possession of his estate, estimated to be worth from $75,000 to $125,000.

Scarlet Fever.—The public schools of Sycamore and Crystal Lake have been closed on account of scarlet fever. Rigid and thorough isolation of dairies on farms where there are cases has been established at Crystal Lake, through the efforts of Dr. Harry D. Hull, Nunda, health officer of McHenry County, who has been appointed special agent of the Chicago Board of Health.

Chicago

Illegal Practitioner Fined.—Peter Rundberg is said to have been found guilty of practicing medicine without a state license and to have been fined $100. The complaining witness was an inspector for the State Board of Health.

Funds for Hospital.—The Maimonides Kosher Hospital Society has begun active work to raise funds for a hospital for orthodox Jews, to cost $75,000. A site has been purchased for $6,500 on California Avenue, near Rebecca Street, facing Douglas Park. The proposed hospital is to have a capacity of 100 beds.

Milk Law in Effect.—The new milk law which requires the pasteurization of all milk and milk products other than those from cows which have passed the tuberculin test, technically becomes effective January 1, but complete enforcement will require several months. Meanwhile health officials are proceeding with routine measures to secure wholesome milk.

MARYLAND

Baltimore Personal.—Dr. Charles Downs has been appointed a tenement inspector.——Dr. John J. R. Crozer is reported to be critically ill with kidney disease.——Dr. William Whitridge is reported to be ill at his home with acute gastritis.

Opposition to Merger.—Much opposition is manifested to the proposed union of the University College of Medicine, the College of Physicians and Surgeons, and the Baltimore Medical College, which has been under discussion for a year or more, and little progress apparently is being made toward the merger.

Accidents in Baltimore.—During 1908 there were 2,726 minor accidents in Baltimore, of which 372 were due to street cars and 59 to steam cars. There were 260 fatal accidents, for 23 of which street cars, and 34, steam cars, were responsible. There were 210 attempts at suicide, of which 120 were unsuccessful.

Insane Hospital Report.—The one hundred and eleventh annual report of the Maryland Hospital for the Insane, Catonsville, for the year ended November 1, shows a daily average of patients under treatment of 574, the largest in its history. The number discharged recovered was 30 per cent. Tuberculosis was discovered in 13 per cent., and a special building is needed for this class of patients. There is also needed an isolation hospital for the sick, a new dining hall for female patients, a hospital for colored insane, and an institution for the criminal insane.

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[1] Rehfisch, E.: Ueber die Ursprungsstelle der Ventrikel-Kontraktion; ein Beitrag zur Lehre von der Reizleitung im Herzen, Berl. klin. Wchnschr., 1907, xliv, 1070.

[1] Pharmacology Department, page 226.

MASSACHUSETTS

Personal.—Dr. Albert W. Hancock, Lawrence, has recovered from his recent attack of diphtheria.——Dr. Frank B. Pierce, Haverhill, has had his thumb amputated on account of septicemia.——Dr. Walter R. Mansfield, Boston, has been made a member of the board of bath trustees.——Dr. Foster H. Smith has been elected city physician of Lowell.——Dr. Albert P. Norris, medical inspector for the state and city of Cambridge, has resigned.

Work of Antituberculosis Society.—At the annual meeting of the Brookline Antituberculosis Society, it was shown that the society had a membership of 347, a balance in the treasury of $492, and that much good work had been done along the lines of a day camp for children and the inspection of home conditions of patients. A night camp for convalescents who work during the day and an open-air school for children who show signs of tuberculosis are proposed for the coming year.——The Lawrence Antituberculosis League has issued a circular calling attention to the necessity of the work against tuberculosis and inviting membership. The following are the medical officers of the league: Dr. Charles G. Carleton, president; Dr. George B. Sargent, vice-president; Dr. J. Forrest Burnham, secretary; Drs. W. H. Coon and George B. Sargent, executive committee; Drs. W. H. Coon, Carl H. Eidam, Frank B. Flanders and George P. Howe, directors; Dr. George P. Howe, director of tuberculosis class; and Dr. Alexander L. Siskind, medical supervisor.

MICHIGAN

Personal.—Dr. Robert McGregor, Saginaw, sailed from Vancouver, January 1, for a visit to Australia and New Zealand.——Dr. Wadsworth Warren, Detroit, has been elected fleet surgeon of the Interlake Yachting Association, and Dr. Charles G. Jennings, Detroit, delegate to the Yacht Racing Union.

Work of the Health Board.—On January 8, in the series of lectures being given at the Grand Rapids Public Library on the work of the various boards and departments of the city of Grand Rapids, the health officer, Dr. William Delano, and the superintendent of the poor, gave an illustrated lecture on the work of the health department and poor commission. During the year, $35,537 was appropriated for the health department, and also a special fund of $11,543 for the building and furnishing of a new contagious disease hospital.

MINNESOTA

New Hospital.—The Northwestern Hospital and Zander Institute, Moorhead, completed at a cost of about $45,000, was dedicated with appropriate ceremony December 13. Dr. Edward W. Humphrey is physician-in-charge.——Work has been begun on a sanitarium near Shakopee by Dr. Henry P. Fischer.

Society Meeting.—At the annual meeting of the Minnesota Valley Medical Association, held in Mankato, December 8, the following officers were elected: President, Dr. Ferdinand N. Hunt, Blue Earth; vice-presidents, Dr. A. Franklin Strickler, Sleepy Eye, and Lida Osborn, Mankato; secretary, Dr. Adolph G. Liedloff, Mankato, and treasurer, Dr. George F. Merritt, St. Peter.

Tuberculosis Relief.—At the meeting of the St. Paul Tuberculosis Relief Committee, it was announced that "Tag Day" contributions had reached the total of $17,869.79, of which one individual contributed $2,500. Five free dispensaries are to be established in various parts of the city, and Drs. Longstreet Taylor and Charles L. Greene, and Robert O. Earl are the medical members of the board of management.

MISSOURI

License Revoked.—The State Board of Health announces the revocation of the license of Dr. H. M. Wilson, Forest City, for writing prescriptions for spirituous liquor.

Society Meetings.—At the annual meeting of Montgomery County Medical Society, held in Montgomery December 17, Dr Alonzo R. Kieffer, St. Louis, president of the Missouri State Medical Association, delivered the address, and the society decided to make application for affiliation with the state body, and elected Dr. David O. Nowlin, Montgomery, delegate. The other officers elected were as follows: President, Dr. Samuel S. Cox, Wellsville; secretary, Dr. Wiliam M. Wheeler, High Hill, and treasurer, Dr. George E. Muns, Montgomery.——The next meeting of the Missouri Valley Medical Society will be held in St. Joseph, March 18 and 19.

St. Louis

For Earthquake Sufferers.—A committee of the St. Louis Medical Society will collect funds for the relief of the earthquake sufferers. Dr. Herman Tuholske was made chairman and Dr. Meyer Wiener, secretary. An appeal for money was sent to each registered physician of St. Louis and to some St. Louis alumni societies.

Alumni Banquet.—The annual banquet of the Medical Society of the City Hospital Alumni was held January 7, at Faust's Cabin. The following are the newly elected officers of the society: Dr. Walter Baumgarten, president; Dr. John C. Falk, vice-president; Dr. William H. Luedde, secretary; and Dr. E. Lee Dorsett, treasurer.

NEBRASKA

Medical Society Meetings.—At the annual meeting of the Fillmore County Medical Association, held in Geneva, December 8, Dr. V. V. Smrha, Milligan, was elected president; Dr. Morgan Propst, Geneva, vice-president; Dr. Frederick S. Beck, Geneva, secretary-treasurer, and Dr. Royal Woods, Geneva, delegate to the state society.——At the annual meeting of Saline County Medical Society, held in Crete, Dr. Jan Cepelka was elected president; Dr. F. J. Stefskal, vice-president, and Dr. F. Brown, secretary.

Personal.—Dr. John S. Leonhardt, Lincoln, chairman of the health committee of the city council, has resigned.——The case of Marion Leidig against Dr. Elisha M. Whitten, Nebraska City, for malpractice, in which $5,000 damages were claimed, has been settled and dismissed.——Dr. Jan Cepelka, Crete has sailed for Europe.——Dr. Henry S. Summers, West Point, has announced his intention of relinquishing practice.——Dr. G. W. Weeter, Grand Island, was struck by a passenger train while driving across the railway tracks, January 5, and seriously injured.

NEW JERSEY

Hospital Needed for Epileptic Village.—The annual report of the State Village for Epileptics shows that the institution is in need of a hospital. The patients live in cottages, segregated by sexes, and a hospital is needed for general medical purposes. There are 266 inmates in the cottages, an increase of 35 as compared with the previous year.

Personal.—Dr. Charles B. Smith, Washington, lost the sight of one eye and the other eye was seriously injured as the result of carbolic acid thrown in his eyes by an insane patient.——Dr. William J. Chandler, South Orange, fell down the cellar stairs of his office recently, breaking two ribs and one vertebra.——Dr. Henry O. Carhart, Blairstown, fractured both his legs and sustained internal injuries in a collision between his carriage and a railway train January 3.——Dr. Thomas K. Reed, Atlantic City, who has been seriously ill with gastritis, is reported to be improving.——Dr. Charles J. Craythorn, Trenton, was operated on at Mercer Hospital, December 29, for the removal of gallstones.——Dr. George J. Holems, Newark, has been appointed chief medical inspector of the board of education.——Dr. Leon Harris, house surgeon of the Orange Memorial Hospital, was operated on for septicemia, December 16.

NEW YORK

Campaign Against Tuberculosis.—During the latter part of November, Elmira began a campaign against tuberculosis which was conducted by the State Charities Aid Association and the New York State Department of Health in connection with the Ninth New York State Conference of Charities and Correction. A series of meetings was held, which extended through the entire week.

Gift for Elmira.—Mr. and Mrs. Charles E. Rappelyea, Elmira, have furnished a suitable site and thoroughly modern well-equipped hospital for the care of persons having tuberculosis, in the city of Elmira, on condition that the hospital shall be maintained in a completely up-to-date manner by the city at public expense and that it shall be free to citizens of Elmira, except that the hospital may receive compensation for treatment therein from patients able to pay, to the extent of such ability.

Vaccination.—The New York State Department of Health has issued an illustrated pamphlet entitled "Vaccination; What It Is, What It Does, What Its Claims are on the People," prepared by Dr. Frederick C. Curtis, Albany, consulting dermatologist of the board, which describes smallpox, how to know it, the early protective measures, how it is contracted, its prevailing type, what vaccination is, its technic, the source of virus, the efficiency of vaccination, the duration of protection by vaccination, the contraindications, complications and dangers of vaccination, the state laws regarding it, the opposition to vaccination, and its claims on the people.

Object to Civil Service Restrictions.—It is proposed by the state commission to bring within the competitive schedule all the attendants, outside workers on hospital grounds and various other minor employés whose compensation ranges from $18 to $100 a month with maintenance. At the hearing before the state commission there was much opposition to the proposed change from Dr. Albert W. Ferris, New York City, president of the State Lunacy Commission, and Drs. William Mabon, Richard H. Hutchings and Charles G. Wagner, superintendents of the Manhattan, Ogdensburg and Binghamton state hospitals, respectively. They protested on the ground that they now have great difficulty in getting persons to accept hospital service, and that to add civil service restrictions would make it practically impossible to get such help.

Personal.—Dr. Eugene H. Porter has been appointed State Commissioner of Health for a term of four years, and his appointment has been confirmed by the senate.——The Batavia Physicians' Club met January 5, and marched to the house of Dr. Horace S. Hutchins to pay their respects to him on the occasion of the eightieth anniversary of his birth and his completion of half a century of practice in Batavia.——Dr. Matthew D. Mann has been elected second vice-president, and Drs. John H. Pryor and DeLancey Rochester a committee on hospitals in the newly-established Buffalo Association for the Relief and Control of Tuberculosis.——Dr. Henry R. Hopkins, Buffalo, has resigned as chairman of the Erie County board of censors.——The East Aurora home of Dr. Harvey R. Gaylord, director of the New York State Cancer Laboratory, has been totally destroyed by fire.

New York City

Lecture on Living Anatomy.—Prof. Thomas M. Rotch, Harvard University, delivered a lecture to the students of the New York University and Bellevue Hospital Medical College, January 5, on "Living Anatomy, Its Practical Utility in Safeguarding the Early Life," illustrated by lantern slides and the epidiascope.

Personal.—Dr. George E. Deely, Brooklyn, has just returned after eight months in Vienna.——Dr. John D. MacLaren has been elected professor of physiology in the Medical School of the State University of Oklahoma, Norman.——Dr. Francis LaBaron, New York City, was knocked down by a street car December 21, and seriously injured.

Sea Breeze Hospital.—The association which maintains this hospital at Coney Island reports that in the last two years 50 patients have been cured there of tuberculosis of bones, glands and joints. The 41 patients now there are making satisfactory progress toward recovery. The association is waiting for the acquisition by the city of a suitable site for what is intended shall be an adequate municipal hospital for the care of non-surgical tuberculosis in children. The association has raised a fund of $250,000 to construct the first division.

Roosevelt Ambulance Service to Stop.—At a meeting of the board of governors of Roosevelt Hospital it was decided to discontinue the ambulance service after March 1, 1909. It is believed that this action of the board was caused by the many criticisms of the hospital authorities in connection with the transferring of patients to Bellevue Hospital. Coroner Harburger says that this action was due to a verdict of a recent inquest censuring the hospital. The coroner has made arrangements with the Department of Charities to create a new district for Bellevue Hospital.

Tuberculosis Exhibit Needs Funds.—The International Tuberculosis Exhibition at the Museum of Natural History will be obliged to close at once because of lack of funds, unless $16,000 be raised. Before the exhibition opened on November 30, plans were made for an estimated attendance of 300,000, but already an attendance of 450,000 has been recorded, and at the present rate the attendance will reach nearly 800,000. December 27 was Jewish Day, and the counters registered 63,112 visitors; the best previous record was 43,713. It is to be sincerely hoped that the desired funds will be obtained to continue this good work.

Fewer Deaths, More Births.—The report of vital statistics for the last year shows 126,863 births, a rate of 28.68 per 1,000. The number of deaths during the last year was 73,071, or 16.52 per 1,000, the lowest in the history of the city. The number of deaths was 9,249 less than the average number for the last five years. This total was due to a decrease of 197 deaths from typhoid fever, 317 from diphtheria, 573 from tuberculosis and 3,015 of children under 5 years of age. There were slight increases in the number of deaths from measles and cancer. There were 599 more from scarlet fever and an increase of 151 in the number of suicides.

Cars and Tuberculosis.—Vice-President Hedley of the Interborough company says that they are taking every precaution to keep the cars in a sanitary condition. The old thick matting has been replaced by hard maple strips, and every night the floor of every car is sprinkled with a 5 per cent. solution of carbolic acid. The floors are then swept and after the dust has settled it is wiped up with cheesecloth. Every week the floors are scrubbed with a soft soap containing so strong a solution of alkali that it removes the paint whenever it is allowed to come in contact with it. Every month the interior of every subway car is cleaned with an emulsion which gathers up all the fine particles of dust, and every year at least, every car is painted, varnished and oiled. The straps are cleaned every night with an acid solution which will kill any germ.

NORTH CAROLINA

Personal.—Dr. James A. Hayne, Greenville, who has been a medical officer in the Canal Zone for two years, has been transferred to the sanitarium on Bogota Island, Panama Bay.——Drs. Robert L. Gibbon and Charles H. C. Mills have been made chief surgeons on the staff of St. Peter's Hospital, Charlotte.——Dr. William H. Whitehead, Rocky Mount, has been obliged to relinquish his practice temporarily on account of ill health.

Suit Compromised.—The suit brought by Dr. L. V. Cloninger, Shiloh Township, Iredell County, against Dr. E. M. Yount, in which the allegation was made that the defendant had disregarded the terms of sale by accepting professional calls in that section of the county, is said to have been compromised December 23, by the payment of $800 to Dr. Cloninger, leaving Dr. Yount thereafter free to accept all calls in Shiloh Township.

State Hospital Reports.—The biennial report of the State Hospital for the Insane, Morganton, shows a mean death rate for the biennium, of 3.4 per cent., while the recoveries were 34 per cent. of the admissions, and the per capita expense was $152.33. A special appropriation of $30,000 is asked for the construction of an additional building to accommodate 100 men patients.——The annual report of the Central Hospital for the Insane, Raleigh, shows a per capita annual cost of $167.25. During the biennium an annex has been erected at a cost of $64,000, and two other annexes have been commenced, one of which is to accommodate 80 female patients.

OHIO

Illegal Practitioner Fined.—William Newton, Dayton, who pleaded guilty December 2, to practicing medicine without a license, is said to have been fined $300 and costs, but the fine was suspended on his promise to take down his sign and discontinue the illegal practice.

State Medical Board Elects.—The State Board of Medical Registration has organized by the election of the following officers: President, Dr. Augustus Ravogli, Cincinnati; vice-president, Dr. Sylvester M. Sherman, Columbus; secretary, Dr. George H. Matson, Columbus; and treasurer, Dr. Edward J. Wilson, Columbus.

Academy Election.—At the annual meeting of the Columbus Academy of Medicine, held December 21, Dr. Charles J. Shepard was elected president; Dr. Jesse A. Van Fossen, vice-president; Dr. T. Alfred Fletcher, secretary; Dr. R. Blee Smith, treasurer, and Drs. James U. Barnhill and Pinkney D. Shriner, delegates to the state association.

Medical Teachers Meet.—The fourth annual meeting of the Ohio Association of Medical Teachers was held in Columbus December 28. There was practical unanimity as to the colleges in the state raising the entrance examination to include one year of literary college work in biology, chemistry and physics. The association also passed resolutions commending the State Medical Board for conducting practical examinations in biology, bacteriology and embryology, and recommended that clinical medicine be added to the list of branches in which practical examinations are conducted. The visiting members were entertained by the local teachers with a dinner at the Great Southern Hotel. The following officers were elected: President, Dr. James U. Barnhill, Columbus; vice-presidents, Drs. William E. Lewis and John A. Thompson, both of Cincinnati; secretary, Dr. Elmer I. McKesson, Toledo; and treasurer, Dr. Charles W. McGavran, Columbus.

Cincinnati

The Eichberg Professorship.—Between forty and fifty thousand dollars have already been subscribed to establish a chair of physiology at the University of Cincinnati in honor of the late Dr. Joseph Eichberg. The entire amount needed for the endowment of the chair is $100,000. Dr. N. Pendleton Danbridge is chairman of the committee which has the matter in charge.

Annual Meeting of Academy.—At the annual meeting of the Cincinnati Academy of Medicine, January 5, the following officers were elected: President, Dr. Rufus B. Hall; vice-presidents, Drs. Samuel E. Allen and Edward S. McKee; secretary, Dr. E. Otis Smith; treasurer, Dr. Alexander G. Drury; librarian, Dr. Arch I. Carson; censor, Dr. John E. Greice, all of Cincinnati; and trustee, Dr. James F. Heady, Glendale.

Preservation of Records.—The Western Association for the Preservation of Medical Records has been organized in Cincinnati with the following officers: President, Dr. Charles A. L. Reed; vice-presidents, Prof. John Uri Lloyd and Drs. Phineas S. Conner and Jirah D. Buck; secretary, Dr. Otto Juettner; and librarian, Dr. Alexander G. Drury. The records will be kept in the Lloyd Library pending the erection of a fireproof medical library building.

PENNSYLVANIA

Bequest to Pittsburg Hospitals.—By the will of the late George L. Laughlin, Pittsburg, $25,000 each is bequeathed to the Pittsburg Hospital for Children, South Side Hospital, Mercy Hospital, Protestant Home for Incurables and Memorial Home for Crippled Children.

Portraits Presented.—At the annual meeting of the Berks County Medical Society, held in Reading December 8, Jacob V. R. Hunter presented to the society, in behalf of the mother and family, a portrait of Dr. Charles H. Hunter, and S. E. Kerts, in behalf of the daughter of the late Dr. Edward Wallace, presented his portrait to the society.

For a Pure Water Supply.—By direction of the State Health Commissioner, a survey is being made of the Youghogheny River watershed in Somerset County. All the houses, barns, outhouses, manure piles and every source of filth will be located on the map, along all the tributaries of the river, locating all sewers that empty into them, with a view to the proper policing of the same in order to ensure a pure water supply. There have been outbreaks of typhoid fever and diphtheria at times in the county and at present there are several cases of the latter disease in Meyersdale.

Personal.—Dr. John Todd, Pottstown, has been reappointed a member of the local board of health.——Dr. Henry Sommers, Jr., pathologist at the Norristown State Hospital for the Insane, has been appointed superintendent of Blair County Hospital for the Insane, Hollidaysburg, vice Dr. Thomas F. Neal, resigned.——Dr. Abraham S. Wilson, Bristol, is reported to be in a critical condition from valvular heart disease in the Medico-Chirurgical Hospital, Philadelphia.——Dr. Edgar M. Hazlett has been appointed medical director of the State Tuberculosis Dispensary, Washington, and Dr. T. Edmund Mills, director of the dispensary at Pottstown.

Philadelphia

Personal.—Dr. Wiliam W. Keen has been elected president, and Dr. James M. Holland, vice-president of the American Philosophical Society.——Dr. Francis X. Dercum has been elected a member of the Neurological Society of Paris.——Dr. Camillo Feo recently returned from Rome.

Tuberculosis Sunday.—Every pastor in the city has been requested by the Director of Public Health and Charities to set aside February 21 as Tuberculosis Sunday, and to make on that day a special appeal on the subject of "Tuberculosis," alling attention to the International Tuberculosis Exhibit.

Physicians Guests of Druggists.—More than 400 druggists nd physicians attended a banquet and meeting of the Reail Druggists' Association of Philadelphia, December 8, at which the subject of the ethical preparation of drugs was disussed, and a number of speeches were made by prominent members of both professions showing the need of education f the laity and the lack of proper education in medical and ublic schools and the improvemnt that would result from he education of the public as regards proprietary remedies.

Deaths in 1908.—According to the report of the director public health, the city's mortality for 1908 was the lowest in its history. The ratio of death was only 17.16 per 1,000 of population, as compared with 18.30 per 1,000 in 1907. In only two previous years did the death rate go below 18 per 1,000, namely in 1905, when the rate was 17.25, and in 1902, when it was 17.67. The highest death rate in the history of the city was in 1872, when it reached 26.14 per 1,000, due to an epidemic of small-pox. The total number of deaths in the city in 1908 was 26,304, as compared with 27,462 in 1907, a decrease of 1,158. More than 60 per cent. of this decrease was in preventable diseases, as follows: Consumption, 4 per cent.; pneumonia, 4 per cent.; typhoid fever, 40 per cent.; diphtheria, 2 per cent.; meningitis, 80 per cent.; and influenza, 60 per cent. There was an increase of 81 per cent. in the deaths from scarlet fever, and of 257 per cent. in the deaths from measles in 1908, as compared with the previous year. The following were the principal causes of death: Tuberculosis, 3,518; pneumonia, 2,643; diphtheria, 498; scarlet fever, 181; typhoid fever, 583; influenza, 83; heart diseases, 2,473; enteritis, 1,945; pertussis, 225; cerebrospinal meningitis, 51; and measles, 232. The average death rate for the last ten years has been 18.27 per 1,000.

UTAH

Personal.—Dr. Thomas G. Odell, Murray, has been appointed physician of Salt Lake County.——Dr. Joseph S. Richards, Salt Lake City, who has been seriously ill for several weeks, has recovered and resumed practice.——Dr. Robert S. Joyce, Ogden, has been appointed division surgeon of the Southern Pacific Railway, vice Dr. George W. Perkins, deceased.

Hospital Notes.—A new hospital is to be completed and ready for occupancy at Ogden this year. The building will cost at least $75,000, and will be in charge of local practitioners.——A permit has been taken out for the heating plant and temporary orthopedic surgery ward for the Groves Latter Day Saints' Hospital, Salt Lake City, to cost $20,000.

Society Meetings.—At the annual meeting of the Utah County Medical Society, held at the State Mental Hospital, Provo, December 16, the following officers were elected: President, Dr. Walter T. Hasler, Lehi; vice-president, Dr. Daniel H. Calder, Provo; and secretary-treasurer, Dr. Frederic Clift, Provo (re-elected for the fifth successive year). Resolutions were adopted approving the movement to organize all existing national public health agencies into a single department under the control of a cabinet officer, and recommending steps to secure cooperation from Utah congressmen and members of the Utah State Legislature to secure uniform state and national public health laws, and to aid in the organization of a National Department of Public Health under the control of one responsible head.——At the annual meeting of the San Pete County Medical Society, held at Mount Pleasant, December 9, Dr. Charles E. West, Salina, was elected president; Dr. Burleigh C. Linebaugh, Moroni, vice-president; Dr. Margaret A. Freece, Salina, secretary-treasurer, and Dr. R. Garn Clark, Panguitch, delegate to the state medical society.——At the annual meeting of Salt Lake County Medical Society the following officers were elected: President, Dr. Augustus C. Behle; vice-president, Dr. William R. Tyndale; secretary, Dr. William Brown Ewing, and treasurer, Dr. Robert R. Hampton, all of Salt Lake City.

GENERAL NEWS AND COMMENT

Personal.—Dr. William J. Goodhue, resident physician at the leper settlement, Molokai, Hawaiian Islands, has been selected to represent the United States at the World's Leprosy Congress, which meets in Christiania, Norway, this year. ——Dr. Carlos Finlay, Havana, has been appointed chief of the National Department of Sanitation of Cuba. This is a life appointment with a salary of $2,500 a year.——Dr. Newell K. Foster, Sacramento, secretary of the State Board of Health of California, has been elected president of the Board of Health Association of the Pacific Coast, which was recently organized at Portland.

Health of Hawaii.—The report of the president of the Board of Health of the Territory of Hawaii for the fiscal year ended June 30, shows that during the year there were 2,760 deaths, or 262 less than were reported during the previous fiscal year, the annual death rate for the year being 17.92. There were 430 deaths from respiratory diseases, 367 from digestive diseases, 211 from febrile diseases, and 115 from diarrheal diseases. During the year only one case of scarlet fever was reported; there were 36 cases of diphtheria with 12 deaths; no cases of variola; 11 of bubonic plague, of which 8 were verified; 278 cases of typhoid, with 124 deaths, and 351 deaths from tuberculosis. The report of the leper settlement at Molokai shows that in July, 1907, there were 798 inmates. During the year 78 lepers were admitted, 73 died and 3 were released, leaving 791 at the settlement June 30, 1908. The new nursery for non-leprous babies was opened this fall. Children from this institution will be transferred after they have reached the age of 1 year, either to the Kapiolani Girls' Home or the Non-Leprous Boys' Home, Honolulu. At the beginning of the fiscal year there were 217 inmates at the Oahu Insane Asylum. During the year 82 were admitted, 79 died or were discharged, leaving 220 in the institution at the close of the fiscal year. During the year 13,293 rats were examined, 11 of which were found to be infected with plague.

Jefferson Class of Seventy-nine Reunion.—A reunion of the class of 1879 of Jefferson Medical College is planned for its thirtieth anniversary. It is contemplated to hold a reception and to occupy a separate table at the Alumni Banquet, and to continue the reunion during the meeting of the American Medical Association in Atlantic City, June 8, 9 and 10. The secretary of the class, Dr. William J. Middleton, Steelton, Pa., reports that he has the addresses of about 128 of the total of 1906 who graduated, and requests information regarding the following:

Armstrong, J. Stone, N. Y.
Blunden, Boyle N., Penna.
Bowcock, John W., W. Va.
Brown, Carlos M., Cal.
Cates, Charles H., Maine.
Crawford, George W., Penna.
Entler, George F., N. Y.
Forbee, William H., Ind.
Fowler, Warren H., N. Y.
Gardiner, Charles, N. Y.
Grady, William A., Minn.
Guerero, Alfonzo A., Central America.
Guzman, Virgillo, Central America.
Hale, John F., Ark.
Herron, Charles R., Fla.
Hice, Edward C., Penna.
Hickman, James W., Penna.
Holman, James A., Penna.
Hopkins, Abram C., N. C.
Hough, Thomas A., Penna.
Howard, Randolph, Ind.
Howell, Richard L., Penna.
Hoyt, Theodore E., Penna.
Jacob, Harry, Penna.
MacCord, George Thornton, Pittsburg.
MacCallister, Chas. H., Ind.
McClellan, R. Miller, Penna.
McClure, Frank E., Vt.
Nes, Henry, Penna.
Otway, David B. West Indies.
Page, Dudley L., Mass.
Paine, Wm. A., Penna.
Peairs, Elisha P., Penna.
Price, Allen D., Penna.
Pringle, William W., Ohio.
Rinehart, Williard E., Oregon.
Seaman, Dean, New York.
Shriner, Charles H., Penna.
Smith, Charles S., Ohio.
Smith, Harris K., Penna.
Sprowles, Isaac Newton, Penna.
Stopp, James T., Alabama.
Throop, George S., Penna.
Tomlinson, Thomas C., Delaware.
Torbert, Enos G., Penna.
Vega Francesco, Central America.
Wallen, Seely, New Jersey.
Ward, George Mason, Penna.
Waters, John, Pine Bluff, Arkansas.
Winslow, Byron, Penna.
Woodruff, George, New Hampshire.
Worsley, Edward A., Va.
Wright, J. Edward, Penna.
Zeiner, Levi S., Penn.

International Bureau of Public Health.—The International Bureau of Public Health was formally inaugurated at Paris Nov. 10, 1908, and the director and secretary were installed in office by the committee, composed of one representative from each of the countries which have agreed to support the newly created bureau. Dr. S. B. Grubbs of the P. H. and M.-H. Service was the United States delegate. The idea of having a central and international office for the purpose of gathering and distributing information concerning the graver epidemic diseases, especially cholera, plague and yellow fever, was first presented for consideration at the international sanitary convention of Paris, in 1903, although it had been advocated for some time previously by many sanitarians, notably the late Professor Proust of Paris. At the request of the convention of 1903, the French government undertook the task of presenting to the nations interested propositions regarding the organization of such a bureau. These propositions were submitted in a final form in August, 1907, and a conference was invited by the government of the French Republic, at the instance of the Italian government. This conference was held at Rome, Dec. 3, 1907, the delegates signing for the governments of Belgium, Brazil, Spain, the United States, the French republic, Great Britain and Ireland, Italy, the Netherlands, Portugal, Roumania, Russia, Switzerland and Egypt. The agreement may be summarized as follows:

> The high contracting parties engage to found and maintain an international office of public hygiene, of which the seat shall be in Paris. It is operated under the authority and control of a committee formed of the delegates of the contracting governments. French is the official language of the office and its monthly bulletin shall be French, but the committee may decide that parts may be published in other languages.
>
> The expenses necessary for the operation of the office, estimated at 150,000 francs per annum, are covered by the states signatory to the convention, the contributions of which are fixed according to the following categories: (1) Brazil, Spain, United States, Great Britan, British India, Italy, Russia, at the rate of 25 units; (2) at the rate of 20 units; (3) Belgium, Egypt, and Netherlands, 15 units; (4) Switzerland, 10 units; (5) 5 units; and (6) 3 units.
>
> The men chosen for director and secretary are distinguished in their callings, are full of zeal for the work, and will have the earnest support of the French government, which has promised not only to recognize the bureau officially, but to give it permanent offices in the Department of Labor. It was decided that the position of director should not be restricted to medical men, as the diplomatic side of the duties will be quite as important as the scientific side. As is customary in practically all European countries, a liberal retirement privilege and pensions have been provided for the personnel of this bureau, so that the undivided efforts of their best years may be given to the work without fear for the future.
>
> The office is under the authority and control of an international committee composed of technical representatives designated by the participating states at the rate of one representative for each state, but with a number of votes inversely proportioned to the number in the category to which it belongs as concerns its share in the expense of the office.
>
> The committee meets periodically at least once a year, and the members of the committee receive mileage from the fund appropriated to the operation of the office and a fee for each of the sessions which they attend.

It is believed that the full exchange of ideas that will take place at the semiannual gathering of the governing committee, composed as it is of men of the highest authority and influence, will have a beneficial effect on the march of international sanitation, and that as a central clearing house of sanitary information the bureau will become of the highest importance, both in the quarantine and the internal sanitary administration of the various countries of the world. The foundations of the International Office of Public Hygiene have been laid as for an institution that is to be permanent. In organization it resembles the permanent International Postal Bureau and the Bureau of Weights and Measures, but in the field of sanitation it is original, being the result of long and persevering collaboration by men who believe that the greatest international publicity in sanitary matters is the first and most important step toward perfect sanitary control.

FOREIGN NEWS

Congress Program in Esperanto.—The program of the Eighth International Congress on Hydrology, Climatology, Geology and Physiotherapy, to be held in Algiers in April, has been published in Esperanto, in addition to the usual official languages.

Academy of Medicine Founded at Buenos Aires.—The authorities have decreed the organization of the official Academy of Medicine of the National University of Argentina. It is to consist of 25 members, with honorary and corresponding members as desired, and is to comprise three departments, biology, general medicine and surgery with gynecology and obstetrics.

Students' Number of the Paris Progrès Médical.—This important number of our French exchange contains 255 pages and supplies a fund of useful information not only for students and practitioners, but for all interested in medical education and practice, midwifery, dentistry and pharmacy in the French-speaking countries. One chapter describes the organization of medical instruction in France; another, the conditions for obtaining the medical degree, military service and exemption; another, medicine in the army, navy and colonies, and another organizations of and for medical students and practitioners, dentists, etc. Nearly a hundred pages are devoted to the medical institutions of Paris, including private educational and clinical establishments and training schools for nurses. The fourth part of the number is devoted to general professional information, laws, decrees, benefit and pension societies, syndicates, watering places and medical, dental, pharmaceutic and public health organizations, private and official. This number is far more complete than any of its predecessors; not the least interesting feature is the historical sketch and detailed description of many of the institutions, and the timely advice given to medical students and fledgling doctors on various professional subjects. The theses maintained at most of the different French-speaking medical schools are listed not only in France, but for Brussels, Ghent, Liége and Louvain in Belgium, Geneva and Lausanne and Bucharest. Particulars are also given for the medical schools at Jassy, Quebec and Montreal. The prizes offered by various institutions are also listed, with all the conditions for the competition.

The Medical Profession in the Recent Political Events in Turkey.—Remlinger of Constantinople states that medical men took a prominent part in the events which have resulted in the establishment of a constitutional government in Turkey. In a communication in the *Presse Médicale* he says that the Military Medical School at Constantinople has long had the reputation of being a focus of advanced ideas and that the list is a long one of students and physicians who have been exiled to remote regions or condemned to a hundred and one years in prison on some trivial excuse, but in reality on account of their political activity. The recent amnesty provided pardon for all these political offenses, and it is estimated that not less than 500 physicians and medical students have been restored to freedom in consequence. A number of the physicians succeeded in escaping prosecution by flight to France and Egypt, and the Young Turk party numbered some of its leading spirits among these refugees. Chief in this group, he says, was Nazim Bey, who, under various disguises, has traveled all over the country during the last few years fostering the movement for reform. His return to Salonica, after the promulgation of the amnesty, was a triumphal ovation. The Union and Progress Committee, which is playing a leading part in the politics of the empire at present, includes several physicians whose names are known in science, Djemil Pacha, Riza Tewfik Bey and Essad Pacha. Remlinger adds that when the constitution was proclaimed, no one dared to take the initiative in its reception as a fact until the medical students headed a procession to the Sublime Porte, banners appearing as if by magic inscribed, "Science Rests on Liberty"; "The Health of the Nation is Bound up with Science." etc. He is proud of the fact, he says, that the regeneration of a great people owes so much to the medical profession.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 29, 1908.

Sudden Death After the Prophylactic Injection of Diphtheria Antitoxin

The remarkable series of cases of sudden death after injection of antitoxin recorded in The Journal during the present year were without parallel in Great Britain until the following case, which has just occurred. A girl, aged 18, had a sister suffering from diphtheria, and the physician in attendance advised the injection of antitoxin in order to avoid the risk of her catching the disease, from which she had previously suffered. When the antitoxin was injected she complained of smarting pain, and added that she was suffocating. She became worse, and in a few minutes fell from her chair nd died. For several years she had suffered from asthma, nd the doctor thought death was due to asphyxia from an cute attack of asthma. Dr. Collier of Oxford, ex-president f the British Medical Association, made a postmortem examination and found the lungs and cavities of the heart in uch a condition as could only be brought about by sudden nd extreme spasm, such as might be accounted for by an cute attack of asthma. In his opinion the injection of antioxin started such an attack. He did not think that any ne could have possibly anticipated such a result. As far as e knew no similar case had ever been recorded. In view f the great importance of the inquiry, he invited Dr. Dreyer, rofessor of pathology in the University of Oxford, to be resent at the examination. The latter agreed with his conlusions. At the inquest which was held the jury returned a erdict that death was due to an acute attack of asthma tarted by an injection of diphtheria antitoxin which had been dministered with proper care.

Oldest Member of the College of Surgeons

An interesting communication has been received by the oyal College of Surgeons from its oldest member. Surgeonlajor Hinton, who resides in Glenelg, South Australia. "I m." he writes, "in perfect health, walking for pleasure 5 iles or more a day." In 1835 he became a member of the ollege, and in 1838 he joined the Bengal Medical Staff, rering from service in 1868. Since his retirement he has ved in Australia, the climate of which he considers conduve to longevity. He is now 95 and expresses the hope that e will live to attain the age 100.

Poisoning by Ferro-Silicon Gases

The emigrant steamship *Ashton*, bound for America, arrived om Antwerp at Grimsby with five dead passengers, Russian ws. They were the only passengers carried and were all in od health when the vessel left Antwerp December 12. On e morning of December 13, the steward found four of them ing dead in their berths between-decks, while the fifth died ithin twenty-four hours. The Grimsby health officers were uch puzzled as to the cause of death. The passengers' berths ere between-decks directly above the forehold, with which ere was a communication by a hatchway. The cargo inuded 9 tons of ferro-silicon. At the inquest the master of e ship declared that he had never heard of the substance fore, and did not know that it gave off poisonous gases. He had never seen the notice issued by the board of trade to mariners drawing attention to its dangerous properties and pointing out that 4 deaths had already occurred from it. The shipping agent gave evidence that the company had forbade shipping ferro-silicon in any of their steamers. Its shipment in the present case, he declared, was contrary to their instructions. The verdict of the jury exonerated the ship's officers from all blame.

Reform of Coroner's Inquests

The present system of coroner's inquests is, like many other parts of the British constitution, a relic of the feudal system which the conservatism of the English permits to survive until it has become a glaring anomaly in modern civilization. In all cases of death from violence, even when there is no question of crime or responsibility of any person, and in all cases of death from natural causes without a physician being in attendance, an inquest must be held. Last year 7,025 inquests were held in London (exclusive of the down-town district) at a cost of $150,000, and verdicts of "death from natural causes" were returned in 3,375. Yet in each of these a full jury had to be empanelled and all the cumbrous machinery of the coroner's court set in motion. Reform of coroner's courts is to be the subject of an inquiry by a departmental committee of the home office, and which is approved by the London County Council, the Medicolegal Society and many experienced coroners. The London County Council recommends the appointment of one or more salaried medical investigators for each London district, to inquire into all uncertified deaths, assisted by responsible inquiry officers, and to make necropsies when necessary and report to the coroners, who will decide whether or not an inquest is necessary. It is also proposed to reduce the number of jurors by one-half—that is, the number is to be not less than 6 or more than 11.

Treatment of Leprosy

The secretary of state for the colonies and the government of British Guiana have arranged for Professor Deycke, late directory of the Medical Military School at Constantinople, to test the Nastine treatment for leprosy at the Colony Leper Asylum at Mahaica, British Guiana. If the trial is successful the British government may have the method adopted in other British colonies.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 24, 1908.

Has a Physician the Right to Refuse to Visit a Patient?

In consequence of the difficulty experienced by Dr. Babon of Argenton in obtaining payment from a certain patient for services rendered, he wrote to the other physicians in the town informing them of the patient's refusal to settle the account. The patient thereupon brought suit against Dr. Babon for $1,000 damages, because the doctor not only refused to give medical care to the patient and his family, but also prevented other physicians of Argenton from giving it. The court decided against the plaintiff on the grounds that Dr. Babon's letter to his colleagues contained nothing defamatory, and that, while the law of 1892 provides, in a general way, that every physician must respond to the requisitions of justice, a physician is absolutely free to refuse his services to any person whatsoever.

The case is different, however, if a physician, having promised to visit a patient, fails to keep his appointment. In this case there would be ground for action for damages against him. Similarly, the physician who, after beginning to treat a patient, abandons him without having given the necessary attention, is legally responsible for his neglect unless this was necessitated by circumstances over which he had no control.

Exciting Incidents at the Examination for "Admissibility to the Agrégation"

The opposition to the proposed diploma for advanced studies, the *certificat d'études médicales supérieures*, mentioned in my previous letter, was so pronounced that the project was abandoned and another diploma proposed in its place, entitling the holder to compete for the subordinate chairs in the medical faculties, the post of *professeur agrégé*. The same objections, apply, however, to this as to the other, and a referendum vote taken by the Association of former internes of the Paris hospitals resulted in 200 votes against the measure, with only 10 in its favor. The chief objection is that the candidates will have to leave their regular work, their nucleus of a clientèle, to spend two or three months a year in attendance on the competitive examinations as they are held one year at Paris, another at Lyons, another at Toulouse, and so on. Another objection is that the examinations are merely memory tests and on theoretical subjects which the candidates learned in their student days, but have had time to forget during the interval of six or ten years or more since their graduation.

The first competitive examination under this new arrangement was held December 21, but it provoked a riotous demonstration, in which not only the students, but a very large number of doctors participated. The disturbances were so serious that the president of the examining board, Professor Bouchard, sent for two detachments of the military, who were stationed around the building, something which has never before happened, at least since the republic has been established. The government is now to investigate the whole question. On the other hand, the medical organization of the Seine province has entered a formal protest against the competence of the examining board provided, the *conseil supérieur de l'instruction publique*, as it is composed mostly of professors from non-medical schools, while the few medical men on the board, the leading spirits in the medical hierarchy, are equally incompetent, as their practice among the wealthy and cosmopolitan population of Paris gives them no insight into the medical requirements of the great mass of the population, the middle and working classes and the peasants. The protest concludes by urging the authorities to invite the cooperation of medical organizations in reforming the methods of medical instruction and sanitary and hygienic regulations.

Certificate of Radiography

Some months ago, the Academy of Sciences appointed a committee to investigate the question whether or not the practice of radiography ought to be restricted exclusively to physicians. Certain members of the committee are said to favor the creation of a new diploma, that of radiography, to be given to students of medicine at the end of their preparatory year for the P. C. N. examination (physics, chemistry and natural sciences).

Oversight by Medical Syndicates of Offers of Vacant Medical Situations

Many small municipalities post in the medical schools offers of vacant medical situations, with deluding promises. There is now a movement to have such offers passed on by the local medical organizations before they are allowed to be posted in the schools, a desirable innovation, since it would furnish accurate information and prevent imposing on over-credulous young practitioners.

For and Against Absinthe

The Senate is considering a bill to prohibit the manufacture and sale of absinthe which is endorsed by more than a hundred senators of all political parties. Sixteen of the eighteen members of the committee to which the bill was referred are also in favor of the measure. The members of the Senate were not a little surprised to receive recently a voluminous report prepared by the state's attorney, the *procureur*, at Pontarlier, the center of the absinthe-manufacturing district, stating that absinthe of good quality is a harmless if not a beneficial beverage, and that the evils ascribed to it are due solely to the adulterations. This communication has elicited an energetic protest from Dr. Ledoux, physician of the hospital at Besançon, capital of the department in which Pontarlier is situated. He shows by statistics the lamentable influence of absinthe, "good" or bad, on the progress of tuberculosis, of depopulation and of insanity.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 22, 1908.

Chairs of Physiology and Hygiene in Berlin

My report that Flügge, from Breslau, would probably be considered as a successor of Rubner has been confirmed. Flügge has received the call. Meanwhile, a decision has not yet been reached, as the conditions have become somewhat complicated. Rubner wishes to retain the new institute for hygiene, lately built under his directions, as the institute for physiology, and have the physiologic institute previously used, which was built under the direction of Du Bois-Reymond, converted into the institute for hygiene. But all these changes cost money, and therefore the final decision must be made by the minister of finance; until this is done the appointments to the chairs of physiology and hygiene are still uncertain.

Fake Honorary Memberships

For a year or two there has existed in Palermo, under the name of the Physico-Chemical Academy, a fraudulent institution which confers honorary membership on foreign scientists in return for a certain fee for the preparation of the diplomas and medals. In their craze for distinctions a large number of German medical notabilities have been victimized by this swindle, and, in spite of every warning, even certain prominent professors are now repenting for their vanity and credulity. Lately an official notice regarding the institution has been published by the Italian general consulate. According to this statement the academy with the high sounding name consists of "a motley company, which has assumed this title in order to flatter the vanity of fools." The *Deutsche medizinische Wochenschrift*, which republishes this notice, justly comments that even this announcement will not avail, as experience has shown that there always will be found scientists of reputation who will gladly pay for membership in this society.[1]

The Cholera in Russia

After a transient subsidence, cholera has again flared up in St. Petersburg. This is not surprising, as we read the following statement regarding the condition of the drinking water in St. Petersburg: "The water taken from the Neva in the immediate neighborhood of the city is not filtered at all in the parts of the city on the north shore of the Neva and only partially in the rest of the city. The place from which the water is taken lies directly below large factories and hospitals which empty their entire sewage into the river without any sort of disinfection. Most of the filters have not been cleaned for fifteen years, and the filtering layer is permeated from top to bottom with foul-smelling organic slime. Samples taken from different parts of the filtering layer, as also samples of the freshly filtered water, show the presence of cholera germs, although the Neva has been frozen over for a long time. A thorough disinfection of all the water mains is now contemplated.

Robert Koch Foundation for the Campaign Against Tuberculosis

This foundation, of which I have previously spoken, has lately received an important contribution from Frau vom Rath, a lady who has already made large donations for the care of the sick, and now has given the foundation, 125,000 marks ($30,000). The gift is to be made a special fund for research on the relations between nutrition and tuberculosis. The executive board of the foundation has been recently organized. It consists of Robert Koch, the president of the imperial board of health, the director of the institute for infectious diseases, the first court physician of the emperor, also B. Fränkel, the well-known authority on tuberculosis, von Renvers, physician in ordinary to the imperial chancellor, Mugdan, member of the reichstag, von Studt, former minister of state, privy councilor Schmidt, Frau vom Rath and Professor Schwalbe, the editor of the *Deutsche medizinisch Wochenschrift*.

Drunkards Among the Habitual Criminals in the Prussian Penitentiaries

Recently published statistics again show that the habitual criminals come to a large extent from the ranks of the habitual drunkards. Between 1902 and 1905 there were in all 12,534 convicts in the Prussian penitentiaries, and of these 3,074, or 25 per cent., were habitual drunkards. It is further of interest that according to the annual report of a building trade insurance society for the district of Zürich, accidents occur most frequently on Monday, that is, the day following the more abundant consumption of alcohol on Sunday. According to these statistics, the accidents reported on Monday exceed those of all the other days of the week by 42 per cent.

The Conflict Between Physicians and the Life Insurance Societies

For some time German physicians have been treating with the life insurance societies with reference to raising the fees for examinations. They ask a fee of 5 marks ($1.25) for the brief report rendered by the family physician, and 10 or 20 marks ($2.50 or $5) for the more extensive report furnished by the examiner for the company, varying according to the amount of the insurance. As the life insurance companies have refused these and other stipulations, the Leipsic League has proclaimed a strike of physicians against the life insurance companies. On this account physicians for the present are making no examinations for the life insurance companies. It is to be hoped that the quarrel will soon be settled, as by it no small injury is being done not merely to the life insurance companies, but to physicians and to the public as well.

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[1] It was written up in The Journal, June 29, 1907, page 2196, as certain physicians in America were also being informed that they had been elected honorary members.—Editor.

Pharmacology

HOWELL'S MERCOL

Reid Hunt, M.D., and Atherton Seidell, Ph.D.
Division of Pharmacology, Hygienic Laboratory, Public Health and Marine-Hospital Service
WASHINGTON, D. C.

In response to a request of the secretary of the Council on Pharmacy and Chemistry, we have recently investigated a preparation known as Howell's Mercol. This is manufactured by H. B. Howell & Co., Ltd., New Orleans, and it is claimed to be a 1 per cent. solution of mercuric iodid in a non-irritating neutral menstruum, and is recommended for hypodermic use in the treatment of syphilis. A physician who gave the preparation a trial writes to the secretary of the Council as follows:

"I gave the preparation a trial—hypodermic—and found that it was absolutely painless, but immediately grew skeptical as to its strength on account of the absence of any of the physiologic manifestations of mercury, and, when given in larger doses, also failure in therapeutic results."

It seemed desirable, therefore, to determine if mercuric iodid is actually present in this preparation. The examination of three different samples, one of which had been obtained for us directly from the manufacturer was as follows:

The preparation is a yellowish, oily liquid with a slight bluish fluorescence. The specific gravity at a temperature of 20 C. was found to be 0.859; the boiling point was above 360 C. A determination of the saponification number by digestion at a temperature of 100 C., with standard alcoholic potassium hydroxid solution in a pressure bottle, gave only a trace of saponifiable fats. The "neutral menstruum," therefore, consists of mineral oil; probably commercial liquid petrolatum.

The solubility of mercuric iodid in petrolatum at 25 C. is quoted on page 199 of Seidell's "Solubilities of Inorganic and Organic Substances" as being 0.025 gm. HgI_2 per 100 gms. petrolatum ("vaselin"). It appears, therefore, that the claim for a 1 per cent. solution of mercuric iodid in a solvent composed only of mineral oil as found in the present sample s open to suspicion.

The first test which suggested itself for the detection of mercuric iodid in the sample of Mercol was simply to dissolve he preparation in a suitable solvent such as ether, chloroorm, or mixtures of these with alcohol, etc., and pass in hydrogen sulphid. No precipitate being obtained in any ase, attempts were made to extract the mercury salt by iolently shaking the sample with strong potassium iodid olution. The resulting aqueous layer failed however to yield mercuric sulphid on passing hydrogen sulphid gas through it. These tests were also applied without success to solutions of mercuric iodid in liquid petrolatum prepared in the laboratory. The presence of the mercuric iodid in at least one of these amples, namely, that prepared by heating a mixture of the ed mercuric iodid and petrolatum on the steam bath for some ours and decanting the clear hot solution, was assured, since n cooling the separate red iodid was plainly visible. Furthermore, rather large amounts of mercuric iodid dissolved in etrolatum by heating, were not precipitated by hydrogen ulphid. These experiments indicated that petrolatum when resent even in relatively small amounts interferes with the recipitation of mercury as the sulphid.

After numerous experiments on Mercol and mixtures of mercuric iodid and liquid petrolatum prepared in the laboratory, two satisfactory tests for the detection of the mercuric iodid were devised.

The first of these was based on the observation that a mixture of red mercuric iodid and liquid petrolatum when heated to the boiling point for several minutes in an inclined test tube yields a yellow and red deposit of mercury iodid in the upper part of the tube while the petrolatum condenses and flows back to the hot liquid below. The identity of the yellow and red deposit was established as follows: The larger part of the petrolatum was withdrawn with a pipette and the remainder removed with the aid of chloroform. A portion of the yellow deposit was then dissolved in alcohol and the solution mixed with chloroform and shaken with dilute sulphuric acid containing a few drops of a 1 per cent. sodium nitrite solution. The liberated iodin imparted the characteristic pink color to the chloroform layer. The remainder of the deposit was then dissolved in potassium iodid solution and treated with hydrogen sulphid when black mercuric sulphid separated. In order to determine roughly the limit of delicacy of this test, mixtures of mercuric iodid and liquid petrolatum were prepared and boiled in test tubes as described above. It was found that 0.0008 gm. HgI_2 in 5 gm. liquid petrolatum (=0.016 per cent. HgI_2) yielded a faint although perfectly distinct yellow deposit. It is therefore safe to assume that with 3 to 5 gm. of sample this test will distinctly show as little as 0.03 per cent. mercuric iodid. A solution of mercuric iodid in liquid petrolatum prepared by digesting for some time on the steam bath and decanting yielded the yellow deposit when a few cubic centimeters were treated as above described. A solution of mercuric iodid prepared by heating a mixture of the salt and liquid petrolatum over the flame until a clear liquid was obtained and then cooling and filtering from the separated salt gave no yellow deposit when boiled in a test tube as described. This indicates that at the ordinary temperature petrolatum holds less than 0.03 per cent. of mercuric iodid in solution. Of several samples of Mercol none gave even a trace of a yellow deposit when examined very carefully by this test.

The other test used for the examination of Mercol depends on the colorimetric detection of the iodin. For this purpose the sample is mixed with somewhat more than an equal volume of chloroform and shaken with dilute sulphuric acid to which a few drops of 1 per cent. sodium nitrite solution are added. Under these conditions the liberated iodin imparts the characteristic pink color to the chloroform layer. The limit of delicacy of this test was found to be less than 0.01 per cent. The hot solution of mercuric iodid in liquid petrolatum digested for some time on the steam bath responded immediately to this test. The cold filtered solution did not, neither did any of the samples of Mercol which we examined. It would therefore appear that the amount, if any, of mercuric iodid in Mercol is less than 0.01 per cent.

These experiments indicate that although the manufacturers of Mercol may have used mercuric iodid in its preparation, they have not succeeded in obtaining a 1 per cent. solution of this compound in their "non-irritating neutral menstruum." It is furthermore evident that the samples examined as above outlined contain none, or at most, only traces of biniodid of mercury.

Comments on the above would seem superfluous. To state that a manufacturer is grossly careless who claims to have an efficient preparation of what is almost a specific for one of the most terrible diseases known, but which contains practically none of the active ingredient, is expressing it very mildly. The following statements contained in the circular accompanying the bottles of Mercol are interesting:

"This is an ethical preparation, and, as such, the physician should have no hesitancy in using it in his practice. We desire to restrict the use of Howell's Mercol to the physician. Therefore, we do not go into minute details concerning its composition or therapeutic worth."

"The production of Howell's Mercol requires special apparatus, considerable time and some chemical knowledge. In fact, it is an extremely delicate chemical manipulation. While we do not claim to be overwise, yet, in this instance, we have done well. In view of the fact that this preparation is used hypodermically, we suggest that the physician safeguard himself and patient by using the original. Substitutes might prove dangerous."

Considering the extremely low cost of this preparation, the profits are certainly attractive, seling as it does at $12.00 per pound, or $1.00 per ounce.

THE INTERNATIONAL INSTITUTE FOR THE TREATMENT OF TUBERCULOSIS

The Results of an Investigation of Sixty-two Cases "Treated" by This Fake Concern

While the medical profession knows that the innumerable "consumption cures" that are being exploited, are all fakes, yet it is seldom possible to learn the inner workings of such concerns. This fact is well known by the promoters of "cures" in general, and it forms the bulwark of their commercial success. For this reason the following data which we have obtained regarding the "International Institute for the Treatment of Tuberculosis" is interesting, both intrinsically and because it is typical of many similar concerns.

When the methods and personnel of the "International Institute" were discussed in The Journal of December 12, it was stated that the cases of patients "treated" by the O. E. Miller method were under investigation. The results which have come to hand, in addition to demonstrating the, not unexpected, worthlessness of the "cure," have brought to light the astounding heartlessness of which men engaged in this line of business are capable. There are cases, no doubt, of ignorant and untutored men who have put forth a fake remedy in which they themselves had faith. Such obsessions are possible though not common; just as in an earlier day there were magicians who believed in their own magic. Such individuals deserve pity rather than contempt. No such excuse, however, can be put forward in defense of the International Institute for the Treatment of Tuberculosis and those financially interested in it. The damning facts which we are about to give must, in the nature of the case, be known to the exploiters of the O. E. Miller "treatment" and doubtless in some cases on which we lack information the knowledge possessed by them but increases the grewsome obituary list which we present.

THE DUNNING EPISODE

Some light is thrown on one of the earlier episodes in Miller's attempt to get his "cure" before the public, by the following communication:

Dunning, Ill., Dec. 22, 1908.

To the Editor:—I notice in The Journal, Dec. 12, 1908, you have given your readers some timely facts concerning O. E. Miller and his, so-called, tuberculosis cure. Permit me to add my share to the general fund of facts. In October 1907, Miller, accompanied by a Chicago physician, came to the Cook County Hospital for Consumptives at Dunning. Miller said he had a cure for pulmonary tuberculosis, and that if some of our patients would be willing to try his treatment, he would care for them free of charge. He explained that the physician who accompanied him was to be with them and administer the treatment. The matter was presented to a group of patients and ten of them accepting his offer, were taken by Miller to the Lincoln Park Hospital, Chicago, where they were "treated." One other patient joined them later. The result of the "treatment" follows:

(1.) C. Kearney, dead.
(2.) C. Peterson, dead.
(3.) P. Carr, dead.
(4.) C. Ryan, dead.
(5.) L. Goodman, dead.
(6.) —— Olander, dead.
(7.) R. Coudek, unaccounted for.
(8.) M. J. Cronin, unaccounted for.
(9.) A. Daum, and (10) A. Martin, confined to bed by terminal tuberculosis, in Cook County Hospital for Consumptives.
(11.) R. Kacin, advanced tuberculosis, an ambulatory case.

Mr. Kacin who was with the men all the time has made a statement under affidavit, which I include with this. If in your judgment these facts will interest your readers, I shall be glad to have them published.

Ernest S. Moore,
Physician in Charge, C.C.H.C.

The letter of Mr. Kacin's referred to is too long for publication, but the essential facts are these: The patients were at the Lincoln Park Hospital for about three months and two of them—Kearney and Peterson—died there. One of the number—Carr—was then transferred to Magnolia Springs, Ala., and the remainder of the patients followed later. Carr died a week after his arrival and Ryan succumbed in four weeks. In closing, Mr. Kacin says: "I am familiar with the whereabouts of but three of the eleven men who left the hospital in October, 1907. . . . Speaking for myself, I am now in worse shape than when I left here."

And this is a group of patients which the agents for the International Institute have referred to as wonderful cures!

THE CHICAGO "SANITARIUM"

Though Miller's agents when soliciting funds for the establishment of "sanitaria" have apparently conveyed the impression that the "Institute" has a "large sanitarium in Chicago," the facts are the concern has no place of its own. Since last July the institute's patients have been given "treatment" at the Chicago Union Hospital.

The physician originally in charge of Miller's patients was a Dr. J. G. Sinclair of Chicago. Sinclair and Miller seem to have had a disagreement in September, and the former withdrew from the International Institute and has since conducted a "consumption cure" of his own, using, so his agents claim, Miller's "remarkable eliminative treatment." Of this more later.

MILLER'S PATIENTS TREATED IN CHICAGO

Since Sinclair left the "institute," Dr. E. A. Moulton—who, according to the official stationery is "house physician"—seems to have been in charge; at least his name is signed to most of the death certificates.

With the cooperation of the Chicago Health Department, we were able to obtain a list of the patients who have been received at the Chicago Union Hospital to undergo the Miller "treatment." We have followed up the history of these patients and the information received up to the time of going to press is presented in tabular form. The names of the patients and the towns (usually small) from which they came, are purposely omitted to shield the unfortunate victims from a somewhat unenviable publicity.

What the Institute Has Accomplished

Case.	From.	Admit. 1908.	Condition.
1	Ill.	July 17	Dead.
2	Ill	July 20	No information.
3	Ohio	July 31	Dead.
4	Ill.	Aug. 2	Dead.
5	Ill.	Aug. 2	Dead.
6	Ind.	Aug. 4	Dead.
7	Ohio	Aug. 7	Dead.
8	Ill.	Aug. 9	Dead.
9	Wis.	Aug. 9	No information.
10	Penn.	Aug. 10	No information.
11	Ill.	Aug. 12	Dead.
12	Ind.	Aug. 17	Dead.
13	Ill.	Aug. 17	"Approaching the end."
14	Ohio	Aug. 18	No information.
15	Ill.	Aug. 27	Dead.
16	Ill.	Aug. 29	"In no sense cured."
17	Ill.	Sept. 2	No information.
18	Ohio	Sept. 10	Dead.
19	Ill.	Sept. 15	No information.
20	Col.	Sept. 16	No information.
21	Tenn.	Sept. 16	No information.
22	Ill.	Sept. 14	"Still has hemorrages; decreased weight."
23	Ill.	Sept. 19	"Lying weak and aphonic."
24	Ill.	Sept. 19	Dead.
25	Ill.	Sept. 19	Dead.
26	Iowa	Sept. 24	"Still living; out in Arizona."
27	Ohio	Sept. 24	"Will doubtless die within a few weeks."
28	Wis.	Sept. 26	"Is in last stages."
29	Mich.	Sept. 26	Dead.
30	Ind.	Oct. 4	Dead.
31	Ill.	Oct. 4	Dead.
32	Ill.	Oct. 5	Dead.
33	Ohio	Oct. 16	Dead.
34	Ill.	Oct. 25	Dead.
35	Ill.	Oct. 26	No information.
36	Ill.	Oct. 26	Dead.
37	Ill.	Oct. 26	"Little if any change."
38	Ill.	Oct. 27	"Failing rapidly."
39	Ill.	Nov. 4	Dead.
40	Tenn.	Nov. 4	"Is no better."
41	Ill.	Nov. 9	Dead.
42	Vt.	Nov. 12	No information.
43	Ill.	Nov. 14	No information.
44	Ill.	Nov. 15	"Death looked for any time."
45	Ill.	Nov. 17	Dead.
46	Ind.	Nov. 21	Dead.
47	Ill.	Nov. 24	No information.
48	Kas.	Nov. 24	No information.
49	Ind.	Nov. 28	Dead.
50	Texas	Dec. 12	No information.
51	Ill.	Dec. 14	No information.

THE CASES NOT SELECTED

These cases, it should be remembered, are in no sense selected. They represent the official record of the Institute's roster, from July 17, 1908, to Dec. 14, 1908. The table gives, in the briefest possible way, the history of fifty-one consecutives patients subject to the O. E. Miller "treatment" for tuberculosis. Yet Miller and his associates have the blatant effrontery to publish broadcast the statement:

> "Of all cases treated . . . we have effected permanent cures of over 80 per cent. including all complications."

Tables and statistics are generally dry and uninteresting, but we feel that the tabular statement given above speaks more eloquently than any sermon of "man's inhumanity to man." Here we have a list of 51 individuals suffering from tuberculosis who have been subjected to the Miller "treatment" at the International Institute and of 36 of whom we were able to obtain definite information. Of the 36, no fewer than 25 are dead; of the 11 living, 4 may be said to be in dying condition and the others are "weak," "aphonic," "very low," etc.; as the case may be. It is possible, yes probable, that of the 15 patients about whom we have no information the same proportion are either dead or dying. In any event we have positive information regarding 45 patients out of the 11 Dunning and 51 other cases investigated. Of the 45 no fewer than 31 are dead and 14 are in what may be called the terminal stage of the disease, leaving 17 patients unaccounted for.

What the "treatment" actually seems to accomplish is to hasten the dissolution of the unfortunate victim taking it. As the reports began coming in regarding the cases under investigation, it was common to find such statements as: "I believe the 'treatment' marked the beginning of his rapid decline," or "her decline was rapid afterward." This indicates that the "cure" which has been foisted on the public by a man whose only claim to medical knowledge is that he was once an advertising quack in the "rupture cure" business, is not only worthless but dangerous.

THE HARTLAND "ANNEX"

In his advertising matter Miller speaks of "our branch sanitarium in Wisconsin." This "sanitarium" was originally known as the Gray Gables Hotel, and is situated about two miles southwest of Hartland in Waukesha County, Wisconsin. The hotel, if we are correctly informed, is the property of Dr. Milton Rice, a homeopathic physician of Milwaukee, and Dr. Rice is the individual who acts as physician for the "sanitarium," spending part of his time there and signing the death certificates when necessary.

SINCLAIR'S METHODS

We have already spoken of the connection which Dr. J. G. Sinclair of Chicago had with the International Institute. The methods which he employs to secure patients for his modification of Miller's "consumption cure" are set forth in a letter we have received from a Rockford (Ill.) physician. One of this physician's patients, a widow, was called on many times by Sinclair's agent, but the woman told him that she was not interested in their cure, and besides she did not have the necessary $350. It was recommended that she mortgage her home, and when she remarked that it was already mortgaged, the agent offered to secure a second mortgage, which she refused.

An old woman of Rockford "who makes a living by selling soap from house to house," was employed "to furnish the names and addresses of people afflicted with tuberculosis, and she was to receive $10 for each case that she would induce to take the treatment." Our correspondent adds: "I have good reason to believe that very few cases in Rockford escaped solicitation."

Sinclair was successful in getting one Rockford patient. According to our correspondent, "they got $100 down . . . and tied up $250 in such a way that he [the patient's husband] despairs of having it returned." The patient grew progressively worse under "treatment" and returned home. She was to go back to Chicago just after Christmas for further "treatment," but she died on the afternoon of Christmas Day.

PHYSICIANS AS AIDS

From a medical standpoint the disgraceful and disheartening part of it all is the fact that men with the right to sign M.D. after their names will have anything to do with such concerns as this. For without the cooperation of physicians, such cruel fakes as these "consumption cures" would be robbed of half their potentiality for harm. On the stationery of the International Institute we find the names of seven physicians, some of whom, at least, lay claim to reputability.

The lawyer, an ex-senator of the United States, whose name appeared on the stationery as general counsel, and to whom we referred in our former article, was evidently an innocent victim—not the first—of Miller's "philanthropy." This lawyer wrote us that he believed the concern to be composed of reputable physicians and to be conducted in the interests of charity, and so consented to give his time and services without remuneration, but that after reading our article exposing Miller and his methods, he immediately demanded that his name be removed from all their literature. He has, he says, ceased to be connected with the concern.

CONCLUSIONS

Such, then, are the methods of one of the most heartless and cruel of the innumerable "consumption cure" fakes. What such methods mean is fairly apparent from the death roll which we have published; but that is not all. It is fairly well proved and generally accepted that there is no drug "cure" for tuberculosis, and that fresh air, rest and nourishing but easily assimilated food give the only hope of recovery. The average patient with tuberculosis is not favorably inclined toward the fresh air treatment because it is of necessity slow, and there is usually connected with it certain little inconveniences which are resented. This and the well known optimistic attitude toward any new or *bizarre* treatment which is one of the symptoms of the disease, make the tuberculous an easy prey of the "cure" sharks. It is not hard to understand what happens when a plausible agent calls and tells of the wonderful, and practically universal, cures that the "treatment" which he represents has effected. The "fresh air treatment" is not necessary—even harmful, says Miller's pamphlet—and a four to twelve week "treatment" will bring about the much desired cure. The patient is told that the "treatment" is given under Miller's directions by registered physicians in Chicago—and here, unfortunately, the agents tell the truth.

It is then that the victim, even though warned by his regular physician, parts with the $250 or more for the "treatment" which is to make him a well man. He is further mulcted of $25 a week for "hospital expenses," and, though it seems unbelievable, the patient is kept at the hospital, at least in some cases, until within a few hours of dissolution. Thus is the toll of blood exacted to the uttermost, and thus are those who make a business of trading on the helplessness and ignorance of the sick financially recompensed for their efforts.

Correspondence

Esperanto as an International Language

To the Editor:—Dr. Talmey's letter on the alleged defects of Esperanto, in The Journal, January 9, page 148, demands—not for Esperantists, but for non-Esperantist physicians to whom appeal for an international language is being made—a consideration of his specific criticisms.

The value of Dr. Talmey's first criticism can be estimated by the fact that the "roofed" letters seem to have proved no impediment to The Journal's printing his communication as written. I learn that any modern printing office can add the necessary Esperanto equipment for $2. Besides, there is the permissible substitution of ch for ĉ, sh for ŝ, etc., which is widely used, Dr. Talmey's opinions on esthetics notwithstanding.

His second criticism is also based on a matter of taste. Objections can be raised to Ilo on similar grounds. He cites phrases with a concurrence of sibilants. As well condemn English on account of the old schoolboy catch: "Chichester Church stands in Chichester churchyard." Also, Dr. Talmey's self-appointment as *arbiter elegantiarum* lacks confirmation.

His third and sixth criticisms are nullified by the fact that one can not compel any man to write or speak any language in any particular way. President Roosevelt recently found that out. Man will speak as he chooses, subject to the necessity for keeping his departures from custom within the limits of intelligibility, under penalty of finding his speech useless. Nearly all words in Esperanto are regularly formed. All can and should be; for the rules for word-formation are precise, unequivocal, and unvarying, and the instance is yet to be found in which they can not be applied. The few irregular formations that have been used by inadvertence, and have thus crept into the dictionaries, will certainly be replaced by correctly formed words in due course. Take, for instance, this one cited: *Broso* has crept in for "a brush." Now, *bros* signifies the root idea of the act of brushing, *o* the termination of a noun, *il* the instrument by which any act is performed; consequently to any Esperantist *bros-il-o* can signify nothing but the instrument with which the act of brushing is performed, no matter what the dictionaries or other "authorities" may give. This reasoning applies to all the words criticized and to the very few other existing wrong formations. It further justifies the Esperantist in ignoring the plural in adjectives, as well as the accusative in both adjectives and nouns, provided he arranges his words so as to avoid ambiguity. Many good Esperantists, for instance, now say without fear of causing misunderstanding: *Alportu al mi freŝa pansaĵoj*, instead of *freŝajn pansaĵojn.* In fact, the really useful changes proposed are in line with the natural evolution of Esperanto, and it depends solely on usage (which in linguistic matters makes "authority," not vice versa) whether they shall gradually prevail. But there is no need for a new bureaucratic organization, unless to provide its promoters with a band-wagon of their own.

Against the fourth criticism I submit the following from Dr. Talmey's own text-book on Esperanto: "The ingenious inventor of the language has not created these root words anew, but has taken them entirely from the natural languages. Herein he was guided by the principle of internationality; that is, he appropriated as a foundation of the vocabulary, first, those words which are already international, as all technical and scientific terms and many other words. He further selected such words which (*sic*) are common to the greatest number of living languages."

To the fifth criticism of Dr. Talmey I again oppose Talmey himself (*ibid*): "The clearness of the Esperanto style, the immense richness of its vocabulary, and the extreme facility of learning Esperanto are due to the extensive possibility of forming new words from given roots. The number of these roots is about 2,600." He adds that "by affixes and by combining words an unlimited vocabulary can be obtained." Moreover, addition to the roots is continually going on. As to idioms, any language, to become international, must be capable of expressing any peculiar mode of thought. Where, for example, an English-speaking person might say *li eldiris* (or *elparolis*) *krion* for "he uttered a cry," a Frenchman might say *li puŝis krion*, because he might think "*il poussa un cri.*" Any Esperantist who should fail to understand the Frenchman's *puŝis krion* would be lacking, not in knowledge of Esperanto, but in common intelligence, and that no international language professes to give. Moreover, the same condition would occur equally with any other international language.

We have Dr. Talmey's own assertion that he is an "expert in this language." That is as may be. Certainly he has written a manual of Esperanto. I paid $1 for it two years ago, to look into the language. It misled me into regarding the new language as just what Dr. Talmey now asserts it to be, namely, illogical, difficult, and impracticable. I therefore dropped it. Yet when, in 1908, circumstances compelled me to take it up, I acquired facility in it in three weeks, from a primer and vocabulary which together cost about twenty-five cents. The New York Esperanto Society, which, according to Dr. Talmey, "unanimously" adopted Ilo last November and changed its name accordingly, was at the time simply a remnant consisting of some fifteen, most of the members having retired in disgust, not as the Iloists would have us believe, with Esperanto, but with the vagaries of the bureaucratic reformers who persisted in turning practical meetings into fruitless theoretical discussions on proposed changes. They have formed a new and flourishing society and are more alive than ever. (Moreover, the "unanimous" vote, I learn, was given by only five, three voting for the change and two against it.)

Dr. Talmey, in boasting of the support of the "great scholars of international renown" composing the Committee of the Delegation for the Adoption of an International Language, omits to tell us that the president of that committee, Prof. Wilhelm Förster, of Berlin, resigned because, as he says, "the commission, overstepping the task assigned to it by the committee, and contrary to the will of eminent members of the committee, displayed towards the body of the Esperantist movement a captious and overbearing spirit and itself attempted to disseminate a reformed tongue." Three other members—Professors Wilhelm Ostwald (Univ. of Leipzig), Baudouin de Courtenay (Univ. of St. Petersburg) and Otto Jesperson (Univ. of Copenhagen)—have resigned for similar reasons. Dr. Talmey further states that Ilo "is not simplified Esperanto." The official circular sent out by the aforesaid committee says: "In short, the *Linguo Internaciona* (Ilo) is a simplified and improved Esperanto, very similar to primitive Esperanto."

In spite of Dr. Talmey's denial, Esperanto is increasing at a greater rate, according to the returns, during the last three months than ever before, and the defections are absolutely insignificant. It numbers very many times as many adherents as all the other would-be international tongues, including Ilo, put together. That is the only argument (except ease of acquisition) that will carry weight with the "man in the street" whose adhesion is the one indispensable requisite for the attainment of the object. While Volapük really failed from its intrinsic demerits, the fact that it did fail after gaining a certain measure of success (which, however, never came within measurable distance of that attained by Esperanto) is the greatest obstacle that any proposed international language has to face to-day. The replacement of Esperanto by Ilo, or by any other of its twenty odd competitors, would only magnify this obstacle and throw back the international language idea half a century. The "man in the street" would agree with the position in 1894 of M. de Beaufront, the adapter of the Ilo variant. M. de Beaufront, then an ardent champion of Esperanto—according to him "the simplest, clearest, most flexible, euphonious and beautiful of all systems"—opposed at that time all suggested changes, even those proposed by the author of Esperanto, saying: "If after five years you find that the language must be changed, nothing guarantees us that after five years more you will not find that the new language must still be changed, and so on for ever." (This refers, of course, to *a priori* changes by a bureaucratic "authority," not to the changes that must inevitably take place in evolution, which will occasion as little inconvenience to the Esperanto-speaking people as the changes continuously taking place in English do to English-speaking people.)

To physicians contemplating taking up Esperanto I would say: "Do not be deterred by the Ilo shouting. Esperanto is miles ahead and shows no signs of being winded. Even should the impossible happen, and Ilo ultimately succeed in getting the lead, your time will not have been wasted, for any competent Esperantist can become an Iloist in a few days. I speak from practical experience. The changes in grammar can be learned in half an hour, those in roots in a few days, while the new roots would require no more labor than if they had been introduced directly into Esperanto."

Finally, at the Dresden Esperanto Congress, last August, an International Association of Esperantist Physicians was formed, with Professor Dor, of Lyons, as president, and Dr. W. Robin, of Warsaw, as secretary. The subscription is only $1, and the members receive free the official organ, the *Voĉo de Kuracistoj* ("Voice of the Physician"). Any further information will be gladly given by

Kenneth W. Millican,

Local Consul for U. S. A., International Association of Esperantist Physicians.
1143 Sheridan Road, Chicago.

Quarantine in Smallpox

To the Editor:—I have read with interest the paper by Dr. Bracken entitled, "The Quarantine of Smallpox," in The Journal, Dec. 19, 1908.

It is an extremely favorable sign when those who are responsible for the protection of the public health indicate a desire to discharge their important duties with the least possible annoyance and expense to the public. This is in full accord with modern sanitation. The position taken by Dr. Bracken and Dr. Hurty, however, in connection with the discussion of the paper above referred to can not, I am sure, be endorsed by the majority of practical sanitarians. I mean those who deal personally with smallpox and other infectious diseases, and who have given the subject careful consideration.

Success in the management of outbreaks of infectious disease depends principally on constant and thorough inspection to detect promptly the presence of the sick and afterward to secure their strict isolation. The policy which Dr. Bracken and Dr. Hurty recommend can not be said to conform to this principle as it may be assumed from what they say that it is rather a matter of indifference whether or not smallpox patients are isolated, and that they recommend this departure from the usual methods as a means of enforcing more efficient vaccination. This can hardly be accepted as a scientific or safe means of securing this result, because it favors the extension of smallpox and needlessly imperils the lives of citizens.

No one who is practically familiar with smallpox and who has compared the history of its ravages prior to the time of Jenner with the conditions which followed his great discovery can doubt the inestimable value of vaccination as a protection against smallpox. However, we must not overlook its shortcomings; all the agents employed in the protection of the public health have some defects, although practically this fact does not impair their usefulness.

Smallpox does not always protect against a second appearance of the disease in the same person, neither does a successful vaccination always protect against smallpox. It is true that these exceptions do not occur frequently, and if this constituted the only uncertainty regarding vaccination, Dr. Bracken's position would be more secure. The grave mistake in depending absolutely on vaccination to the exclusion of other means of protection against smallpox lies in the fact that we do not know how long the immunity secured by vaccination continues. We do know that a single vaccination does not always insure immunity for life; for this reason we advocate and insist on revaccination, but how often revaccination should be performed is entirely theoretical notwithstanding statements to the contrary. A successful vaccination in some instances may furnish immunity for life; in others for a very brief period only, and in our zeal to enforce vaccination we should not ignore these exceedingly important facts. Unqualified statements made by public health officials that successful vaccination is an absolute preventive against smallpox furnishes argument for antivaccinationists because they know as well as we do that smallpox does occur in persons who have been successfully vaccinated and sometimes revaccinated Even persons who are favorable to vaccination not infrequently cite instances in which smallpox has appeared among their family or friends, who previously had been successfully vaccinated and they can not reconcile this condition with the statements to which I have referred. In this way, the public confidence in vaccination is impaired. This would not occur if the public were taught the real value of this important agent of protection.

There are yet many ways in which public health officials can improve their means of educating the public as to the importance of vaccination. There is a natural antagonism toward it particularly on the part of a father or mother, which can not be overcome by force or legislation, but would largely disappear if persons were properly educated as to the necessity for this protection.

In public vaccination, we deal largely with uneducated persons, particularly foreigners, many of whom are brought up to believe that almost any action on the part of the authorities is antagonistic to them. Vaccination is not compulsory in this country; therefore, the success we may have in public vaccination must depend largely on careful and painstaking education.

Dr. Hurty's intimation that a community should suffer from smallpox if the people refuse to be vaccinated is hardly in line with this policy and can not be regarded as a scientific or humane method of educating the public in this direction.

The first case of smallpox or infectious disease found in a community is not always the first one that has occurred; very mild cases often pass unrecognized and transmit the disease, and a secondary case may be the one which announces the outbreak, and other cases may be approaching the stage of invasion. Vaccination under these conditions does not offer full protection. There are also other conditions which interfere more or less in securing the full result of vaccination in a community and which practically can not always be overcome.

A careful review of this subject will demonstrate clearly that we can not abandon isolation, observation, etc., and rely entirely on vaccination for protection during outbreaks of smallpox.

In the beginning of his paper Dr. Bracken states that quarantine is an evidence of ignorance. This is not a fact. It is the improper use or rather the abuse of quarantine that is an evidence of ignorance. I assume that Dr. Bracken refers to the quarantine of well persons both at seaports and the interior who have been subjected to exposure, as I know of no one who would regard the removal of all restrictions in connection with the care and treatment of cases of infectious disease other than a menace to the public health.

Dr. Bracken refers to tuberculosis as an illustration that persons suffering from these diseases are not kept apart from the rest. It is true that at present it is deemed impracticable to place this disease under restriction, but it is not difficult for any one to understand what an enormous stride would be made toward its extermination if this could be done, and it is not at all unlikely that in the future tuberculosis will be dealt with in this manner, because such treatment would be in accordance with the principles of modern sanitation, which govern these conditions.

There are many instances in connection with outbreaks of certain infectious diseases on shipboard, and sometimes on land, where the detention of well persons who have been exposed is justifiable and reasonable. There is no doubt that in the past there has been too much detention and quarantine of suspected persons, which has unnecessarily interfered with their pursuits; and the belief that diseases are commonly transmitted by the clothing and effects of well persons has been largely responsible for this condition. However, this theory is being abandoned as indisputable evidence has been presented to show that diseases are transmitted by persons rather than things. In the future, this knowledge will justify greater liberty in dealing with those who have been in contact with the sick, particularly on land; and instead of detention or quarantine at home, we may, as a rule, substitute observation, which practically means a daily inspection for the purpose of detecting early the presence of disease, without materially interfering with the liberty of those who have been exposed.

I am sure that after a careful analysis of this subject the health authorities of other states can not consistently endorse the views or action taken by the Minnesota State Board of Health regarding the care and suppression of smallpox.

A. H. Doty, Quarantine, N. Y.
Health Officer of the Port of New York.

Quinin Idiosyncrasy Inhibited by Morphin

To the Editor:—I wish to call attention to two subjects which I regard of therapeutic importance, and which I claim priority in reporting. My mention of the two subjects referred to is called forth by articles recently appearing in The Journal A. M. A.

The first relates to the treatment of intolerance of quinin by the administration of morphin plus atropin prior to giving the quinin or the synergists of quinin.

The Journal, Oct. 31, 1908, contains an abstract from an article by G. Nogara appearing in an Italian journal. The abstract is numbered 129, on page 1562, and reads as follows: "Nogara reports a case of threatening acute malaria in which the necessary quinin caused convulsions with fever whenever it was taken. After ineffectual trials of various preparations of quinin with the same disastrous results he decided to place the patient under the influence of morphin plus atropin. Under the influence of these drugs he tranquilly injected up to 15 grains of quinin without further disturbances, which promptly arrested the threatening symptoms."

In 1902, I published an article on "Difficulties in, and the Management of, Pernicious Malarial Fevers, with and Without Idiosyncrasy for Quinin" in the *Mobile Medical and Surgical Journal.* This article was copied in several other medical periodicals. The special point to which attention was called in the paper is the solving of this therapeutical problem by the administration of morphin plus atropin alone, prior to giving quinin.

I also wish to direct attention to the value of administering thymol in large doses, in punctured capsules, in amebic dysentery.

This mention is suggested by the article, "Medical versus Surgical Treatment of Amebic Dysentery" in THE JOURNAL, December 19. The administration of the thymol capsules m.´ be preceded by a dose of magnesium sulphate; 20 grains of thymol are administered every two hours until three doses are given. The thymol capsules are withheld until active purging is begun and if necessary are followed by a saline purge. This treatment is repeated every second or third day, or at longer intervals according to the patient's tolerance. If necessary, this treatment may be followed by bismuth and opiates. On the day when the thymol is not given by the mouth, high colonic irrigations of thymol solution are given. Fluid diet is given throughout the treatment.

This line of treatment proved promptly effective in two serious cases in my practice and the patients have resumed work, which they had been unable to do for five or six years. Reports from these patients show increase of weight and apparent recovery, though in neither case were subsequent microscopic examinations made. As instructions were given to repeat the treatment once every week or oftener if symptoms returned. I can not assert a positive cure. I think that a report of the value of this method may lead others to investigate it in order to determine its ultimate value, and it may prove preferable to appendicostomy with irrigation.

G. H. FONDE, M.D., Mobile, Ala.

[COMMENT: Apparently Nogara had never heard of the use of morphin with quinin in malaria, as he states in his article that he thought of it, but hesitated at first to try it as he had no opportunity to experiment with it.—ED.]

Local Applications in Appendicitis

To the Editor:—Under the above heading in THE JOURNAL, June 27, 1908, p. 2121, there appeared an article by Dr. J. E. Moore, in which the use of the ice bag in acute appendicitis was referred to as the height of folly and as *post-hoc* reasoning.

For years I have used ice applications (preferably drain ice bags) extensively in hospital and private practice, in many acute ailments, including selected cases of acute appendicitis, and at no time has injury been observed to the regions where such applications were made.

No ice-bag application of ordinary size and kind can cause freezing of the parts applied, because the living tissues involved can never be cooled to or under the freezing point, as the ice is constantly in a melting and not freezing state (in an ordinary atmosphere with the temperature about 70 F.).

No one, of course, would use freezing mixtures, nor use such a large amount of ice as to cause a possible damage by weight, in obstructing the circulation of the parts.

It is not correct to say that the therapeutic effect of ice application is only superficial or skin deep. The application of ice to the human body means the exposure of such parts to forms of heat rays, that is to molecular and ethereal vibrations peculiar to ice in a state of liquefaction. These heat rays penetrate different media according to their nature. Some media are poor conductors, some are good. The living, human body affords no great barrier to these "ice-rays." They are transmitted by direct continuity of tissues exposed.

Necessarily, ice applications have their limitations. The period of elimination, when established, may demand their prompt removal, the use of drugs or the surgeon's knife. But, it should be understood, that it is "no *post-hoc* reasoning" nor "height of folly" to employ an ice-bag in the proper wa, and at the proper time,

Even many cases of acute appendicitis demand it and it should be considered negligence and poor treatment not to use it.

P. A. AURNESS, M.D., Minneapolis.

Book Notices

THE SEXUAL QUESTION. By August Forel, M.D., Ph.D., LL.D., formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich (Switzerland). English translation by C. F. Marshall, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for Diseases of the Skin. London. Pp. 536, with illustrations. Cloth. Price, $3.00. New York: Rebman Co.

This is an elaborate sociologic treatise that commands attention because of its fearlessness and its manifest humanity, however much some may be displeased at Forel's cynicism concerning religion. Few of us can study a sociologic subject without being greatly influenced by our habitual acceptance of many, at least, of the established dogmas of custom, society, law and religion, but this need not prevent our welcoming to the literature of this problem the contribution of one who, for purposes of absolute freedom of deduction, has attempted to disregard these dogmas.

The first part of the book is concerned with a simple and plain exposition of genesis, embryology, coitus, pregnancy, sexual characteristics and sexual appetite. Then broadening out, Forel discusses love and its irradiations, distinguishes between love and sexual impulse, and shows the various relations of both emotions to procreative instinct, jealousy, prudery, modesty, desire for domination, religion, etc. He here shows the extent of his study and the breadth of his altruism, bringing out many points that need to be borne in mind by physicians, educators, judges and in fact, by all who have dealings with their fellow men.

Then follow chapters on ethnology and history, sexual selection, sexual evolution and sexual pathology. These are refreshingly sane and free from the flippant vulgarity and unnecessary detail sometimes indulged in by writers whose familiarity with the subjects of which they write has made them forget not only the state of mind of some into whose hands the book will fall, but also their alleged purpose in writing the book. Wherever we may disagree with Forel, we must agree that he has a clean mind.

Now the book takes up the more sociologic side of the question, discussing its relation to money, property, alcohol, environment, religion, law, society, prostitution, means of preventing conception, politics, pedagogy and art. Forel proposes this general axiom: The coitus of two individuals, performed with mutual deliberation and causing no harm to a third person, should be considered as a private affair, and should have no connection with either civil or penal law. Here Forel takes a stand in opposition to custom, morals, law and religion, but it is not so bad as it sounds at first, for the third person proviso is really a very broad exception. The "third person" represents society and Forel is outspoken in the declaration that the good of society is a higher law than the right of the individual. It is interesting to note his mode of harmonizing these two demands—the rights of society and the rights of the individual—in his application of the general axiom above quoted to the problems presented by inverts and harmless perverts, whose acts are punishable under the laws of many lands. "The real crime," he declares, "is the marriage of an invert to an individual of the opposite sex, and yet this crime is sanctioned by the law!" Similarly he urges immunity from legal punishment for those forms of bestiality that are free from cruelty, as he is unable to see harm in them and as the relief afforded by them protects women and children (i. e., society) from attack by these perverts.

The work advocates as a social duty the separation of conception from the satisfaction of the sexual appetite and also, when useful or necessary, the avoidance of conception without the renunciation of sexual intercourse. "The welfare of our women and our posterity demands this consequence." To this end Forel discusses means for the prevention of conception and advocates the dissemination among the public of knowledge of the best method. His portrayal of the ignorance of men concerning the real sexual character of normal women, and the ignorance of girls concerning the sexual nature of the marital relation, lead to his emphasis of the need for parents to inform their children on the subject at the proper age.

The book is a good one for students of sociology. Its argument is not insidious, but frank. If proposals for a new basis of law and morals shock, they yet give no feeling of insincerity nor lack of study; especially is there no doubt of Forel's humanitarianism.

High Frequency Currents. By Frederich Finch Strong, M.D., Instructor in Electro-Therapeutics at Tufts College Medical School, Boston. Cloth. Pp. 289, with illustrations. Price, $3.00. New York: Rebman Co.

Dr. Strong begins his preface: "In all ages of which we have any authentic knowledge, and among all races, there have existed Philosophers, Investigators or Students of the Occult, who have in divers forms, and many languages, repeatedly averred that the Universe—both visible and invisible—exemplified varied expressions of a single principle—VIBRATIONS. . . . *Matter* was called 'dead' or 'living' according to the reflected phenomena, and an apparently boundless gulf existed between the two. Science was becoming more and more complex, when the advance guard of a new era appeared . . . whose labors and researches have focused in the greatest discovery of any age—THE ELECTRON THEORY. . . . In the bright light which it throws on the phenomena of the universe, much that was dark and undefined has become lucid and coherent. All sciences have become united by invisible links, and we have for the first time in the history of the world a complete, harmonious system of natural philosophy, by which all facts of nature, however diverse, may be co-related and traced to a common origin."

As an introduction to a book on high frequency currents, we would say that this, to use a slang expression, is going some. It also suggests that it is the forerunner of a system of deductive therapeutic philosophy which will consider the treatment of diseases, not by painful inductions from petty clinical and pathologic observations, but from the grand viewpoint of an all-embracing therapeutic principle. Such a prospect would be entrancing, did it not suggest painful experiences with other grand therapeutic principles of the past, like Hahnemann's "Similia similibus curantur," and his dictum that most diseases arise from the itch. Dr. Strong gives further intimation of the scope of this almost universal therapeutic principle, saying: "*Teslà* first recognized the wonderful therapeutic possibilities of High-frequency Currents and prophesied that they would ultimately supersede the older systems based on the therapeutic use of Drugs; clinical results recorded during the past five years go far to confirm the accuracy of *Tesla's* prophecy."

In this work, which is apparently the second stage in the development of his system, Dr. Strong does not consider at ength the therapeutic application of high frequency currents. The work is rather devoted to the physics and the technic of application of high frequency currents. This part of the work hows thoroughness and intimate familiarity with the sub-ect and is entitled to be regarded as a good exposition of hese subjects. The last thirty-five pages are devoted to a rief summary of the therapeutic applications of high fre-uency current in various large groups of diseases like dis-ases of the blood and heart, diseases of the nervous system, nd infectious and malignant diseases. This part of the work ppears to be hopelessly tinctured with Dr. Strong's optimism. The overweening enthusiasm and the magnificent disregard f pathology and clinical knowledge displayed in such books s this are largely responsible for the common distrust of hings electrical by the medical profession.

Les Dilatations de L'Estomac. Séméiologie et thérapeutique des distensions gastriques. (Les Actualités médicales.) Par Dene-Gaultier, chef de clinique médicale à la Faculté de médecine de Paris. Boards. Pp. 95. Price, 1.50 francs. Paris: Librairie J.-B. Baillière et fils, 1909.

Readers of French will find in this little book an excellent presentation of this subject. The author relates fully and clearly all that is known of dilatation of the stomach. He considers its causation, the symptoms common to all causes and those peculiar to pyloric obstruction, to muscular weakness and to displacement. The differential diagnosis of dilatation due to malignant tumors and to scars, the result of round ulcer is fully discussed. The newest methods of investigation as well as the oldest and best known are described. Especially noteworthy is the description of the technic and results of examination by the *x*-ray. Numerous illustrations show the valuable results obtained by its use, including the possibility of differentiating thereby the various forms of gastric dilatation. The last portion of the book deals with treatment—hygienic, non-medicinal, medicinal and surgical.

Buddhism and Immortality. By William Sturgis Bigelow. Cloth. Pp. 75. Price, $0.75. New York: Houghton Mifflin Co., 1908.

In this Ingersoll Lecture, Dr. Bigelow describes the tenets of the northern, or Nepaulese, Buddhists, whose sect is closely allied to the two Japanese sects, the Tendai and the Shingon. It teaches essentially the possibility of ultimate freedom from the limitations of the material world. Bigelow aptly illustrates the difference between the consciousness of will and that of sense. The ultimate object of life, he says, is to acquire freedom from the limitations of the material world by substituting volitional for sensory consciousness. The so-called necessity that seems to oppose freedom of will is made up of the limitations of personality and material existence. The difference in beings lies in the varying degrees of their realization of the universal consciousness. Bigelow explains the doctrine of reincarnation in correlation with the facts of biologic science. To all interested in moral problems the book will be useful as giving a clear glimpse of the philosophy that for centuries has governed the mental attitude of millions of people.

The Battle of the Microbes, December, 1908. Paper. Pp. 28. The Merchants' Association of New York.

This pamphlet consists of an introduction and two parts—the first being extracts from a paper by Clark P. Collins, the second a summary of the report of the British Royal Commission on Sewage Disposal. Collins describes the various methods, dismissing the chemical precipitation method as unavailable because of the large amount of sludge and the great cost of chemicals and labor. Sewage farming is not applicable to conditions in this country so that the method of filtration is by far the best. The separate system of conveying sewage to the place of treatment is regarded as preferable. In case sewage has to be purified the separate system is more economical. The British Commission, on the other hand, does not regard the method of chemical precipitation as obsolete. The pamphlet is well adapted to give a good view of the sewage question in general.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DIASTASIC POWER OF SALIVA—AMYLACEOUS DYSPEPSIA

[TRANSLATION]

To the Editor:—Permit me as one of the most regular readers of The Journal to speak in reference to the question of amylaceous dyspepsia and the therapeutic use of diastase, discussed in Queries and Minor Notes, Nov. 7, 1908, page 1618, as I believe that your complete denial of both conceptions goes somewhat too far.

In fact, it is a daily experience that in hyperacidity the stomach contents, an hour after a test breakfast, are imperfectly digested, which, in consideration of the high pepsin value of such contents, depends exclusively on insufficient digestion of starch. The iodin test shows that still unchanged starch, or at least erythrodextrin, is abundantly present. Even in the empty stomach remains of bread, rice and potatoes are found, evidence that the stratification in the stomach is far from sufficient to guarantee a complete action of the diastase of the saliva.

It is not necessary to say that the insufficient digestion of the chief constituent of the food leads to abnormal fermentations, which in turn affect unfavorably the fundamental trouble in the stomach, the hyperchlorhydria (or hypersecretion). The time for the action of the diastase is all too short, if large amounts of highly acid juice are immediately poured out on the meal, for the ability of the proteins to combine with the acid and protect the diastase is quickly overcome in such conditions. I have not so far been induced to counteract this by administering diastase, but have always sought to prevent the formation of or to neutralize the acid. I can not regard it as irrational, however, to seek to utilize, as effectively as may be, by supplying diastase, in the short time during which a diastasic action is possible.

I do not understand why it is assumed that the interesting researches of Croft-Hill regarding the reversibility of the action of maltase should be brought into the field against such a therapy. Aside from the fact that these researches have reference only to the reproduction of maltose or rather of pseudomaltose from decomposition products, that is, from glucose, they apply only when the products of decomposition are able to accumulate and not, as in the stomach, where they are either absorbed or passed on into the intestine.

Finally, permit me to call attention to the fact that according to the present views, in case of reversible reactions the final result reached is entirely independent of the speed of the reaction and also of the amount of the catalytic agent, immaterial whether this belongs to the so-called ferments or not.

My conclusions from the above are that amylaceous dyspepsia actually does exist, depending not on insufficient secretion of diastase by the salivary glands, but on the premature concentration of H ions in the hyperacid stomach sufficient for complete inhibition of starch digestion. Undigested or imperfectly digested starch left in the stomach leads to the proliferation of germs of abnormal fermentation which injure the functioning of the stomach and also cause further pathologic decompositions in the intestine. There can be no theoretical objection to the attempt to compensate for the deficit of a short working period by increasing the amount of diastase, the less so as mixture of the stomach contents, even although it is probably not complete, still certainly does occur. In regard to this, new experiments on the horse from the Dresden veterinary school have been recently published in the *Zeitschrift für Physiologische Chemie*.

Whether better results are to be obtained by the administration of malt extract (malt sugar) or grape sugar (the intermediate and end products of starch digestion), or by simply neutralizing the acid, in addition to the causal therapy, need not be discussed here.

E. Fuld,
157 Uhlandstrasse, Berlin, Germany.

Answer.—The foregoing communication seems to agree in substance with our answer to the questions concerning the therapeutic use of diastase and the meaning of "amylaceous dyspepsia," The Journal, page 1618, Nov. 7, 1908. In our former answer we stated that we may regard amylaceous dyspepsia to be a disturbance of the motility of the stomach, which accounts for the hyperchlorhydria, starch indigestion and abnormal fermentation. While neutralization of the acid by alkalis is valuable as a palliative measure and the use of diastase may present no theoretical objection, still if we wish to obtain practical therapeutic advantage, we must direct our attention to the etiology and pathology of the disturbance—motor insufficiency. Clinical experience has shown conclusively that in these cases, gastroenterostomy is followed by the disappearance of the hyperchlorhydria, the amylaceous dyspepsia and the abnormal fermentation, and this has also been observed in operative cases without pyloric stenosis. In non-obstructive conditions the same results may be obtained without surgical procedure by appropriate treatment directed to the motor disturbance.

So far as the application of the Croft-Hill experiments to the condition of the delay and the accumulation of the food in the stomach, we must remember that there is practically no resorption from the stomach, and the delay in the expulsion of the stomach contents into the intestines may provide favorable conditions for the application of the Croft-Hill phenomenon—the reversibility of ferment action. Of this, however, there are no experiments to prove either the negative or the positive.

Amylaceous dyspepsia is a symptom that demands, not theoretical or symptomatic treatment, but the removal of the factors that make starch indigestion and abnormal fermentation possible.

DECAPSULATION OF KIDNEYS FOR NEPHRITIS

To the Editor:—Please inform me regarding the status præsens of the operation of decapsulation of the kidneys for chronic nephritis. J. Lyng, Alexandria, Minn.

Answer.—The value of decapsulation of the kidney in nephritis is a subject about which opinions are still divided, although, with increasing experience, the belief is steadily growing that the operation is of positive value, provided that the proper cases are selected. For the purpose of avoiding controversy, the term "nephritis" is here used to include all varieties of kidney changes, whether acute or chronic, but not the so-called surgical kidney. Up to the present, experience is not sufficiently great to enable one to select with certainty those cases in which a good result may be attained. The operation has been tried in practically all varieties of the trouble, with results which indicate that the least is to be hoped for in those cases in which the cardiovascular changes are the most marked. Some acute cases, with and without anuria, and some more or less chronic parenchymatous cases, have been reported in which rather striking results have followed, apparently as a direct consequence of the operation. In properly selected and well studied cases, the method is worthy of consideration and more extensive application. An article by Dr. George M. Edebohls on the subject will be found in this issue. An article by George F. Suker ("The Decapsulation of the Kidneys," The Journal, Feb. 27, 1904, xlii, 580) contains an extensive bibliography on the subject. Articles by Müller (*Arch f. klin. Chir.*, 1907, lxxxii, 217), by Harris (*Johns Hopkins Hosp. Bull.*, 1905, xvi, 404), and by Polano (*Centralbl. f. Gynäk.*, 1907, xxxi, 13) will also be found of interest.

FRENCH MEDICAL JOURNALS

To the Editor:—Please give me a list of three or four French medical journals, with subscription prices and publishers' addresses.

Forrest J. Young, Leesburg, Ind.

Answer.—The following are four good papers:

Archives Générales de Médecine. Publisher, A. Maloine, 25 Rue de l'Ecole de Médecine, Paris. Weekly. Subscription, 18 francs.

Presse Médicale, edited by F. De Lapersonne, P. Desfosses and others. Published by Masson et Cie., 120 Boulevard St.-Germain, Paris, VI. Bi-weekly. Subscription, 15 francs, including postage.

Semaine Médicale, edited by Dr. De Maurans. Office, 53 Avenue de Villiers, Paris. Weekly. Subscription, 10 francs, including postage.

Revue de Médecine. Edited by P. Landouzy, 15 Rue de l'Université, Paris. Published by Felix Alcan, 108 Boulevard St.-Germain, Paris. Monthly. Price, 23 francs, including postage.

VESTIGIAL ORGANS OF THE HUMAN BODY

To the Editor:—Please tell me where I can find information on the vestigial organs of the human body. C. A. Nolan, Ogden, Ia.

Answer.—A discussion of vestigial organs in the embryo can be found in any extensive work on human embryology, such as Minot's "Human Embryology" or McMurrich's "Development of the Human Body." The subject is taken up more in detail in O. Hertwig's "Handbuch der vergleichenden und experimentalen Entwickelungslehre der Wirbelthiere," in three volumes and six parts (1906, Gustav Fischer, Jena). Darwin devotes a chapter to the vestigial organs in his "Descent of Man," which is good from the evolutionary standpoint. Perhaps the most complete and detailed account is to be found in R. Wiedersheim's "Der Bau des Menschen als Zeugnis für seine Vergangenheit (1893, Akademische Verlagsbuchhandlung von J. C. B. Mohr—Paul Siebeck), in which the phylogenetic and ontogenetic significance of these structures is discussed. An article by R. Wiedersheim, entitled "Organi rudimentali dell' uomo (*Riv. di sc. biol.*, Turin, 1900, li, 801) may also be of service. All these books except the third (Hertwig's) and the fifth (Wiedersheim's "Der Bau des Menschen") can be borrowed from the library of the Surgeon-General's office.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 9, 1909:

Borden, W. C., Mearns, E. A., majors, and Webb, W. D., capt., retired from active service.

Ebert, R. G., lieut.-col., granted leave of absence for 15 days.

Stark, A. N., major, granted an extension of 15 days to his leave of absence.

Kiersted, H. S., capt., granted an extension of 15 days to his leave of absence.

Koerper, C. E., capt., ordered to Ft. Slocum, N. Y., for duty, on return from Cuba.

Fauntleroy, P. C., major, granted leave of absence for 3 months and 15 days, with permission to go beyond sea.

Sparrenberger, F. H., M. R. C., granted leave of absence for 10 days.

Brewer, I. W., M. R. C., granted leave of absence for 20 days.

Richardson, G. H., M. R. C., honorably discharged from the service of the United States, his services being no longer required.

Bloombergh, H. D., Purnell, H. S., capts., and Lincoln, H. F., LeHardy, J. C., M. R. C., Millikin, J. D., dent-surgeon, sailed from San Francisco, Jan. 5, 1909, on the *Thomas*, for duty in the Philippines division.

Morse, C. F., capt., McCallum, F. M., M. R. C., sailed from San Francisco, Jan. 5, 1909, on the *Thomas* for duty in the Hawaiian Islands.

Carpenter, Alden, dent.-surg., relieved from duty with Army of Cuban Pacification, and ordered to Fort Hancock, N. J., for duty.

Hadra, Frederick, M. R. C., relieved from duty in Philippines Division, and ordered to San Francisco, for further duty.

Kress, C. C., M. R. C., granted leave of absence for 1 month.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 9, 1909:

Murphy, J. A., surgeon, detached from the *Franklin* and ordered home to await orders.

Denton, F. L., surgeon, detached from duty with the First Provisional Regiment of Marines in Cuba, and ordered to the *Franklin*.

Iden, J. H., P. A. surgeon, detached from duty with the First Provisional Regiment of Marines in Cuba, and ordered to the Naval Hospital, Pensacola, Fla.

Hollaway, J. H., P. A. surgeon, detached from duty with the First Provisional Regiment of Marines in Cuba, and ordered to the *Franklin*.

Backus, J. W., P. A. surgeon,, detached from the Naval Station, Quantanamo, Cuba, and ordered home to await orders.

Bishop, L. W., P. A. surgeon, detached from the Naval Recruiting Station, Omaha, and ordered to the *Hancock*.

Riggs, R. E., P. A. surgeon, ordered to the *Texas*.

Robnett, A. H., asst.-surgeon, detached from duty with the First Provisional Regiment of Marines in Cuba, and ordered to the Naval Recruiting Station, Omaha.

Allen, A. H., asst.-surg., detached from duty with the First Provisional Regiment of Marines in Cuba, and ordered to the Naval Hospital, Las Animas, Colo.

Sellers, F. E., asst.-surgeon, detached from the *Texas* and ordered to the Naval Station, Key West, Fla.

R. Hayden, detached from duty with the Marines in Cuba, First Provisional Regiment and ordered to the Naval Station, Quantanamo, Cuba.

Mears, J. B., asst.-surgeon, detached from duty with the First Provisional Regiment of Marines, and ordered to the *Franklin*.

Plummer, G. R., acting asst.-surgeon, detached from the Naval Station, Key West, Fla., and ordered home to wait orders.

Campbell,, R. A., detached from the *Franklin* and ordered home to wait orders.

Zalesky, W. J., P. A. surgeon, detached from the Naval Recruiting Station, New Orleans, and ordered to continue duty at the Naval Station, New Orleans.

Sellers, F. E., asst.-surgeon, orders of December 31 modified; detached from the *Texas* and ordered to the Naval Recruiting Station, New Orleans.

Hayden, H., asst.-surgeon, detached from duty with the First Provisional Regiment of Marines in Cuba, and ordered home to wait orders.

Dixon, W. S., medical director, transferred to the retired list, Jan. 5, 1909, in accordance with the provisions of Section 1444, Revised Statutes; ordered to continue duty at Naval Dispensary, Washington, D. C., until further orders.

Hayden, R., asst.-surgeon, ordered to the Naval Station, Guantanamo, Cuba.

Lowndes, C. H. T., surgeon, ordered to duty at the Naval Dispensary, Washington, D. C.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 6, 1909:

Cobb, J. O., surgeon, leave of absence, granted Nov. 30, 1908, for 15 days from December 22, revoked.

Cofer, L. E., P. A. surgeon, granted 1 day's leave of absence, Dec. 31, 1908.

Goldberger, Joseph, P. A. surgeon, granted 7 days' leave of absence from Dec. 26, 1908, under paragraph 191 Service Regulations.

de Valin, Hugh, asst.-surgeon, granted 21 days' leave of absence from Dec. 30, 1908.

Ridlon, Joseph R., asst.-surgeon, relieved from duty at Stapleton, N. Y., directed to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters, Jan. 5, 1909.

Grace, John J., acting asst.-surgeon, granted 3 months' leave of absence from Jan. 10, 1909, without pay.

Light, S. D. W., acting asst.-surgeon, leave of absence, granted Dec. 16, 1908, for 3 days without pay, revoked.

Parker, Thomas F., acting asst. surgeon, granted 5 days' leave of bsence from Jan. 1, 1909.

Wetmore, W. O., acting asst.-surgeon, granted 7 days' leave of bsence from Dec. 18, 1908, under paragraph 210, Service Reguations.

Wilson, J. G., acting asst.-surgeon, granted 1 day's leave of bsence, Dec. 27, 1908, under paragraph 210, Service Regulations.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague ave been reported to the Surgeon-General, Public Health and arine-Hospital Service, during the week ended Jan. 8, 1909.

SMALLPOX—UNITED STATES

Arkansas: Little Rock, Dec. 15-Jan. 2, 23 cases.
Indiana: Lafayette, Feb. 21-28, 7 cases.
Kansas: Wichita, Dec. 19-26, 1 case.
Maine: General, Canadian Border, Dec. 19-26, present; St. gatha, Dec. 29, 15 cases; Van Buren, 2 cases.
Nebraska: South Omaha, Dec. 19-26, 1 case.
Pennsylvania: New Kingston, Dec. 29, present; Philadelphia, ec. 18-25, 1 case; Pittsburg, Dec. 12-19, 1 case imported.
Tennessee: Nashville, Dec. 19-26, 1 case.
Texas: San Antonio, Dec. 19-26, 1 case.

SMALLPOX—FOREIGN

Arabia: Aden, Nov. 23-Dec 7, 25 deaths.
Brazil: Santos, Nov. 2-15, 2 deaths.
Canada: Halifax, Dec. 12-19, 1 case; Toronto, Nov. 7-14, 5 ses; Victoria, Dec. 5-12, 1 case.
Ceylon: Colombo, Nov. 7-Dec. 1, 25 cases, 4 deaths.
Elmira: Shanghai, Nov. 7-Dec. 1, present.
Egypt: Cairo, Dec. 2, 5 cases, 2 deaths.
France: Paris, Dec. 5-12, 2 cases.
Greece: Athens, Nov. 21-28, 2 deaths.
India: Bombay, Nov. 24-Dec. 1, 1 death; Calcutta, Oct. 31-Nov. 7, 1 death.
Italy: General, Dec. 6-13, 14 cases; Naples, 18 cases, 6 deaths.
Java: Batavia, Nov. 15-21, 2 cases.
Norway: Christiania, Nov. 21-28, 1 case, 1 death.
Portugal: Lisbon, Dec. 5-12, 1 case.
Russia: Riga, Dec. 5-12, 1 case; St. Petersburg, Nov. 15-22, 7 cases; Warsaw, Oct. 31-Nov. 14, 5 cases.
Spain: Barcelona, Dec. 5-12, 3 deaths; Valencia, Nov. 29-Dec. 5, 5 cases, 1 death; Vigo, Nov. 28-Dec. 5, 1 death.

YELLOW FEVER

Brazil: Para, Nov. 21-Dec. 12, 9 cases, 9 deaths.
Cuba: San Luis, Jan. 1-2, 2 cases, 1 death.
Ecuador: Guayaquil, Nov. 7-14, 1 death; Nov. 21-28, 2 deaths.
Mexico: Maxcanu, Dec. 12-19, 1 death; Merida, Dec. 12-26, 4 cases, 2 deaths; Sodsil plantation (vicinity of Merida), 6 cases, 4 deaths; Vera Cruz, Dec. 12-26, 6 cases, 3 deaths.

CHOLERA

India: Calcutta, Oct. 31-Nov. 7, 9 deaths; Madras, Nov. 14-20, 22 deaths.
Indo-China: Cholen, Nov. 9-15, 1 case, 1 death.
Russia: General, Nov. 15-28, 541 cases, 248 deaths.
Straits Settlements: Singapore, Nov. 1-14, 33 deaths.

PLAGUE

Ecuador: Guayaquil, Nov. 7-28, 4 deaths; Milagro, Nov. 17-31, 11 cases, 6 deaths.
Egypt: General, Nov. 25-Dec. 8, 145 cases, 28 deaths; Alexandria, Nov. 30-Dec. 7, 3 cases; Port Said, Dec. 7, 1 case.
Formosa: Nov. 7-14, 17 cases, 5 deaths.
India: Bombay, Nov. 24-Dec. 1, 5 deaths; Calcutta, Nov. 1-7, 10 deaths; Rangoon, Nov. 14-21, 3 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A Fee Bill Not Unlawful

In another department[1] appears the decision of the Iowa State Supreme Court in the habeas corpus case of W. A. Rohlf vs. Henry Kasemeier and the State of Iowa. This decision is of more than ordinary importance and interest to physicians, since it disposes of what is known as the "Bremer County Conspiracy Case," frequent items regarding which have appeared in the daily press during the last year and a half. The facts, briefly stated, are these:

The Bremer County (Iowa) Medical Society, at a meeting held in the summer of 1907, discussed the question of adopting a fee bill for the guidance of physicians practicing in the county. At the September, 1907, term of the Bremer County District Court, fourteen physicians of the county, nearly all the members of the county medical society, were indicted by the grand jury under Section 5060 of the Iowa Code, charged with the crime of attempting to form an illegal combination or trust to fix and regulate the price of medical services and fees.

This action of the grand jury, the first of its kind in medical history, we are informed, was due to the efforts of the state's attorney for the county, which efforts are said to have been due to the hostility of a local newspaper against the Bremer County Medical Society and medical men in general, which hostility is reported to have been one of the results of the campaign in the Iowa State Legislature for the adoption of the Food and Drugs Act. The adoption of this law restricted the business and, in some cases, eliminated from the state certain "patent medicine" and drug companies. If they could not do business in the state, naturally they would not advertise. If they did not advertise, the receipts of certain newspapers suffer. If a newspaper proprietor lost money following the passage of the Food and Drugs Act, he naturally held the medical profession, and especially the county and state societies, responsible, since they had worked most energetically and effectively for the passage of the bill. *Hinc illæ lacrymæ*! Perhaps the state's attorney for the county had been supported by the paper in question, and possibly he was under obligation to the editor, so that in this roundabout way the Bremer County Medical Society had to bear the punishment meted out to all men and organizations, so far as possible, who dare to incur the wrath of the proprietary medicine manufacturers.

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[1] Medicolegal Department, p. 246.

Before the trial on the indictment could be held, habeas corpus proceedings were brought for the release of one of the physicians indicted, two points being raised in the petition: First, that a combination to fix and to regulate the price of the medical services was not a crime under the Iowa law, for the reason that medical services and medical fees are not a commodity; and second, that if they were a commodity, Statute 5060 was unconstitutional. Judge Kelley of Charles City, before whom the writ was brought, held that medical fees and services are not a commodity, and discharged the physician.

The case was appealed to the State Supreme Court, which rendered the decision referred to above, upholding the decision of the lower court that medical services are not a commodity and consequently do not come within the scope of the statute. The court further decided that the statute in question does not cover combinations to fix the price of labor of any kind, and approved the lower court's action in discharging the plaintiff.

A number of other suits incidental and subsidiary to the main case were at different times instituted and disposed of. The important point in the entire matter, however, is the decision of the Supreme Court that a medical society or a combination of physicians has the right to fix the price which its members shall be paid for their services. The Bremer County Medical Society is entitled to the congratulations of the profession on the outcome of the case.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Second Weekly Meeting

Surgery of the Stomach (Continued)

GASTRIC AND DUODENAL ULCERS (*Continued*)

Hemorrhage

Hemorrhage from "Acute Ulcer."—First symptom, no previous history, may be from peptic ulcer, "villous areas," etc.

Hemorrhage from Chronic Ulcer.—(1) Occult hemorrhages, (2) intermittent hemorrhage, moderate amount, (3) frequently repeated, abundant hemorrhages, (4) instant, copious, lethal hemorrhage.

Operative Treatment.—Direct method by incision, ligation or cauterization of bleeding point. Indirect method by performing gastroenterostomy.

PYLORIC OBSTRUCTION

Etiology.—Benign and malignant tumors, fibroid degeneration of pylorus, cicatrization of ulcers, congenital hypertrophic stenosis, spastic contraction from hyperchlorhydria; inflammatory adhesions, gastroptosis, gallstones or tumors of surrounding structures.

Operations.—Posterior gastroenterostomy, technic of Moynihan, of Mayo. Anterior gastroenterostomy, Roux' operation. Gastroduodenostomy or pyloroplasty, Jaboulay, Kümmell, Villard, Kocher, Finney.

CANCER OF THE STOMACH

Diagnosis and indications for operation in (a) pyloric cancer, (b) mural cancer.

Operations, exploratory incision, gastrostomy (Sabanajew-Franck, Senn, Kader, Witzel) jejunostomy, gastroenterostomy, resection or extirpation of stomach.

GUNSHOT WOUNDS OF STOMACH

Effect of caliber and velocity of missile. Injury to other organs. Probability of infection, of spontaneous recovery. Indications for exploration; details of operation.

Marriages

John D. Scouller, Jr., M.D., to Miss Edith Husted, both of Pontiac, Ill., December 23.

William H. Greene, M.D., to Miss Anita Goodfellow, both of Boston, Mass., December 30.

Daniel F. Clancey, M.D., to Miss Edna Kiser, both of Virginia City, Mont., December 22.

Cornelius Collins Wholey, M.D., to Miss Alice Douthitt, both of Pittsburg, Pa., December 28.

Guy Elliott Marcy, M.D., Tacoma, Wash., to Miss Isabel Coe, of LeClaire, Iowa, December 30.

Granville Eastham, M.D., to Miss Mary J. Tinsley, both of Culpepper County, Va., December 24.

Joseph T. Hornbeck, M.D., to Miss Georgia Munn, both of Nevada, Mo., at Kansas City, November 1.

Richard S. Hooker, M.D., Philadelphia, Pa., to Miss Anne H. Stam of Chestertown, Md., November 14.

Charles Leroy Williams, M.D., to Miss Clara Agnes Houck, both of McMinnville, Ore., December 22.

Arthur Dunning Mansfield, M.D., Baltimore, Md., to Miss Elizabeth Ball, at Chestertown, Md., December 30.

Edward Fitch Briggs, M.D., Bedford Station, N. Y., to Miss Sue Smallwood Monroe, at Waldorf, Md., December 30.

Deaths

Charles Denison, M.D. University of Vermont, Burlington, 1869; a member of the American Medical Association; who went to Colorado from Hartford, Conn., on account of pulmonary hemorrhages in 1873, and settled in Denver, where he devoted his attention to the study of climatology with especial reference to climate and tuberculosis; for fourteen years professor of diseases of the chest and climatology in the University of Denver, and since that time emeritus professor; president of the American Climatological Association in 1890; and author of numerous monographs on the subject of climatology and tuberculosis; died at St. Luke's Hospital, Denver, January 10, from gangrene following cholecystitis, aged 63.

Joseph H. Rinehart, M.D. Starling Medical College, Columbus, 1884; a member of the American Medical Association, and vice-president of the Yellowstone County (Mont.) Medical Society; coroner and secretary of the board of health of Yellowstone County; for one term mayor of Billings; a member of the board of U. S. Pension Examining Surgeons, and local surgeon for the B. and M. Railway; one of the oldest and best known physicians of Billings; from 1890 to 1892 a resident of Ballard, Wash., and member of the state legislature from King County, died suddenly, from heart disease, in his office, December 31, aged 59.

Charles F. Kieffer, M.D. Jefferson Medical College, Philadelphia, 1891; who entered the medical corps of the army as assistant surgeon in 1891, served through the Spanish-American War as major-surgeon of the Forty-eighth U. S. Infantry; and was retired from the army at his own request early in 1908, and settled in Cheyenne, Wyo.; a member of the American Medical Association; and a surgeon and administrative officer of great ability and promise; died in St. John's Hospital, Cheyenne, December 30, four days after an operation for appendicitis, aged 39.

Lawrence Darling Knowles, M.D. Bellevue Hospital Medical College, New York City, 1876; a member of the American Medical Association; Association of Military Surgeons of the United States, and Kalamazoo Academy of Medicine; major and surgeon of the Thirty-second Michigan Infantry, U. S. V., during the Spanish-American War, and later promoted to lieutenant-colonel; a member of the state board of U. S. Pension Examining Surgeons; died at his home in Three Rivers, Mich., December 29, from angina pectoris, aged 59.

Edward C. Lewis, M.D. Jefferson Medical College, Philadelphia, 1862; for several years president of the board of trustees of the Children's Home, and surgeon for the Cleveland and Pittsburg and Cleveland and Marietta railroads at Canal Dover, Ohio; in 1873 representative from Tuscarawas County in the state legislature, and later state senator for one term from the eighteenth district; died at his home in New Philadelphia, January 3, from cerebral hemorrhage, aged 64.

William G. Weaver, M.D. University of Pennsylvania, Philadelphia, 1878; a member of the American Medical Association and National Association of Railway Surgeons; supreme medical examiner of the Fraternity of Home Protectors; a member of the surgical staff of Wilkes-Barre City Hospital and Mercy Hospital; for twenty-nine years a member of the school board; major and surgeon Ninth Infantry, N. G. Pa.; local surgeon to the Lehigh Valley R. R.; died at his home in Wilkes-Barre, December 28, aged 62.

Thomas D'Arcy Sharkey, M.D. Medical College of Ohio, Cincinnati, 1893; a member of the American Medical Association, and Union District Medical Society; city physician of Hamilton, Ohio, and a member of the local board of pension examining surgeons from 1895 to 1898; a member of the Hamilton city council from 1896 to 1898; and coroner of Butler County from 1901 to 1905; died suddenly at his home in Hamilton, January 2, from acute gastritis, aged 42.

William Nevin Hill, M.D. Washington University, Baltimore, 1874; of Baltimore; a member of the Medical and Chirurgical Faculty of Maryland; well known on account of his efforts to exterminate the mosquito and to reclaim the swamp lands of Maryland; secretary of the National Drainage Congress; died at the Shepard and Enoch Pratt Hospital, near Towson, Md., from brain tumor, December 25, aged 51.

Henry A. C. Anderson, M.D. Bellevue Hospital Medical College, New York City, 1870; of New York City; a member of the Medical Society of the State of New York; formerly president of the United German Societies of New York; bacteriologist of the health department in 1898 and 1899; died suddenly from heart disease, January 5, in a cafe in New York City, aged 70.

John Gladden Johnson, M.D. University of Heidelberg, 1869; a member of the Michigan State Medical Society; for many years professor of nervous diseases in Detroit Medical College; attending physician to St. Luke's Hospital and St. Joseph's Resort for the Insane, Detroit; died from heart disease, at his home, December 31, aged 65.

Alice Boole Campbell, M.D. New York College and Hospital for Women, New York City, 1867; one of the founders of the Eastern District Hospital, and Woman's Hospital; a member of the governing board of the New York College and Hospital for Women; died at her home in Brooklyn, December 31, from angina pectoris, aged 72.

Joel Whitney Bonney, M.D. Missouri Medical College, St. Louis, 1858; formerly of Quincy, Ill., and a member of the state legislature, but for eight years a resident of Pacific Grove, Cal.; died at the home of his daughter in East San Jose, Cal., December 9, from pneumonia, aged 82.

James William Tankard, M.D. Washington University, Baltimore, 1869; a member of the American Medical Association, and for 35 years a practitioner of Lillian, Va.; died in the University Hospital, Baltimore, December 31, five days after an operation for abscess of the liver, aged 62.

Edwin Smith Belden, M.D. Bellevue Hospital Medical College, New York City, 1867; of Oakland, Cal.; formerly a contract surgeon in the army, but of late years a court stenographer of San Francisco; died suddenly, December 29, at Glen Ellen, Cal., from heart disease, aged 65.

Thomas Bernard Dwyer, M.D. New York University, New York City, 1888; a member of the Medical Society of the State of New York; a specialist on diseases of the ear, nose and throat; of Syracuse, N. Y.; died suddenly from heart disease, in that city, January 1, aged 51.

Thomas Emory, M.D. University of Virginia, Charlottesville; surgeon in the Confederate Navy during the Civil War; for many years a business man of Syracuse, N. Y.; died at the home of his nephew in Annapolis, Md., August 31, from cerebral hemorrhage, aged 64.

B. Rush Holcomb, M.D. Albany (N. Y.) Medical College, 1864; a member of the Medical Society of the State of New York; assistant surgeon of N. Y. volunteers during the Civil War; died at his home in Whitehall, N. Y., December 31, aged 68.

Loren Perle Lee, M.D. Starling Medical College, Columbus, 1903; a member of the Ohio State Medical Association; was accidentally shot and killed while examining an automatic revolver at his office in Rutland, Ohio, December 30, aged 33.

Charles William Eddy, M.D. Miami Medical College, Cincinnati, 1877; a member of the Ohio Pediatric Society and American Association of Life Insurance Examiners; died at his home in Marietta, Ohio, December 28, aged 55.

Charles M. Brasted, M.D. University of Buffalo, N. Y., 1881; of Hornell, N. Y.; a member of the American Medical Association; died suddenly from heart disease, January 1, while making an emergency call in Hornell, aged 50.

James John O'Sullivan, M.D. Western Pennsylvania Medical College, Pittsburg, 1906; assistant professor of hygiene in the University of Pittsburg; a noted athlete; died in Denver, December 26, from heart disease, aged 23.

Morris May, M.D. Medical College of Ohio, Cincinnati, 1895; of Cincinnati; a member of the Ohio State Medical Association; died at the Bethesda Hospital, Cincinnati, December 27, from diabetes, aged 37.

Sidney S. Wood, M.D. Jefferson Medical College, Philadelphia, 1855; formerly a practitioner of St. Joseph, Mo., and New Orleans; died at his home in Orange, Cal., November 27, from uremia, aged 83.

Isham S. Talbot (years of practice, Mo.); a practitioner of Easton, Mo., for 47 years, died at his home, December 6, aged 70.

Society Proceedings

COMING MEETING

Medical Society of State of New York, Albany, Jan. 26.

AMERICAN ROENTGEN RAY SOCIETY

Ninth Annual Meeting, held at New York, Dec. 28-30, 1908

The President, Dr. Eugene W. Caldwell, New York, in the Chair

Officers Elected

The following officers were elected: President, Dr. George C. Johnston, Pittsburg; vice-presidents, Drs. William Allen Pusey, Chicago, Sydney Lange, Cincinnati, A. W. Crane, Kalamazoo, Mich., W. L. Newcomet, Philadelphia, and H. W. Van Allen, Springfield, Mass.; secretary, Dr. Percy Brown, Boston; treasurer, Dr. Charles F. Bowen (re-elected), Columbus, Ohio; executive committee, Drs. Henry K. Pancoast, Philadelphia, Alfred T. Osgood, New York, and F. H. Baetjer, Baltimore.

The next annual meeting will be held in Detroit, the time to be determined later.

Value of Roentgen Ray Examination

Dr. George H. Stover, Denver: The fluoroscope should be dismissed from consideration as a means of diagnosis because it is only rough and approximate in its information, and it is not a permanent record which may be studied at leisure under regulable conditions and preserved for future use, either in the study of the progress of a case or as a basis of medicolegal evidence. The radiograph alone is worthy of consideration. Prints or plates should not be given to a patient because he is likely to misinterpret it, a fact which is likely to prove disastrous in the case of an impressionable patient. Furthermore, the patient is sent to the radiographer for an opinion as to his condition, and not for a picture of himself. Neither should skiagrams be exhibited to a jury, because its members are not capable of reading a skiagram or of interpreting correctly what it shows. Also, too much weight is given to the plate, because as a general proposition visual impressions are more powerful than auditory ones. The radiographer should render his opinion to the physician who referred the case, preferably by demonstrating the skiagram to him.

DISCUSSION

Dr. A. L. Gray, Richmond, Va.: It is important to make a skiagram of every case of injury so that the evidence shown may be used in case of suit; but the plate should not be exhibited to the jury; nor should a print be given to the patient.

Dr. M. K. Kassabian, Philadelphia: I believe that the skiagram is a most valuable evidence in court because it is a tangible thing, one which can be demonstrated to judge and jury, and which forms indisputable evidence.

Dr. George H. Stover, Denver: Too often patients pass around among their friends a radiograph which they consider in the same light as a portrait, thus detracting from the real value of the radiogram.

Roentgen-Ray Diagnosis of Osteitis Fibrosa

Dr. S. Cummings, Toronto, Can.: This disease, first described by von Recklinghausen, is essentially a disease of the bone marrow, which may be localized in a single bone or may invade the entire bony skeleton. The normal bone marrow is replaced by fibrous or lymphoid material, and the bone itself by osteoid tissue with the formation of cavities or cysts. The continuity of the bone is not interrupted, unless a fracture occurs. Prior to the introduction of the Roentgen ray as a diagnostic agent, the disease was rarely recognized, and it is extremely probable that many cases of so-called fragilitis ossium were really cases of osteitis fibrosa.

Roentgenographic Study of Motion in Viscera

Dr. Charles Lester Leonard, Philadelphia: By means of the radiograph it is possible to make such rapid exposures that there are registered the individual phases of the visceral shadow on the plate; the forms of the viscus in each phase of its normal or pathologic motion can be studied at leisure and by means of reconstruction. Dilatations and hypertrophies of the left auricle and right ventricle which escape all other means of diagnosis can thus be detected. Small aneurisms and dilatations of the aorta can be recognized, and often the pulse wave can be shown differentiating these conditions from mediastinal growths. The varying positions of the diaphragm may be noted and interpreted correctly as evidences of disease. Probably the most valuable field for the study of visceral motion will be found in the gastrointestinal tract. Fortunately, the movements of the viscera are not so rapid that they make necessary very short exposures to eliminate their motion.

The Roentgen Ray in the Diagnosis of Carcinoma of the Stomach

Dr. George E. Pfahler, Philadelphia: My remarks are based on a study of 29 cases in which evidence of carcinoma was clearly demonstrable, and in most of which the diagnosis was confirmed by operation, autopsy or the subsequent clinical course of the case. In the majority of these cases the tumor was not definitely palpable, or not at all, and in all the cases the rays not only located the tumor, but disclosed its extent. The evidences of carcinoma of the stomach usually consist of changes in the course of the food through the stomach or changes in the outline, position, mobility or peristaltic movements. I am convinced that by this means a diagnosis can be made before it is possible with any other means at our disposal.

Roentgen-Ray Evidence in Gastric Ulcer

Dr. A. W. Crane, Kalamazoo, Mich.: I have found that the x-ray is extremely valuable in diagnosing gastric ulcer when other means of diagnosis fail. The diagnostic factors are (1) size, (2) form, (3) position of the stomach, (4) its clearance of food, (5) the location of the pain marker, the latter consisting of a leaden letter "P" which is placed over the seat of pain. This may locate the seat of the pain in the pylorus, the fundus, the pancreas, duodenum or other portion of the small intestine, thus differentiating the case nicely. The globular and contracted form of stomach are distinctive of ulcer.

Radiographic Examination of Gastrointestinal Tract

Dr. Henry K. Pancoast, Philadelphia: Characteristic alterations in the position of the stomach and the descent of the greater curvature considerably below its normal level are sufficient data on which to base a diagnosis of gastroptosis in the majority of instances. The skiagraph is useful in indicating the anatomic defects most in need of correction, or those whose correction is most likely to be followed by favorable results, and in suggesting the most appropriate measures to employ. It is also important to determine the position of the liver and of the colon. The success of an operation may be greatly impaired through failure to observe the position of the colon. The colonic displacement is likely to be relatively greater when it has arisen independently and is an essential factor in causing the gastroptosis. It is impossible to radiograph adhesions, but their presence and their location may be indirectly suggested in many instances, particularly when they involve the transverse colon. It is essential that the radiographer be familiar with the various operations employed in the treatment of gastroptosis in order that he may be able to recognize whether any operative procedure is indicated, and if so, which one. Among the indications for operation are marked gastric dilatation, retention of food, and evidence of a mechanical kink and of a relaxed gastrohepatic ligament.

Expectant Treatment of Old Sinuses

Dr. Arthur Holding, Albany, N. Y.: I inject into the sinus an aseptic suspension of bismuth subnitrate, one part, in petrolatum, two parts, using an aseptic glass syringe of large capacity. Then I make a skiagraph of the parts. This may be done stereoscopically to good advantage. Having determined the course of the sinus, a copper wire electrode is fashioned so that it can be inserted to the bottom of the sinus. This is attached to the positive pole of a galvanic current and the sinus is treated as often as is necessary in order to remove scar tissue, stimulate granulations and render the tract aseptic. When the discharge is controlled, the sinus is ready for injection with a mixture consisting of equal parts of bismuth and iodoform to two parts of petrolatum and soft paraffin. In my experience, this method of treatment has proved satisfactory.

DISCUSSION

Dr. Charles L. Leonard, Philadelphia: For outlining the sinus tract with the x-ray, iodoform is as useful as bismuth, being metallic.

Dr. George C. Johnston, Pittsburg: In the Children's Hospital in Pittsburg the bismuth-petrolatum injection has been used considerably and with much satisfaction, a cure having been effected in many old cases that had resisted all other methods of treatment.

Dr. H. W. Van Allen, Springfield, Mass.: I do not think that it is necessary to use the copper wire, these sinuses healing very rapidly following the injection of bismuth and petrolatum.

Drs. H. W. Dachtler, Toledo, Ohio, and S. Cummings, Toronto, reported cases of bismuth poisoning following the use of the bismuth-petrolatum paste.

Dr. Arthur Holding, Albany: The results following the use of the paste are better if the sinus tract is first rendered aseptic by means of the galvanic current, and therefore I always use the copper wire before making such an injection.

(To be continued)

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Eighteenth Annual Meeting, held at Minneapolis, Dec. 29 and 30, 1908.

(Continued from page 159)

Chronic Dilatation and Prolapse of the Stomach

Dr. Arthur E. Benjamin, Minneapolis: Dilatation of the stomach is now engaging the attention of the medical and surgical world. Recent investigations have demonstrated that reported deaths due to heart failure, gastralgia, acute indigestion, and so forth, in some instances may have been due to acute dilatation of the stomach. The various terms applied to this condition, such as gastromesenteric ileus and postoperative gastric paralysis, indicate that the pathology, etiology and *modus operandi* are not thoroughly understood. Chronic dilatation and prolapse of the stomach are often interdependent and associated, and as possible antecedents of an acute dilatation they must be recognized. They should also be considered as factors in the causation of ulcers or cancer. The causes for dilatation and prolapse may be similar, and primarily are often due to indiscretion in diet, followed by weakened gastric support, motor insufficiency, or partial obstruction. The exact nature and variety of the ptosis or the dilatation should be determined, if possible, by *x*-ray and other means. Symptoms actually due to chronic dilatation or prolapse are frequently termed hysteria, neurasthenia or nervous dyspepsia. Acute upper abdominal pain or attacks of vomiting are often misinterpreted; they are frequently due to acute pyloric or duodenal obstruction and gastric distention. Hyperchlorhydria, postoperative vomiting and vomiting of pregnancy may be dependent on the presence of chronic dilatation or prolapse of the stomach. The treatment should depend on the conditions found. Simple cases are often amenable to medical and mechanical means, such as diet, exercise, mechanical support, and hygiene. Certain patients should be operated on, especially those with actual pyloric or duodenal obstruction or dilatation of the sagging type, and other aggravated cases not relieved by medical means. The tubulous types of prolapse need no operation. Some cases are dependent on an associated visceroptosis and relaxed abdominal walls. These should be properly treated to bring about the relief dependent on such a general prolapse In the sagging types the Beyea operation, either alone or supplemented by the Coffey operation, if there be an associated sagging of the transverse colon, should be done. Chronic dilatation of the stomach not dependent on obstruction and when not otherwise relieved is greatly benefited and often cured by the Bircher operation of plication. In chronic dilatation, dependent on a benign pyloric obstruction, a short loop gastroenterostomy should be performed. Obstruction or dilatation dependent on malignant growths may call for a pylorectomy. In operating, a careful search should be made for any other points of chronic bowel obstruction, as from disease of the gall-bladder, appendix, or from a kinking colon. These conditions may add to digestive disturbances, and should be corrected at the same time. All patients operated on should be followed for some time and the subsequent treatment carefully managed.

The Surgical Importance of the Intestinal Gases

Dr. Byron B. Davis, Omaha, Neb.: The points that practical surgeons need especially to have in mind are (1) to have as little fermentable substance as possible in the intestines before operation; (2) to do as little as possible during the operation, which will interfere with the normal circulation in the intestinal wall—this can probably best be prevented by a minimum amount of handling and resulting trauma; (3) to leave the intestines in the best condition for active peristalsis; long exposure and much cooling are inimical to active peristalsis.

Dilatation of the Stomach

Dr. D. S. Fairchild, Des Moines, Iowa, read a paper in which he discussed postoperative acute dilatation of the stomach.

Discussion on Dilatation of the Stomach

Dr. R. C. Coffey, Portland, Ore.: There are able men who consider prolapse of the stomach a non-surgical condition, while others believe that it is a surgical condition under practically all circumstances. From my experience I should say that there is a happy medium in this, just as there was a few years ago in gastric surgery of other kinds. One will not go to any important clinic in the country to-day and see gastroenterostomy performed for gastric ulcer and the ulcer will be easily demonstrated, and the scar is easily shown to the onlooker. It can be demonstrated not only to the surgeon himself, but to those who are looking on. Not more than 25 per cent. of the cases of prolapse of the stomach, as seen by the internist, have any surgical features. Probably not more than one in five has any surgical features, but the fact remains that a certain number do have surgical features and the results of surgical treatment are practically as good as in gastric ulcer. In a series of cases of last year's surgical work, of 29 stomach operations, 14 were for cancer, 10 for obstructive gastric ulcer, and 4 were for prolapse of the stomach.

Dr. Daniel N. Eisendrath, Chicago: During the past few years at the Michael Reese Hospital, Chicago, special attention has been paid to acute cases of dilatation in order to determine the cause. It was found in a large proportion of cases that the direct cause of the acute dilatation of the stomach was repeated capillary hemorrhages, and this has been substantiated by examination of the washed contents and by other tests, showing that the hyperacid contents were bloody. There is no hematemesis in the sense that it comes from a gastric ulcer or from gallstone complications. During August I operated on a man who, in addition to appendicitis, had an acute gangrenous cholecystitis complicating gallstones. Everything went smoothly for thirty-six hours. The patient was happy, sat up in bed, and passed some flatus, so that I felt that there was no indication of peritonitis. Suddenly he began to vomit typical coffee-ground material in pint quantities at a time. He had rapid pulse, with extreme prostration. On washing out his stomach this typical coffee-ground vomit was found, which on analysis was blood. The diagnosis was made from the physical examination of the abdomen.

Dr. Charles H. Mayo, Rochester, Minn.: If the internist picks out one case in twenty-five and sends it to the surgeon he would operate probably on one in five, which would be one in a hundred and twenty-five that presented symptoms. If the stomach becomes large, and is able to do its work, and to empty itself, it is probably not a surgical condition. If the pylorus is open, and there is no kinking of, operation may not be necessary. At Rochester we have done gastroenterostomies in cases in which there was kinking of the pylorus. In cases of enlarged stomach we have been asked whether or not we drained. We have never drained unless there were really obstruction or signs of obstruction by the retention of food. If the stomach is dilated, and yet still able to do its work, look for the condition which may be behind it. This may be a chronic congestion of some of the vessels.

Dr. Jabez N. Jackson, Kansas City, Mo.: Some years ago I had two unfortunate experiences. In each instance I had a patient who belonged to that class of people in whom there was a marked disturbance of metabolism previous to operation, as evidenced by change in the color of the skin, flabbiness of the complexion, and general laxity of the tissues. These patients consumed an unusual amount of the anesthetic. I have therefore come to believe that probably the primary cause in most cases is a disturbance of the metabolism which is increased as the result of the toxic influence of the excess of anesthetic, and in recent years, since I have adopted the open method of administering ether, and giving it in small quantities, this trouble has disappeared, and while I have occasionally seen the early signs and symptoms of beginning acute intestinal dilatation, yet apparently they have not been attended with the fatal results which previously occurred.

Dr. J. W. Andrews, Mankato, Minn.: I am reminded of the case of a woman, past middle age, with malignant kidney of sufficient size to bulge forward to a considerable extent, and which I removed through the peritoneal cavity. The patient did well for about ten days, then acute dilatation of the stomach occurred, commencing by vomiting of coffee-ground material. The patient died, and at the postmortem examination I found the largest dilated stomach I have ever seen. It was so enormously dilated that it reached to the brim of the pelvis. During the past year there has been a severe epidemic of typhoid in Mankato, with several cases of acute dilatation of the stomach accompanying it. In these patients the stomach was enormously distended; but the intestines were no more distended than usual in typhoid, yet every one of those patients died from acute dilatation of the stomach. Whether or not the cause was due to the hemorrhage spoken of, I do not know. At any rate, it is an extremely fatal condition.

Dr. M. L. Harris, Chicago: In chronic dilatation of the stomach I have come to classify the cases under two heads, those in which there is mechanical obstruction and in which surgical interference is the proper treatment, and those in which there is no mechanical obstruction. It is doubtful, in my opinion, whether in the latter condition patients are benefited by operative measures. I have never seen any good reason for the plication of a dilated stomach. If a stomach is dilated as the result of mechanical obstruction, plication is useless. If it is dilated not from mechanical obstruction, but from atony or any other condition, the plication will interfere with vermicular action.

Dr. Henry T. Byford, Chicago: A dilated stomach is different from a normal stomach. If the normal intestine be plicated it will interfere with its function, and if the stomach be plicated it will interfere with its contraction. There is a pouch, it hangs down, and can not relieve itself, and if it is a surgical case we can not very well diminish the contractile power of the stomach. In such a case, if we can bunch it up, relieve the pouch, help drainage through the duodenum, and help the physical condition, we are establishing temporarily postural treatment, thus giving the stomach a chance to empty itself, and as probably the adhesions will stretch after a while, we have not injured the stomach; we have not injured motility which does not exist.

(To be continued)

CALIFORNIA ACADEMY OF MEDICINE

Regular Meeting, held in San Francisco, Nov. 24, 1908

The President, Dr. Howard Morrow, in the Chair

Anaphylaxis

Dr. G. W. McCoy, U. S. P. H. and M.-H. S.: It has long been known that a foreign serum injected into an animal is apt to give rise to certain symptoms and a fatal termination. That, however, is not the subject to be discussed. This hypersensitiveness to the serum is a symptom-complex that is manifest when an animal is given the second injection of the alien serum. The whole subject is merely a part of the larger subject of immunity, the history of which practically dates back three years when Rosenau and Anderson began their work in this country and Otto in Germany. Magendie about seventy years ago reported that while injecting egg albumin into rabbits he found occasionally that after the second injection the animals would die suddenly. He passed over this, but it proves the old saying that "there is nothing new under the sun." Any serum from any species will serve; a small dose given first and large doses afterward will cause a fatal termination. Horse serum is the one most largely used. An injection of extracts from the bodies of bacteria repeated after nine or ten days will produce analogous symptoms; in many cases the animal becomes immune. Rosenau and Anderson, by injecting killed cultures of typhoid and colon bacilli, at short intervals were able to immunize 100 per cent. of guinea-pigs. The tuberculin reaction is merely a manifestation of anaphylaxis. To sensitize an animal, a small amount such as 0.000,001 c.c. of serum is sufficient. This period of incubation corresponds very much to the period of incubation of some infectious diseases. It has been shown that it lasts in a guinea-pig for more than two years and probably throughout the remainder of its life. It takes a high degree of heat, maintained for some minutes, to destroy the poisonous agent, it differs in this from the agglutinins and the lysins. Freezing and thawing have no influence on it. It filters through porcelain. Almost anything short of the destruction of the serum leaves this substance intact. We know absolutely nothing about the nature of this phenomenon. Rosenau and Anderson hold that the primary injection develops in the animals some sort of antibody, and that when the second dose is given it unites and produces a highly toxic agent which rapidly kills. Gay and Southard say that the horse serum holds two substances: one an anaphylactin that stimulates the body cells so that the next injection is broken up, separating a highly poisonous substance. Vaughan, who has done work specially with the white of the egg, says that the primary injection educates the cells to break up the substance rapidly and thus poison the animal. The symptoms are due to some paralysis or interference with the respiratory center. Gay and Southard state that the cause of death is emphysema; that the hemorrhages often found in the stomach and brain and other organs after the secondary injection are the immediate cause of death; and that these hemorrhages come from rapid fatty degeneration, which they say occurs in three or four minutes. Death does not always follow. If instead of giving a small dose and allowing nine days or more to elapse, the large doses are repeated at short intervals, the animals become immune, but not absolutely immune, for the second dose frequently causes slight symptoms. Immunity has been transmitted through the mother, not through the milk; it has not been shown, however, to extend beyond the first generation. The sudden death which sometimes follows in man after injection of horse serum has something to do with the phenomenon of anaphylaxis. Just how it works out no one knows, but the symptoms reported resemble the symptoms which the sensitized guinea-pig shows. This condition of sensitization may be brought about even by feeding horse meat. Ordinarily the rash comes on after the eighth or tenth day following the use of antitoxin in diphtheria. Children develop the rash within twenty-four hours after being given the second injection. It has been called the accelerated reaction. The fact that some people die after an injection of horse serum is no reason for restricting its use. Asthmatics are highly susceptible to horse serum. Some care should be taken in making the injection. To a patient in whom the danger of the development of the symptom-complex is suspected, it is better to give the serum in broken doses. Injection should never be made directly into the blood vessel. There is no other treatment of the serum disease than stimulation for the respiratory symptoms. Very few patients recover.

Investigation of Diseases of the Esophagus

Dr. C. M. Cooper, San Francisco: I advocate the orderly investigation of diseases of the esophagus by the following scheme: Clinical examination; laryngoscopic examination; hypopharyngoscopic examination; examination with the *x*-ray; examination with sounds; examination with the esophagoscope.

DISCUSSION

Dr. E. C. Sewall, San Francisco: In the beginning Kerstein found that he was able to pass a tube in about three-fourths of his cases. Killian's work, however, has demonstrated that the instrument can be introduced in all persons without anatomic abnormalities. The difficulty in passing the tube into the esophagus is encountered at the upper end and just beyond the cricoid cartilage. This is the narrowest part of the esophagus, and when the head is thrown back the narrowness is exaggerated by the pressure of the parts in front. Pressure is liable to be brought to bear and damage may be done her, especially if diseased conditions, such as carcinoma or diverticula, exist. Mikulicz has reported two deaths following rupture in passing the tube when there was a high-seated carcinoma. The early diagnosis of carcinoma is of so much importance that the value of the examination of the upper end of the esophagus is especially apparent. It remained for von Eicken to give us the best method for examining this hypopharyngeal region. One method is to pull the parts forward by grasping from the outside, using the laryngeal mirror. This is a difficult procedure, except when the patient is thin and the parts relaxed. Best has devised a blunt-pointed retractor which he introduces into the cocainized larynx. By making traction the parts are drawn forward and a view may be had of the hypopharynx. By this method I have recently been able to diagnose tuberculosis of the upper end of the esophagus when the laryngeal mirror showed nothing but pallor of the parts and paralysis of a cord. In tonsil work in removing the blood from the pharynx I have used an aspiration pump, which is equally efficacious in withdrawing the secretion in using the esophageal tubes. It is an extra heavy suction pipe to be screwed on an ordinary faucet and operated in connection with an exhaust bottle.

Dr. W. F. Cheney, San Francisco: I think that the esophagoscope is very disagreeable to patients. In one case at the Cooper Medical Clinic a man was so terrified that he has never come near the clinic since. If we can get evidence of the disease without using this instrument I think that is sufficient. Little is gained by using it.

Dr. W. I. Terry, San Francisco: I take issue with the statement that carcinoma of the esophagus is incurable. Gluck has cured esophageal carcinoma involving the neck, the cures lasting many years.

Dr. H. B. Reynolds, San Francisco: In diseases of the esophagus reflex spasm is often an important factor. In some cases in which dilatation results from the reflex spasm I believe that the source of the spasm can be found and corrected. About a year ago I had under my care a man who had had difficulty in swallowing for four or five years. He was brought to me for operation for appendicitis. Up to that time he had been unable to swallow any solid food and only took liquids, his customary maneuver being to take sufficient liquid food to fill up the diverticulum and then to swallow pulpy food. I operated on this man for recurrent appendicitis, extending over a period of a number of years. I found the whole ascending colon covered with adhesions, which I removed as far as possible. Since that time he has been able to take the ordinary diet of a normal individual except on occasions when he has a partial recurrence of spasm. This experience has emphasized the possibility of finding conditions outside of the esophagus causing reflex spasm and dilatation when we may not really expect to find them, and the importance of adding to the scheme of Dr. Cooper the careful search for possible reflex causes of spasm, the correction of which may help the patient.

Dr. C. G. Levison, San Francisco: One point must interest every one who has had any experience with this class of patients; that is the determination of the situation of the constriction by bismuth and the radiograph. This observation is of importance because it gives one a feeling of confidence when instruments are introduced. The introduction of the esophagoscope is painful, and the patient will permit this procedure to be repeated only after he has reached a point where he is unable to swallow, and by this time no difficulty is experienced in making a diagnosis without the use of the instrument. I introduce the esophagoscope with the patient reclining. In the use of the instrument we have several factors to contend with, such as bad teeth or a stiff vertebral column. The latter is a point of considerable importance which presents itself frequently in elderly people, and it is they who so frequently require the application of the tube. With an anchylosed vertebral column the patient experiences great difficulty in flexing the head sufficiently to render possible the introduction of a rigid instrument. With the patient lying on the back my experience has been that this becomes much easier.

Dr. Herbert Moffitt, San Francisco: I have had experience with esophagus work and can emphasize the necessity of getting through the routine examination before passing the tube, but I can not agree that the esophagoscope is such a dreadful instrument. I have patients who are coming back to me right along, and I do not find it necessary to give a general anesthetic. There are conditions which can be reached therapeutically only by the use of the esophagoscope. A boy of 16 was unable to swallow solid food for thirteen years; on investigation an ulcer was found in the lower portion of the esophagus. Taking this ulcer in connection with evidence of specific disease elsewhere, I applied specific therapy; the result was a complete cure of the condition. The same thing occurred in a smaller boy who had a constriction, chiefly spasmodic, with a very small scar, following the taking of potassium hydrate. After complete dilatation and painting of the esophagus, that boy has become perfectly well. Another case brings to mind the necessity of noting thoroughly the position of a stricture before any violent effort is made to get past it. A woman for fourteen years had had symptoms almost typical of spasmodic stricture at the cardia with evident dilatation above. As in all these cases, the symptoms got worse and the patient was finally unable to swallow enough food. She came to the hospital, and on careful examination no evidence of any other condition was found. With the esophagoscope the dilatation was readily seen; there was evidence of inflammation at the lower section, but no evidence of anything within the esophagus itself. A few hours after examination the patient was given food and after swallowing experienced sudden pain in the abdomen. Perforation had occurred. This woman had a silent ulcer of the stomach with no symptoms. Dr. Cooper has mentioned in connection with these cases the fact that symptoms may be entirely esophageal. Dr. W. S. Thorne operated on a patient who referred all the trouble to the upper end of the esophagus and a constriction had been found there. The esophagoscope found the gullet free; there was no constriction except at the cardia, and gastrotomy done by Dr. Thorne showed the carcinoma wholly within the stomach. The importance of invesigating the pharynx before the indiscriminate passage of sounds was emphasized in the late case of an old man with symptoms dating back about ten months, chiefly emaciation and dysphagia. Carcinoma of the esophagus was suspected, tubes had been passed and obstruction found opposite the bifurcation of the trachea. Sounds had been passed and milk was poured through the tube to prolong life. Only one attempt to inspect the esophagus was made, and it became apparent that the trouble was not at the bifurcation, but that the patient had a malignant growth in the upper esophagus; the epiglottis was infiltrated; the larynx was gaping, and the milk that had been fed him had gone entirely into the trachea. This patient died shortly afterward from bronchopneumonia, and autopsy showed a growth at cricoid with infiltration and an extremely wide-open larynx. I think that Dr. Cooper and I saw the case some years ago that Dr. Reynolds has mentioned. A thorough examination was made clinically and with the *x*-ray, and we concluded that the patient had not only a diverticulum, but a spasm of the cardia with dilated esophagus. It has been observed that operation elsewhere will relieve spasms of the cardia just as they will relieve spasms of the pylorus. It is well known that a number of patients are operated on for gastric disease whose trouble is entirely below the stomach; that pyloric spasm has been due to irritation elsewhere in the gastrointestinal tract, and that just as appendicectomy will relieve these patients so occasionally cardiospasm will be relieved by operations elsewhere. As a rule, however, the relief is rather transient. Some years ago I saw a man who had the appendix removed for the relief of the cardio spasm but the spasm returned. Later he died of an infection of the mediastinum through an ulceration of the large esophageal pouch.

A Case of Glanders in Man

Dr. G. Caglieri, San Francisco: On Sept. 6, 1908, I saw the patient, an Italian, age 30, living in San Joaquin Valley, where he had been working among horses. He complained of pain beneath the lower tuberosity of the left tibia. His temperature was 103F. he had no history of syphilis or tuberculosis, he had had typhoid four years ago. There was no history of traumatism. The pain increased and edema developed in the skin, with rising temperature. Two days later developed pain in the left elbow and later in the shaft of the radius. These areas became red and swollen and tender in twenty-four hours, and distinct fluctuation was present. The swellings over the elbow and knees were opened but no pus was obtained. From the swelling over the radius considerable pus was removed by incision, and from the knee joint by aspiration. A diagnosis of pyemia was made but by staining smears no pus organisms were found. The next morning the patient presented a typical picture of human glanders and smears and cultures from fluid aspirated from the lesions showed the characteristic organisms. At this time the patient became much worse; the elbow was four times its normal size; the skin was edematous and fiery red; the forehead was red and there was a profuse ichorous secretion from the nose. The man died on the tenth day. On the day before death he developed a rash over the whole body which looked much like smallpox and on the morning of his death the right submaxillary gland became swollen. When the case was first seen it presented the picture of periostitis, and later of pyemia. It is necessary to bear in mind rare conditions so that they may be recognized when seen. The case would not have been so difficult of diagnosis if the true condition had been thought of.

DISCUSSION

DR. W. F. CHENEY, San Francisco: I saw a case of glanders in a human being in 1904 to which I called the attention of the state society in 1905. At that time I went thoroughly through the literature; only five cases had been reported in California, two of which had been reported by Dr. Tait. The disease must be rather common throughout the state and yet few cases have been reported. Whenever a case is identified it ought to be put on record so that more attention may be called to it. Since I saw that case in 1904 I have been on the lookout for others but have not seen one.

DR. THOMAS H. O'CONNOR, San Francisco: In the case reported by Dr. Caglieri the leucocyte count was very low. The first time it was taken it was 9,000; at another time it was 8,000. The blood count showed, of course, a relative increase in the polymorphonuclear leucocytes. In looking over the literature I find that various writers have noted and emphasized the low leucocyte count in cases of human glanders. In my opinion, this was a case of latent glanders with encapsulated nodules. This man stated that he had not worked with horses for two years, but that before that time had been employed in a capacity which brought him into close contact with them.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-first Annual Session, held in St. Louis, Dec. 15-17, 1908

(Continued from page 163)

Elective Cesarean Section

DR. MILES F. PORTER, Fort Wayne, discussed Cesarean section as an operation of choice, especially in such patients as are usually delivered by so-called minor operations or by unaided natural forces after long labor. Heretofore too little attention has been paid to the morbidity of both mother and child. He said:

The question is not only one of motherless children and childless mothers, but of invalid mothers and idiot children as well. A study of the statistics shows that the average maternal mortality resulting from high forceps, version, induction of premature labor, and the expectant plan is 1.14 per cent.; the fetal mortality, 17.3 + per cent.; the maternal morbidity, 42 per cent.; the fetal morbidity 12.2 per cent.; not including the fractures of the skull in Leisenwitz' figures. It should be recalled that the children who recover from cerebral hemorrhage invariably suffer permanent disability, and in 30 per cent. epilepsy develops. Summarizing the reports of 126 elective Cesarean sections collected by personal correspondence, the maternal mortality is found to be 1.58 per cent.; the fetal mortality, 0; the maternal morbidity, 12.69; the fetal morbidity, 0. It should not be forgotten that the fetal morbidity following forceps, etc., is often worse than death. The results of these cases are in accord with the opinions of many men of experience. In placenta prævia the obstetric procedures result in a maternal mortality of 8 per cent., a fetal mortality of over 50 per cent.; and a high morbidity for both mother and child. No method of delivery entails so little risk to the child as does Cesarean section. Remote ulterior results of Cesarean section, including hernia, rupture of the uterus, and adhesions, can be prevented by proper technic so nearly completely as to render the dangers arising therefrom practically *nil*. Barring infection, some hours of labor do not increase the danger from Cesarean section. The obstetric operations no less than Cesarean section require surgical skill and judgment; indeed, the inherent difficulties of the former are perhaps the greater and no one, unless he be possessed of both skill and judgment, should undertake either. In contracted pelvis, Cesarean section should be the operation of choice in many multipara and practically all primipara. In placenta prævia with a viable child Cesarean section should be the operation of choice. In eclampsia in the primipara, with a viable child, Cesarean section is the best method of delivery usually. With capacious pelvis and vagina, Dührssen's operation may be preferred. Abdominal section for uterine or ovarian tumors done at term should be followed by delivery of the child by Cesarean section. Given an elderly primipara at term with a vigorous child, with a normal pelvis, but rigid soft parts, unusually sensitive to pain and physically below par, and Cesarean section offers both mother and child a better chance of life and health than the so-called conservative operations. As one of the chief arguments in favor of Cesarean section is that it entails no risk to the child, it follows that a dead or dying child will often determine one to choose one of the conservative operations in cases in which the Cesarean section otherwise would be the operation of choice.

DISCUSSION

DR. E. GUSTAV ZINKE, Cincinnati: If I were to make any criticism on Dr. Smythe's paper, it would be that Cesarean section, and especially a Porro operation, under the circumstances, was unnecessary, and in so saying I do not wish to be understood as reflecting on his ability or judgment. As I understand the case, there was an ample pelvis. The only pathologic condition was the presence of a large ovarian tumor on one side and a small one on the other. The large one was removed without difficulty, and the second one could likewise have been removed, the abdomen closed. Judging from recent literature, Cesarean section will soon cease to be an elective operation, and will only be performed when there are positive indications.

DR. HENRY T. BYFORD, Chicago: It is rather radical to recommend Cesarean section in old primiparæ. There are exceptional cases in which this operation might be done; but obstetrics is improving, and a good obstetrician, by using the various means at our command, can almost rule out Cesarean section in that class of cases. It is only in the exceptional cases we should resort to such an operation.

DR. CHARLES P. NOBLE, Philadelphia: I am heartily in sympathy with that part of the paper which speaks of broadening the field of Cesarean section. The question is, Which is the more dangerous to the child—an elective Cesarean section or a very difficult forceps operation? Surely, anyone who has had considerable experience in obstetrics, and who knows the great difficulty attending deliveries either by forceps or version under ordinary conditions existing in private practice, as well as what can be done by abdominal surgery under favorable conditions, must be driven to the conclusion, even on *a priori* grounds, that Cesarean section is much safer. The mortality to the mother approaches zero, and about 100 per cent. of the children are delivered alive by Cesarean section.

DR. MAURICE H. RICHARDSON, Boston: Unless fibroid tumors interfere seriously with normal confinement, I would not operate, and the results from non-interference are, in my experience, very good indeed. Nature is very kind in the delivery of a child from a uterus which contains fibroids.

DR. CHARLES H. MAYO, Rochester, Minn.: I recall two cases of tumors complicating pregnancy in which an elective Cesarean section was planned, but in both instances by manipulation the tumors were lifted out of the pelvis and the women went on to term and were delivered normally.

DR. RUFUS B. HALL, Cincinnati: A woman, aged 40, about to be delivered, came to me with a gallon or more of fluid in the abdomen. She had been ill two days. I operated on her as soon as she came in. I found an ovarian tumor about the size of a cocoanut, with twisted pedicle. I removed this tumor, but did not interfere with the pregnancy. The woman recovered nicely from this operation. On the thirteenth day thereafter she was delivered of a baby, and made a smooth convalescence.

DR. CHARLES L. BONIFIELD, Cincinnati: I have done but one Cesarean section myself, but assisted Dr. Zinke in another, and in both instances I was impressed with the exceeding ease of the operation. It is one of the simplest operations in abdominal surgery, gives rise to the least trouble, and in healthy women I would not expect a mortality of more than 1 per cent. When the uterus is infected, a Porro operation is the operation of choice, but when the uterus is healthy, I see no reason for resorting to a Porro operation instead of the ordinary Cesarean section.

Dr. William D. Haggard, Nashville: There is one conclusion Dr. Porter arrived at in which we can heartily concur, namely, the wisdom of resorting to elective Cesarean section in cases of eclampsia at term, but not in labor. I have had occasion to do this operation twice in the last year in women who had been having a number of convulsions, one for eight hours and one for nine hours, both being in a comatose condition before they had the convulsions. Both were delivered by Cesarean section, and both mothers and children are alive.

Dr. Walter C. G. Kirchner, St. Louis: I recall one case in which pregnancy was complicated by a cyst. The cyst was removed, and the patient recovered from this operation. A few months later she developed perforative appendicitis, was operated on for that condition, recovered, and went on and was delivered of a healthy child.

Dr. M. C. McGannon, Nashville: I am in accord with what has been said relative to broadening the field for Cesarean section, because it is probably one of the simplest abdominal operations in the hands of an expert. The mortality rate is practically *nil* so far as the mother is concerned, and it gives the child, under all circumstances, the best chance for its life.

Necessity of a Second Operation for Removal of the Appendix When an Appendiceal Abscess Has Been Treated by Simple Incision and Drainage

Dr. Stuart McGuire, Richmond, Va.: Among the cases reported in a former article, entitled "An Analysis of the Last Five Hundred Cases of Appendicitis Operated on at St. Luke's Hospital," there were 23 cases of appendiceal abscess of the class adherent to the parietal peritoneum. In this group of cases the treatment had been simple incision and drainage, no effort being made to locate or remove the diseased appendix. In every instance the patients were told that the operation was not for appendicitis, but for an abscess which was the result of appendicitis, and that the appendix had not been removed. Two methods of investigation were followed: First, the opinions and practice of a number of eminent surgeons were obtained; and, second, the twenty-three patients whose cases were reported were written to and their subsequent histories ascertained. From the two lines of investigation the following conclusions may be drawn: While a surgeon may be justified in advising a secondary operation in all cases as theoretically the safest plan to follow, he is not justified in persuading, urging or starving a patient until he consents to have it done. The appendix should always be removed at the first operation if the abscess is small and not adherent to the abdominal wall beneath the incision. It should be left only in neglected cases in which the abscess is large and attached to the parietal peritoneum. When this condition exists, the appendix is usually gangrenous, undergoes liquefaction and is eliminated with the discharges. In such cases suppuration continues as a rule for several weeks, and before a secondary operation could safely be done the patient is homesick, weakened physically by confinement, and depleted financially by the expenses incident to his stay in the hospital. Experience seems to show that if subsequent trouble develops, the infection is not usually acute, and pus, if it is not formed, is walled in by old adhesions. Therefore, the surgeon does his duty if he makes it clear to the patient that, owing to the complications which existed, it was not found safe to remove the appendix, and tells him that while a second operation is advisable, it is not imperative unless he has tenderness over the incision, colicky pains in the bowels, or persistent digestive disturbances, in any of which instances it is distinctly necessary for him to promptly seek surgical assistance.

DISCUSSION

Dr. Le Grand Guerry, Columbia, S. C.: In a series of nearly 500 appendix cases in the last three or four years, I have had 175 in which there was a localized abscess of the appendix. Of these 175 cases, for various reasons, the appendix was left behind in 30 instances. Out of 30 cases in which the appendix was left, 5 patients were subsequently operated on, and the appendix removed on account of the reformation of an abscess, and one was operated on for a persistent fistula which led down beside the appendix. Three other patients have had their appendices removed by advice, although they did not have any particular trouble with them.

Dr. Maurice H. Richardson, Boston: If we take the trouble to collect the pus in a basin, we will find a floating appendix in some of these cases. I have seen this so many times that I am prompted to say, those surgeons who advise universally the removal of the appendix at a second operation will not find any appendix to be taken out in many instances. I take it, once the appendix is diseased, it is always diseased, unless it is cast off in old abscesses, and, of course, we all remove the appendix unless there is an abscess one or two weeks old, and the man who tries to take out the appendix every time will get in trouble.

The subject was further discussed by Drs. R. S. Hill, W. P. Carr, C. P. Noble, R. Winslow, E. H. Ochsner, C. H. Mayo, J. B. Murphy, R. M. Cunningham, all of whom agreed that in certain cases it is better to deal with the abscess at the primary operation and leave the removal of the appendix for a subsequent operation.

Resection of the Bowel, with Report of Eleven Cases

Dr. J. Shelton Horsley, Richmond, Va.: In order to have satisfactory union there must not only be approximation of the serous coats of the bowel, but a mild degree of pressure as well, and this pressure must be uniform along the line of sutures. Experiments show that mere approximation of the peritoneal coat in dogs does not always secure union. In resecting the bowel, I first divide the mesenteric border and clamp and ligate this area before opening the lumen of the bowel. Union is made by a continuous suture inserted in the following manner: Starting about one inch from the mesenteric border, a mattress suture is inserted, so that the knot is on the mucous membrane in the manner advocated by Connell. The short end of this suture is clamped and the needle with the long end makes a continuous mattress suture toward the mesentery. After one-third of the bowel is approximated in this manner, the needle is brought through on to the peritoneal surface and the rest of the union is effected by a continuous right-angle suture penetrating all coats. When the point where the original knot was tied is reached, the suture is terminated by tying the thread to the short end of this knot. This makes it practically one knot for the whole line of sutures and brings this knot within the lumen. In eleven cases there was only one death. This was in a patient with strangulated hernia who had been a chronic alcoholic for years. The postmortem showed no sign of leakage or peritoneal inflammation. Death was evidently due to suppression of the liver and kidney functions. There were twelve resections in the eleven cases, as in one patient a double resection was necessary. The operations included five resections in four patients for strangulated hernia, one for gangrene from a band, one for volvulus of the sigmoid, two for malignant disease of the large intestine, one for tuberculosis of the cecum, and two for damaged intestine during pelvic operations.

Obstruction of the Bowels

Dr. T. C. Witherspoon, Butte, Mont.: After reflecting on the results I have obtained in 38 cases (with 7 deaths) of bowel obstruction, I am prepared to go to less extreme measures to bring about relief than formerly. Most surgeons are inclined to look too much to the mechanical side of the problem at the neglect of the physiologic. Even in strangulation by a hernial ring, the lumen of the bowel loop caught in the hernia does not suffer from complete closure, but rather there is vascular obstruction. The bowel shut-off is as complete when its coat dies from a thrombotic process as when caught in a hernial ring. The real obstruction is one of function and not of pure mechanics. The danger to the patient arises from toxic absorption proximal to the infunctionate segment. With this in view, I have formulated for the principle of bowel drainage. The method of obtaining this may vary as the conditions vary, but it is the part of wisdom never to tax the patient's strength by long procedures except in a few instances, such as a Meckel's diverticulum strangulation. If the condition is due to a band, invagination, hernia, etc., which admit of easy remedying, apply the method, but if the case is one of uncertainty or one which necessitates an exhaustive and dangerous procedure, it is better to let out the proximal bowel contents by an artificial opening until the general toxic state is much improved, when a more radical measure may be adopted to bring permanent relief. Inflammatory obstructions clear up beautifully when the loop proximal to the involved segment is drained. Neoplastic or granulomatous processes may be readily handled after sufficient drainage is given the bowel above the lesion. The danger lies in attempting a complete procedure at the one time. A simple local anesthetic opening will suffice to bring about relief from sufferings, physical and toxic. In a week the anastomosis becomes a matter of simple surgery. In one of my patients, a child of 12, obstruction became complete nearly three weeks after an operation for general peritonitis. I opened the abdomen only to find a conglomeration of bowel loops, the unraveling of which probably would have caused death. I selected a portion of bowel which was proximal to the obstruction, and which, at the same time, seemed to be the most distal distended loop from the stomach, and drained it through a large rubber tube. In less than two weeks the fecal movements were passing again by the natural route and the artificial opening was allowed to close.

Some Rare Forms of Hematoma

Dr. J. Garland Sherrill, Louisville, Ky.: Three cases of hematoma presented symptoms somewhat in common and extending beyond the usual time which these conditions last, one having existed more than ten years, and each of them continuing to increase in size from the beginning. The following hypotheses are offered as possibilities in explanation of this condition: 1. The blood might flow through a sac returning into the vessel and remain fluid, at least in part, just as is the case in aneurism. This proposition would seem to be fallacious because these hemorrhages are probably venous, and the tendency of a vein is to collapse immediately on injury; and, moreover, no such patent vein has been noted in any of these cases. 2. The cellular tissues possess the power of secreting a substance which tends to prevent coagulation. This seems clearly refuted because the infrequency of the occurrence of persistent hematoma would appear to prove the lack of such power of secretion. 3. Slight infection present, in insufficient amount to produce suppuration, results in such change that the blood can not be taken up by the absorbent vessels. This theory seems to be irreconcilable to the facts in the case, for effused blood has but little power of resistance, and any culture of bacteria should find here an excellent pabulum, and suppuration would be inevitable. 4. The tissues about a hematoma may be so dense or so compressed that the absorbent vessels would be occluded or obliterated, thus preventing the accomplishment of their normal functions. This proposition seems to have a more probable foundation in fact, although not accounting fully for the phenomena. 5. Coagulation takes place, but when disintegration occurs the blood remains fluid, but is not absorbable. This contention seems also within the range of probability. 6. The constant escape of fresh blood occurs in a quantity more than sufficient to make up for the loss in volume from absorption. In proof of this I believe that it can be demonstrated that the escape of fluid into a hematoma does occur, as is shown in my cases, in which the tumor increased in size steadily. In one the bleeding occurred from a wounded vessel in the femur; in another the source of the blood could not be discovered, but I thought that it came from a small vein. There is also the possibility of blood being manufactured inside the sac, as in the case of the development of the circulatory apparatus in the embryo, although it seems highly improbable that this could occur in adult life. From the evidence at hand, I conclude that the tissues about a hematoma from pressure lose their power of absorption; that even though coagulation and disintegration occur, resorption does not result, and that in some instances there is a continual addition to the amount of blood in the sac by an outflux from the damaged vessel.

Surgical Treatment of Exophthalmic Goiter

Dr. John R. Wathen, Louisville, Ky.: Preliminary ligation of the superior thyroid artery on one or both sides has not only better prepared the patient to withstand the more severe shock of thyroidectomy, but has also greatly reduced the size of the tumor in the otherwise hopeless cases, and I have had occasion to employ to great advantage this method in several bad cases. In the preparation of the patient for operation, I have tried almost every remedy usually recommended to reduce the pulse and better the condition, but none has yielded such good results as absolute rest in bed and tincture of strophanthus. It is that class of cases in which no preliminary treatment seems to be able to make much temporary reduction, which are especially dangerous. These patients usually have an irregular pulse, a degenerated heart muscle, low blood pressure in contradistinction to the majority, who have often very much increased blood pressure, albumin in the urine, or enlargement and fatty degeneration of the liver. Aside from the proper selection and preparation of the patient, the most important thing is a rapid and safe technic, suitable to the average surgeon, and not a variety of complicated methods. The technic employed in my last fifteen cases has been a slight departure from that usually recommended. With the head elevated in the reverse Trendelenburg position, and a large sand pillow under the shoulders and neck, the skin is grasped with two pairs of Jacobs' volsella forceps in the median line and traction made upward. With the Mayo blunt-pointed scissors, instead of a knife, the skin and platysma muscle are incised, then with constant upward traction the incision is continued around the neck as far as necessary, using the scissors without in any way injuring the deeper structures. Next are ligated the anterior veins and the ribbon muscles of the neck severed high up and retracted, then the capsule opened, and the tumor grasped with a stout pair of large volsella forceps, and traction made in an upward and opposite direction. This allows the operator to wipe off the capsule of the gland with a piece of gauze, and place the arteries and the veins to be ligated on the stretch. Forceps should always be used to clamp rapidly, and these can be placed close on the tumor and ligated later with catgut after the complete enucleation. The isthmus is clamped with a large pair of forceps and cut V-shaped, parallel with the clamp, so the raw edges can be turned inward by whipping over with catgut, instead of the usual method of carbolic acid cautery and alcohol, or Harrington's solution. The wound should be washed out with hot saline solution, and closed with a subcuticular catgut suture. Drainage through a lower stab wound with large open rubber tube, instead of gauze or a cigarette drain, should complete the operation.

Fibroid Tumors and Pregnancy

Dr. Charles L. Bonifield, Cincinnati: Fibroid tumors of the uterus are said to be the penalty a woman pays for celibacy. All observers agree that they are much oftener seen in women who have not borne children than in those who have, and we can safely say that sterility predisposes to fibroids and fibroids predispose to sterility. Fibroid tumors have a tendency to render women sterile in three ways: First, the hypertrophic endometritis they produce renders the endometrium unfit to receive and nourish the ovum. The nearer the fibroid is to the endometrium, the more marked its effect on this membrane. Second, they are frequently complicated by and apparently cause disease of the appendages, which prevents conception. Third, they may so displace the cervix that it is not bathed in seminal fluid during the sexual act. But as a fibroid may exist without producing any of these conditions, and as pregnancy may occur in spite of the presence of one or more of them, the coexistence of fibroid tumors and pregnancy is not rare. It is probably more frequent now than formerly, for women are marrying later in life and thus putting off child-bearing until they have reached the age when fibroids are prone to develop. Pregnancy by the physiologic hyperemia of the uterus to which it gives rise usually causes fibroids to grow rapidly. During the process of involution, following the normal termination of pregnancy, fibroids may decrease in size perceptibly. Cases have been reported in which they have disappeared entirely. Fibroids may have no effect on pregnancy, or may give rise to most serious complications. Submucous fibroids may cause premature expulsion of the ovum. If a fibroid has developed between the folds of the broad ligament, it may prevent the uterus rising into the abdomen as pregnancy advances, and give rise to symptoms so severe as to demand immediate surgical relief. A fibroid springing from the lower part of the uterus may so fill the pelvis as to prevent the passage of the child, either prematurely or at term. Subperitoneal or interstitial fibroids that are interfering with pregnancy or promise to interfere seriously with delivery may be removed by myomectomy. Numerous cases have been reported in which the operation has been done successfully without interruption of pregnancy. Only one such case has come under my observation. Myomectomy should usually be limited to those cases in which the tumors are not numerous and are easily accessible. In spite of the reported cases of myomectomy, one can not expect the uterus to withstand too much traumatism without rebelling.

Vaginal Hysterectomy for Carcinoma of the Cervix

Dr. Henry T. Byford, Chicago: The relative value of the vaginal and abdominal routes is still under discussion. The advocates of the abdominal route are inclined to be less radical than its propounder, Emil Ries, in order to diminish its excessive mortality; while some of the German operators in their attempts to be more radical are increasing the dangers of the vaginal method by splitting the vagina and opening freely into the plevic connective tissue. I am satisfied that the permanent results may be improved sufficiently to give the operation an important place in the future, and propose a method of causing sloughing of the broad ligaments by the combined use of silk ligatures and strong forceps. In this way much more of the connective tissue in the broad ligament and about the cervix can be removed than by either ligatures or forceps, as ordinarily employed. The essential part of the method consists in ligating the broad and sacrouterine ligaments as far from the cervix as possible after having pushed the ureters out of the way. After the uterus has been removed, the broad ligaments are pulled still farther down and strong forceps are applied still farther away, and clamped so as to cause sloughing of all tissue within their grasp.

Dr. Byford exhibited a pair of forceps which he has devised, believing it obviates some of the objections that are found in the ordinary broad ligament forceps.

Abdominal Aneurism

Dr. Murat Willis, Richmond, Va.: A critical study of 21 cases thus far reported leads to the conclusion that so far surgery offers no certain relief for this malady. Of these 21 patients, the subsequent history of 3 is not recorded; in the remaining 18 death ensued in every case. The duration of life after operation in this series varies from one hour to nine months, with an average duration of less than fifty days. The operative technic, as developed for this condition, would seem to be absolutely perfect and based on sound surgical principles, but the fact remains that this method of treatment is disappointing, and the last word has not yet been said concerning the surgical treatment of abdominal aneurism.

Surgery of the Pleura

Dr. John B. Murphy, Chicago: Pneumothorax is not so dangerous a condition as we have been led to believe. In discussing lesions of the pleura, we must consider first the primary infective, perforative lesions, which demand prompt and immediate action; second, chronic indurated lesions, which call for masterly inactivity, so far as operations are concerned. In the first class of cases the use of the exploring needle between the ribs will usually afford relief; but incision will give these patients immediate relief. Aspiration does not cure chronic conditions of the pleura. According to statistics, of 1,000 patients treated by simple aspiration, only 2 cures were reported. In the suppurative types of infection of the pleura, absorption of the toxic products can be stopped, sterilization of the fluid effected, and the necessity for opening the chest avoided. A number of agents have been used for this purpose. Perchlorid of mercury has been used with success. Formalin, which has little or no toxic effect, has great sterilizing power. I have used it in cases of excessive hydrops, where a lung would be compressed, and with almost one injection the secretion was stopped. Pus cases are not cured with one injection, except in children. In the other variety of cases, in which there is a dense, firm mass of cicatricial tissue, which will not contract, we have a different condition. We have tissue which will remain for years without absorption, because many times it has large deposits of calcium salt in it and can not collapse. In these cases we can make use of the same injections, but we must give them more slowly. Injection of 2 per cent. solution formalin and petrolatum sterilizes the fluid contents and prepares it for absorption, and finally, in six months thereafter we will have a sanguinolent fluid, and in twelve months the patient is practically well, without any tube in his side.

Splenectomy for Splenomegaly of Doubtful Classification

Dr. M. C. McGannon, Nashville, Tenn.: The case which I desire to report has some unusual features, not heretofore recorded in connection with primary splenomegaly. Patient is a white woman, aged 43. Chronicity is doubtful, since the patient first noticed the enlargement of the spleen only a few months before she came under my observation. Her physical condition has been below par for a year or two; but preceding an attack of pneumonia, which was four months before she discovered the splenic enlargement, she had not considered herself in any sense a sick woman. Anemia, hematemesis, jaundice, liver enlargement, all terminal symptoms, might have arisen later had the disease been permitted to continue. The most marked unusual features of the case are the general enlargement of the superficial lymph nodes and the myxedematous symptoms; thickened, puffy skin and mental hebetude, with complete disappearance of all symptoms and pathologic conditions in other tissues after the removal of the spleen.

Relation of Surgery to the Neuroses, Especially Neurasthenia

Dr. Charles M. Rosser, Dallas, Texas: Surgery is the most definite art with which medicine is concerned, and neurasthenia the most vague of diseases. Writers mention heredity and exercise, but ignore intercurrent causes independent of which, in many cases, physiology would not be disturbed on account of predisposition, and excitation. Neurasthenia in both a psychosis and a physical condition, and may be induced by surgical conditions which disfigure, disable or distress. As physical causes, deformities which may not affect vital functions, but which embarrass sensitive temperaments, are factors. The clinical examination should be as careful as though the symptoms are not exaggerated. The prognosis should be more guarded, but the patient should be denied no opportunity of physical relief on account of nervous and mental conditions, and should be subjected to no procedure that is not justified by clinical findings. Patients should always have the benefit of all doubts that are reasonable.

(To be continued)

Miscellany

The Fable of the Manufacturer Who Wanted What He Paid For

"What is the matter?" asked Dr. Brzezlarzik, professor of the University of Weissnichtwo. "What do you complain of?" he asked affably. The merchant bit his lip. He lifted his brows and contracted them again. At length he spoke:

"Herr Privy Councilor . . . certainly some mistake has occurred."

"What mistake? Well, we will soon put the matter right."

"You probably remember, Herr Privy Councilor, that I called on you a few weeks ago to ask you for a testimonial. Edhoffer is my name."

But Professor Brzezlarzik could not recollect.

"It was about a testimonial, if you please, Herr Privy Councilor. My name is Edhoffer."

"Ah, yes—yes, yes, I know. It was about malt bonbons, was it not?"

"No, pardon me, Herr Privy Councilor, it had nothing to do with bonbons."

"Indeed, excuse me. Some mechanical device, I believe?"

"No, Herr Privy Councilor, it concerned Antipelinon—the best of moth powders. For twelve years we have been producing all kinds of insect powders. We are well known; indeed we are purveyors to Prince Nikola of Montenegro. We have letters of thanks from very many competent persons and from people of note. But, also, one can not publish them, because one does not know whether it will be agreeable to the writers. But now, certain fraudulent firms in the same line have testimonials from heaven knows what obscure assistants and professors. Therefore, I said to myself, 'Edhoffer, go to our illustrious Professor Brzezlarzik and ask him to experiment with Antipelinon and to give us a testimonial about it that can be published. So I came here on the day referred to."

"Yes, yes, now I recollect; fourteen days ago was it not."

"Yes, Herr Privy Councilor, and then I brought you six vials and begged you to have the kindness—and then three days ago I sent my messenger here for the testimonial and he put an envelope with 500 crowns—pardon me, I allude to this only as a detail—he put an envelope with 500 crowns on the table," and Herr Edhoffer held out a sheet of paper.

"Well, sir, you received the testimonial, did you not."

"Yes, Professor, but what a testimonial!"

The Privy Councilor put on his *pince-nez* and read:

"*To Anton Edhoffer, Court Purveyor, Weissnichtwo:*—I have made scientific experiments with the insect powder Antipelinon, which has been highly recommended to me, and which gained a gold medal at the Universal Exposition, and have obtained the following results: A brood of fur moths (*Tineada pellionella, L.*) placed in Antipelinon thrived splendidly in a very short time. The caterpillar, which ordinarily is only from six to seven millimeters in length, when nourished with the aforesaid Antipelinon became ten millimeters in length, well developed, and remarkably robust. The caterpillar of the clothes moth (*Tineada sarcitella, L.*) gave even better results. Ordinarily it attains only six to seven millimeters, like the preceding, but when nourished with Antipelinon it produced remarkable examples which measured from the mouth to the last ring of the body 11.05 millimeters. Therefore, I do not hesitate to describe Antipelinon as the best existing insect powder and desire you to send to me six more bottles of the same for my own use. Dr. Brzezlarzik,

Professor of the Royal and Imperial University."

"Yes, my dear sir, that is manifestly an error, I confess, but whose fault is it? Yours! When a scientist, if you please, is asked to make a scientific experiment he should at least be given his instructions beforehand without confusion: 'Such and such a point is to be proved.' The experiments are then arranged with that end in view and they are invariably successful."

"Excuse me, professor. . . . "

"Now, now, do not get annoyed, my dear sir. As to the testimonial, an assistant prepared it during my absence; but you need not worry over that. I am honorable and always follow the principle that what is unsuitable must be exchanged without demur. Leave your vial here, and I will make a new experiment. In a week I will send you another testimonial which will satisfy you, sir. Rest perfectly assured, you will be satisfied, Herr Court Purveyor. I enter fully into your feelings. I will personally make a new experiment which shall have totally different results. It will be a pleasure to me. *Au revoir.*"—Translated from *La Spritulo.*

Moral: When accumulating testimonials, write them yourself and merely pay for the signature. It saves work for the payee and annoyance for the payer.

The Teaching of Anatomy.—Prof. Franklin P. Mall, professor of anatomy at the Johns Hopkins Medical School, in the *Anatomical Record* (November, 1908, ii, 313) gives his views on the teaching of anatomy to medical students, with a synopsis and description of courses in anatomy offered at Johns Hopkins. The ideas here set forth are in marked contrast to the views recently expounded by British and American medical educators, who favor a more didactic routine method of teaching anatomy (with emphasis on the "essential" points). Professor Mall is more in accord with the German than with the English method of teaching anatomy. He says: "I do not believe the study of human anatomy is of such value [i. e., by far the most important course for medical students], but it has held its own so long, it is so well intrenched in the medical course and in medical literature, and it has been represented by so many great masters during ages that as a discipline and as a foundation it justly occupies the first position." The principle of self-instruction by the students from the cadaver, etc., under guidance of the instructor is considered the most essential part of the course; for thus a student not only becomes most quickly grounded in the subject, but is also afforded an excellent opportunity for discipline toward a critical and scientific point of view, which is essential for the development of scientific medical men. Concentrated courses in anatomy are favored. A student should stick to the study of anatomy until he has become well grounded in the subject or until he has finished the required amount of work in anatomy. Thus a student is able to do his work better and the odd hours between classes are not wasted. Mixing up courses in physiology, etc., in the medical course at the same period of the year with anatomy, he considers a "dissipation of energy." Since the needs of all students are not the same, the course in anatomy should be arranged to meet as nearly as possible the requirements of each. For example, the interest in anatomy of the future surgeon is different from that of the ophthalmologist or of the obstetrician, and the amount of anatomy desired by each would be probably different from that of the practitioner in internal medicine. For these reasons it is thought desirable to have special elective courses, but to require of all students a minimum amount of "gross human anatomy as a practical course," to the teaching of which "the best energies of the anatomic staff should be devoted." The next course in order, which no one will question should be required of all students, is that on practical histology. Every medical student should also be proficient in histology; that is, should be able to use the microscope intelligently in working out animal tissues, especially mammalian and human." In regard to what is practical, there is, of course, a great divergence of opinion, and in regard to the amount of anatomy to be given a student, Professor Mall agrees with Waldyer: "The days still contain but twenty-four hours, and life must still be reckoned by three-score and ten, and there is no evidence that the mind can stand a greater strain than formerly. First and foremost we must ask ourselves what is absolutely necessary for the future physician to study in anatomy and what is of secondary value but still safe." The necessary anatomy he would make obligatory and would examine it, but he would not discontinue courses on the useful subjects of secondary importance, for it is through the study of the latter that the science progresses. These secondary courses should not be made obligatory in any way, by being prescribed or through examination.

The State of the Brain During Hypnosis.—William McDougall (*Brain*, 1908, xxxi, part 122) believes that the more sober way to attack and explain hypnotic phenomena is to approach hypnosis in its simplest forms—to try to explain in the first place those phenomena of hypnosis which closely resemble well-known states of the normal mind, rather than to use as a working hypothesis the theory that hypnosis is a state of "extended faculty and increased mental power," and that its phenomena are supernormal and marvelous. He believes that the hypnotic state is closely allied to the normal sleeping state (as evidenced by the close similarity of the methods and factors which are favorable to the bringing about of the respective states—the withdrawal of all forms of sense-stimuli, the banishment of all exciting or emotional thoughts and the concentration of the attention on some unexciting sense-impression); that "the state of normal sleep may be converted into hypnosis," and *vice versa*, "the transition from one state to another being perfectly gradual, so that no line can be drawn between them," and that each depends on "cerebral dissociation." In cerebral dissociation is implied the hypothesis of the existence in the normal waking state of numerous psychophysical systems of circuits more or less closely connected, which are somewhat comparable to the (physical) reflex arcs of Sherrington. Synapses are present within and between these systems, whose resistance to the passage of sense impressions is normally in inverse proportion to the amount of free nervous potential. Fatigue and anesthetic drugs increase the resistance of these synapses so that each of the many systems is more or less completely isolated or dissociated from the others and each within itself. In normal sleep the cerebral dissociation is relative. In hypnosis cerebral dissociation is complete with most of the systems; a few, however, remain normal. These latter are under control of the "operator," since normally it is only by the interaction to an impression of all our psychophysical systems (many of which are inhibitory to one another for preponderance of an idea) that we are able to form a well-balanced conclusion. Now, when, in hypnosis, the few psychophysical systems which are not dissociated receive impressions from the operator they react directly, without the restraining influence of the dissociated systems (and hence without question), and with the entire potential of the neuropsychic apparatus. "If these views represent an approximation toward the truth, it follows that the therapeutic value of hypnotic suggestion consists principally in the fact that it is a means of concentrating powerful currents of nervous energy in any required direction and of withdrawing them from other parts. By thus withdrawing the nervous currents from an overworked or unduly irritable nervous center or bodily organ, and by isolating it through induction of a relative dissociation of the center, rest may be secured and a bad habit of overaction may be suspended, as e. g., in neuralgia," and *vice versa.*

Improved Powder Vehicle for Dermatology.—Unna devotes a large part of the *Monatshefte für praktische Dermatologie*, October 1, to a discussion of the advantages of using as a vehicle a powder which is very mobile, like lycopodium. This is used in casting metals, interposed between the sand cast and the molten metal, and it allows the moist sand mold to be lifted up from the model without the least loss of its finest relief. Nothing else has been found to date with the same properties, that is, the elasticity of the single grains, their regular size, the slight friction between them, their nonabsorbence of moisture and the large proportion of air in the interstices. Unna describes researches which show that these same properties are of great importance in dermatology. Such very mobile powders (*Gleitpuder*) form a regular, even and adherent coating, far superior to the clump-forming powders hitherto in use, especially in a flesh tint for the face and hands. He gives a number of formulas for ointments and pastes, stating that, besides the natural lycopodium powder, an artificial very mobile powder can be made by mixing 98 parts potato starch with 1 part carnauba wax and 1 part light magnesium carbonate. A good formula for a healing, flesh-colored powder is as follows: 89 parts potato starch; 10 parts zinc oxid and 1 part carnauba wax, mixing and adding 5 parts each of a 1 per cent. solution of ichthyol and of eosin. Another formula is 5 parts of zinc oxid and 95 parts lycopodium, adding 10 parts of a 1 per cent. solution of eosin.

Sudden and Complete Loss of Vision in One Eye Without Evidence of Anatomic Changes.—E. L. Meierhof (*New York Eye and Ear Infirmary Reports*, July, 1908, xiii, 74) reports the case of a widow, aged 30, who found on arising, a complete loss of vision in the left eye. The examination of the left eye showed a widely dilated pupil with normal tension. The position of the eye was somewhat divergent; there was no pupillary reaction to strong artificial light directly, nor was the pupil of the unaffected eye affected by the light stimulus on the affected eye. The refractive media were entirely clear. Examination of the fundus failed to reveal anything pathologic. Examination of the nose showed a mucopurulent discharge, which might have come from the sphenoidal sinus. Meierhof believes that the blindness was due to disease either in the ethmoidal or sphenoidal sinus. Among 20,000 eye cases seen in five years, this is the only such case observed.

The French and the Panama Canal.—The French monthly, *Hygiène Générale et Appliquée*, has been publishing a review of the great sanitary triumph in the Canal Zone, and, while paying due tribute to the achievements of the medical force in charge, it adds that no private company could ever have accomplished the same results. Prophylaxis and executive and administrative power must be closely connected, and the French companies had no authority for sanitary policing of the isthmus, while the United States Government has complete power over the Canal Zone, even to the exclusion of persons whose presence may be considered dangerous for the public health or who would be liable to oppose obstacles to the furtherance of the work. The article continues: "The French companies were unable to use more than moral suasion, and the prejudices—which everywhere are inseparable from ignorance—constituted one of the most serious difficulties with which even the Americans themselves had to contend. Moral suasion is an inadequate weapon when it is a question of applying the most elementary precepts of hygiene and of cleaning up towns which centuries of disregard of hygiene have rendered refractory to all measures of sanitation or even of simple cleanliness. In vain the French companies erected hospitals and spent money on their maintenance; all their efforts remained sterile, as they could not reach the source of the evil. The French companies had to abandon the task of improving the sanitary conditions as much on account of their absolute lack of authority as of the precarious tenure of their possessions and the disturbed condition of the country. The Americans, more fortunate, took up the work just when the progress of science had given them the key to the problem and circumstances rendered it possible for them to apply it; they deserve none the less credit on this account, as even with all this, considerable difficulties yet had to be surmounted. The remarkable results obtained by their methods and perseverance will not only serve the national interests, but will constitute for the entire world an important factor in general progress."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ILLINOIS: Coliseum Annex, Chicago, Jan. 18-20. Sec., Dr. J. A. Egan, Springfield.
KANSAS: Topeka, Feb. 9. Sec., Dr. R. A. Light, Chanute.
NEBRASKA: State Capitol, Lincoln, Feb. 3-4. Sec., Dr. E. J. C. Sward, Oakland.
NEW YORK: Albany, Feb. 2-5. Chief of Examinations Division, Dr. Charles F. Wheelock.
WYOMING: Cheyenne, Feb. 10-12. Sec., Dr. S. B. Miller, Laramie.

Florida November Report

Dr. J. D. Fernandez, secretary of the Florida Regular Board of Medical Examiners, reports the written examination held at Jacksonville, Nov. 11-12, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 59, of whom 52 passed and 7 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Birmingham Med. Coll	(1907)	88
University of Alabama	(1908)	81
Atlanta School of Med.	(1907) 88; (1908)	75, 87, 90, 94
Medical Coll. of Georgia	(1902) 75; (1908)	82
Atlanta Coll. of P. and S.	(1907) 87, 93; (1908)	83
Rush Med. Coll	(1902)	78
College of P. and S., Chicago	(1883)	84
American Med. Miss. Coll	(1900)	94
Medical Coll. of Evansville, Indiana	(1877)	75
University of Louisville	(1908)	90
Kentucky School of Med	(1908)	92
Louisville and Hosp Med. Coll	(1907)	84
Tulane University of Louisiana	(1908)	82, 92
Flint Med. Coll	(1895)	75
Johns Hopkins Med. School	(1906)	92, 97
Baltimore Med. Coll	(1892)	80
College of P. and S., Baltimore	(1904)	91
University of Michigan	(1907)	93
Washington University	(1905)	84
Bellevue Hosp. Med. Coll	(1883) 75; (1906)	95
New York University Med. Coll	(1879) 84; (1898)	93
University of Buffalo	(1896)	96
Coll. of P. and S., New York	(1884) 96; (1905)	94
University of North Carolina	(1908)	80
Medico-Chirurgical College of Philadelphia	(1907)	96
Jefferson Med. Coll	(1907)	91
Medical Coll. of South Carolina	(1907) 82; (1908)	84
Chattanooga Med. Coll	(1906) 75; (1908)	94
Meharry Med. Coll	(1908)	80
University of Nashville	(1907) 91; (1908)	85, 91
University of Tennessee	(1890)	75
Tennessee Med. Coll	(1907)	84
University of the South	(1907) 85, 86; (1908)	84
University of Toronto, Ontario	(1882)	94

FAILED.

College.	Year Grad.	Per Cent.
Georgia Coll. of Ecl. Med. and Surgery	(1902)	38.7
Hospital Coll. of Med., Louisville	(1908)	52.8
Mississippi Med. Coll	(1908)	59.4
Meharry Med. Coll	(1908)	64, 67
Gate City Med. Coll	(1908)	55.1, 68

West Virginia November Report

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written and oral examination held at Wheeling, Nov. 10-12, 1908. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 31, of whom 28 passed and 3 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard University	(1908)	84
Kentucky School of Med	(1907) 84; (1908)	81, 83
Woman's Med. Coll., Baltimore	(1908)	84
Maryland Med. Coll	(1908)	82, 90
Louisville Med. Coll	(1908)	81, 84, 85
College of P. and S., Baltimore	(1907) 86, 88; (1908)	80, 84, 87, 89.
University of Maryland	(1907) 84; (1908)	85
Baltimore Med. Coll	(1908)	91
Tufts Coll. Med. School	(1897)	90
Miami Med. Coll	(1908)	87
Medical Coll. of Ohio	(1907)	85
Western Pennsylvania Med. Coll	(1906) 90; (1907)	87
Leonard School of Med	(1908)	86, 89
University of Vermont	(1903)	86
University College of Med., Richmond	(1901)	88

FAILED.

College.	Year Grad.	Per Cent.
University of Louisville	(1907) 77; (1908)	70
Chattanooga Med. Coll	(1904)	77

The following questions were asked:

PHYSIOLOGY AND HISTOLOGY

1. Give the normal constituents of the urine, and describe the action of the kidneys; 2. Describe the normal heart sounds, give probable reasons for same and tell where best heard; 3. How is blood renewed in the human body after hemorrhage, give normal proportion; 4. Name the organs of the special sense and their function; 5. Describe the physiology of rectal feeding; 6. What is the function of the Eustachian tube, how and why is hearing affected by the membrani tympani being ruptured? 7. State the functions of the (anterior and posterior) spinal nerve roots, prove same; 8. What is the physiologic function of the liver, lungs and kidneys; 9. Give the histology of a nerve trunk; 10. Give function of veins, arteries and capillaries. How do they differ as to structure?

SURGERY

1. State fully how you would treat a blank cartridge wound of the palm of the hand, and give reason for your plan of treatment; 2. Give cause and treatment of hydrocele; 3. In case of threatened death during general anesthesia, what measures should be adopted? 4. What are the varieties of dislocation of the shoulder joint? How would you treat one variety? 5. What are the first and pathognomonic symptoms of secondary syphilis? What is the etiology and treatment of venereal warts? 6. Give symptoms, diagnosis and treatment of intestinal obstruction; 7. How would you diagnose retention of urine? What would you do for it? 8. What symptoms would lead you to think that a patient was suffering from a concealed hemorrhage, after a laparotomy; 9. Give diagnosis of presence of gallstones. Give in detail surgical treatment of same; 10. Give the cause, diagnosis and treatment of rupture of the intestine.

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Define temperature, (b) fusing heat, (c) latent heat, (d) solution; 2. Explain osmosis, what chemical value has it? For what is silver nitrate used? 3. Tell how you would distinguish between ferrous and ferric salts, what two bodies containing iron are used in medicine? 4. How would you detect the presence of arsenic? State in detail the duties of the physician in case of arsenical poisoning; 5. Give a short and simple classification of insanity; 6. Define a base; 7. Tell in detail how to detect bile in urine; 8. Describe the chemical changes in starch during digestion in detail, giving formulas; 9. Give the chemical reaction of saliva, gastric juice, urine, mother's milk and synovial fluid; 10. Give test for formaldehyd in milk.

PRACTICE AND PEDIATRICS

1. Give pathology and treatment of cholera infantum; 2. Give treatment of intestinal indigestion; 3. How would you treat a case of typhoid perforation? 4. Etiology, symptoms and treatment of scorbutus; 5. What is septicemia? What is pyemia? 6. Define hypertrophy and dilatation of the heart; 7. Give symptoms and treatment of Bright's disease; 8. Give symptoms and treatment of thrush; 9. Define, give symptoms and treatment of rachitis; 10. Acute enterocolitis symptoms and treatment.

MATERIA MEDICA AND THERAPEUTICS.

1. Give information, principal uses and dosage of salol; 2. Describe hyoscyamin, uses and dose; 3. Name three diuretics with indications and dose of each; 4. What are the indications for internal use of calcium chloride; dose? 5. Write a prescription for a case of nervous dyspepsia with flatulence; 6. Give type of so-called tonics, when and how used, dose; 7. What is the most useful preparation of arsenic, dose? 8. Name three useful therapeutic remedies—not drugs; 9. What is hydrastis canadensis, where found, physiologic action, preparation, dose; 10. Give history, uses, dose of terpin hydrate.

BACTERIOLOGY AND HYGIENE

1. Name three divisions of bacteria and one representative of each division; 2. What is toxin? An antitoxin? 3. Name three diseases caused by microorganisms and describe the organism in each; 4. Name some of the pus forming bacteria; 5. Give some of the most approved methods of staining the common bacteria; 6. What is the relative value of moist and dry heat as a germicide? 7. Name five of the most important disinfectants with directions for using each; 8. Name some of the most important adulterations found in foods. How may they be detected? 9. What advice would you give a patient suffering from tuberculosis to protect other members of the family? 10. What hygienic precautions are essential to prevent the ravages of summer diseases in children?

SPECIAL PRACTICE

1. Differentiate between chronic pneumonia and tuberculosis; 2. Give diagnosis of cancer of the stomach; 3. Give best method of removing tonsils; 4. Give diagnosis of tuberculous laryngitis; 5. Describe adenoids and give treatment; 6. Give treatment for acute coryza; 7. Treatment of ophthalmia neonatorum; 8. Diagnosis of iritis, what are the causes; 9. Describe and treat tabes dorsalis; 10. What is Romberg's symptom?

OBSTETRICS AND GYNECOLOGY

1. Give axis and diameter of pelvis and name muscles engaged in act of expulsion of child; 2. Give the undesirable presentations and positions and the customary methods to bring about delivery; 3. Describe in detail application of obstetric forceps, when resort to their use? 4. Give your method of conducting third state of labor and the treatment of post-partum hemorrhage; 5. Carefully detail the proper care of labor from birth to third day; 6. Surgical and non-surgical attention to mastitis; 7. Probable cause and treatment of puerperal eclampsia; 8. Give cause, symptoms and treatment of puerperal septicemia; 9. Give various treatments of uterine displacements; 10. Give differential diagnosis and treatment of fibroid and cystic tumors of pelvic cavity.

ANATOMY AND EMBRYOLOGY

1. Name the bones of the upper extremity, including the hand; 2. Brain: Describe its gross anatomy and give coverings; 3. How many teeth in temporary set, permanent set. Describe a tooth; 4. Describe the aorta, give its branches; 5. Describe the contents of the axillary space; 6. Sciatic nerve, give origin and distribution; 7. Name and locate the ductless glands; 8. Name varieties of articulations, give example of each; 9. Describe prostate gland; 10. Describe chorion.

Medicolegal

Antitrust Law Not Violated by Agreements of Physicians Fixing Fees.

The Supreme Court of Iowa says, in the habeas corpus case of W. A. Rohlf vs. Henry Kasemeier and the State of Iowa, that the plaintiff and a number of other physicians and surgeons were indicted by the grand jury of Bremer county for the crime of entering into an agreement, combination or understanding to fix and maintain fees and charges to be exacted for medical and surgical services in said county. The plaintiff was arrested under the indictment and thereafter brought the habeas corpus proceedings to secure his release from custody. He claimed that he was unduly and illegally restrained of his liberty for the reason that the indictment charged no offense known to the Iowa laws, and that if there were a law forbiding such acts as were charged against him it was unconstitutional and void in that it deprived him of his liberty, prevented him from acquiring or possessing property and deprived him of his safety and the pursuit of happiness; deprived him of the right of contract and of the equal protection of the laws.

The indictment charged that said physicians, on July 30, 1907, in said county, being physicians and surgeons located and practicing their professions in said county, "did then and there wilfully, unlawfully, and maliciously conspire, combine, confederate and agree with each other to create, organize and enter into, and did then and there wilfully, unlawfully and maliciously enter into and become a member of and a party to a trust, pool agreement, contract, combination, confederation and understanding to fix, establish and regulate and maintain the price of a commodity in the County of Bremer, State of Iowa, and did then and there wilfully and unlawfully fix, regulate and establish the price of medical service and medical skill, and the profit, benefit, fee and compensation to be received therefor, contrary to the form of the statute in such case made and provided, and against the peace and dignity of the State of Iowa."

The case must turn on the construction of the Iowa statute. Section 5060 of the Iowa Code, under which the indictment was found, reads: "Pools and trusts—Any corporation organized under the laws of this or any other state or country for transacting or conducting any kind of business in this state, or any partnership, association or individual, creating, entering into or becoming a member of, or party to, any pool, trust, agreement, contract, combination, confederation, or understanding with any other corporation, partnership, association or individual, to regulate or fix the price of any article of merchandise or commodity, or to fix or limit the amount or quantity of any article, commodity, or merchandise to be manufactured, mined, produced, or sold in this state, shall be guilty of a conspiracy."

The first point to be decided was, Did the acts charged constitute a crime under this section of the Code? It will be noticed that it forbids a combination, agreement or understanding to regulate or fix the price of any article of merchandise, or commodity, or of merchandise to be manufactured, mined, produced or sold in this state. The primary inquiry was, Are the charges of a physician or surgeon for his medical skill or ability an article of merchandise or commodity to be produced or sold in this state?

It was contended that the word commodity is broad enough o cover the charge made for professional services or skill, nd that the trial court was in error in holding to the conrary. Now the word commodity is derived from the Latin ommodetas, and means primarily a convenience, profit, enefit or advantage, but in referring to commerce it compreends everything movable, that is bought or sold, except nimals.

It must be remembered, however, that the word is found in criminal statute and that in the interpretation of such tatutes different rules apply from those which obtain in civil atters or where contracts are involved. Nothing is to be dded to such statutes by intendment, and as a rule they are have a strict construction. Moreover, it is well settled at in construing any statute all the language shall be condered and such interpretation placed on any word appearing erein as was within the manifest intent of the body which acted the law. Much of necessity depends on the context d on the usual and ordinary significance of the language sed.

Here the indicted defendants were, for a price, giving their n services, or perhaps selling them, and the question was, ere these personal services a commodity? As already incated, the word must be taken in connection with the other ords used in the statute, and it is manifest that the comodity referred to must have been such as could be manufacred, mined, produced or sold in the state, and the price was to be of an article of merchandise or commodity. If the contention of the state was correct, the statute covered all kinds of personal labor, both skilled and unskilled, under the term commodity. Indeed, this was the broad claim of counsel. But used in connection with the term merchandise and qualified as it is in the latter part of the section by the words manufactured, mined, produced or sold, it is manifest that the statute was not intended to and did not include labor either skilled or unskilled.

The statute in question was aimed at unlawful conspiracies or combinations in restraint of trade and was manifestly not intended to cover labor unions. It is the right of miners, artisans, laborers or professional men to unite for their own improvement or advancement or for any other lawful purpose, and it has never been held, so far as this court is able to discover, that a union for the purpose of advancing wages is unlawful under any statute which has been called to the court's attention.

No case was cited which supports the state's contention, and this court has not been able to find any. On the other hand the following lend support to the court's conclusions: Cleland vs. Anderson, 92 N. W. R., 307; Downing vs. Lewis, 76 N. W. R., 900; State vs. Associated Press, 51 L. R. A., 151.

It would be stretching the statute entirely too far to hold that it covers combinations to fix the price of labor. That the practice of medicine and surgery is labor, no one, the court thinks, will question.

The trial court was right in discharging the plaintiff and its judgment must be and it is affirmed.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 2

1 *Responsibility of the Family Physician Toward Tuberculosis. S. A. Knopf, New York.
2 *Benjamin Franklin from the Medical Viewpoint. C. G. Cumston, Boston.
3 *Asiatic Cholera. W. H. Thomson, New York.
4 Toxic Effects from Bismuth Subnitrate. E. G. Beck, Chicago.
5 Treatment of Fracture of Neck of the Femur. R. E. Soule, New York.
6 New Instrument for Estimation of Urinary Acidity. H. R. Harrower, Chicago.
7 Bluish Discoloration of Conjunctiva from an Indelible Pencil. A. Brav, Philadelphia.
8 Treatment of Enlarged Thyroid. A. Judd, New York.

1. **The Family Physician in Tuberculosis.**—Knopf lays down, as the duties of the family physician, immediate notification of the patient, if an adult, and of his friends on the finding of tuberculosis. Notification of health authorities where compulsory or permitted. Change of climate should depend on wishes of patient, subject to a consideration of his capacity for maintaining himself, or being properly maintained from home. Knopf discusses the care of tuberculous parents who have children but must be treated at home; also the marriage of the tuberculous. Tuberculous patients should be dissuaded from marrying, but he does not consider that legislative enactments against tuberculosis can have any other than an educational value. Pregnancy always aggravates the condition; often it may be necessary to empty the uterus, but prevention of procreation is better than cure. Treatment should never be conducted by the specialist alone, but always in association with the general practitioner. Knopf has inspected the working of the Emmanuel Tuberculosis Clinic and praises it highly, but points out that the success depends essentially on a combination of material aid with the confidence imparted by an assuring personality, which lead to absence of anxiety and hope of cure. Equal results can be attained by those who can command these factors with or without a religious basis.

2. **Benjamin Franklin.**—Cumston gives an interesting historical account of Franklin, the value of which is enhanced by reproduction of many of Franklin's writings, particularly his dialogue on gout, and his instructions on inoculation.

Medical Record, New York

January 2

10 *Injuries of the Neck of Femur in Early Life. R. Whitman, New York.
11 *Two Important Angioneuroses. A. J. Whiting, London.
12 Headaches of Ocular and Nasal Origin. C. Graef, New York.
13 A Table of Standard Weights for Women. F. S. Weisse, New York.
14 Is Food Containing Benzoates Injurious to Health? E. E. Smith, New York.

10. **Injuries of Neck of Femur.**—Whitman reports 15 cases, selected to illustrate four types of fracture of the neck of femur in early life, as they are likely to be presented for treatment. These four classes are:

1. The unusual cases, in which a correct diagnosis permits immediate correction of deformity by manipulation.

2. Cases in which the fracture has consolidated, the deformity being of the coxa vara type, which may be corrected by cuneiform osteotomy of the shaft without disturbing the joint.

3. Ununited fractures which require direct operation for the purpose of fixing the fragments.

4. Epiphyseal fractures in which as a rule the capsule must be opened.

He details the operative and other treatment, the aim of which, in all cases, has been functional cure, to which the removal of deformity by means adapted to its character and duration must be the essential preliminary. The results attained, as contrasted with disability, distortion and non-union even, in cases of the same favored class, in which the treatment or non-treatment had followed accepted methods, encourages the belief that the application of the same principles to all cases in which the condition of the patient permits local treatment, would lead to a corresponding improvement in the final results.

11. **Angioneuroses.**—Whiting discusses acroparesthesia and angioneurotic edema. The first is important because it is frequent and incapacitating. The second because it may be the cause of sudden death and may possibly be transmitted to the children's children. He cites four cases of the first form and three of the second.

Boston Medical and Surgical Journal

December 31

15 Tuberculosis of the Peritoneum. F. B. Lund, Boston.
16 Dementia Præcox, Paranoid, Associated with Bronchiectatic Lung Disease and Terminated by Brain Abscesses. (*Micrococcus catarrhalis.*) E. E. Southard and J. B. Ayer, Boston.
17 *Morris' Point of Tenderness as an Aid in Diagnosis. J. C. Hubbard, Boston.
18 Case in which Early Cervical Lymph Node Enlargement was the Sole Sign of Carcinoma of the Esophagus. O. W. H. Mitchell, Columbia, Mo.

17. **Morris' Point.**—Hubbard discusses the additional point in the diagnosis of appendicitis suggested by Morris (The Journal, Jan. 25, 1908, p. 278), and draws the following conclusions:

> The abdominal lymphatic glands, becoming secondarily inflamed, cause tender areas. The area found tender on examination is somewhat of a guide to the organ primarily infected, and, therefore, in certain cases may be an aid in differential diagnosis.
>
> In acute appendicitis, tenderness at Morris' point is of less importance than the symptoms caused by the appendix itself.
>
> In chronic appendicitis, tenderness at Morris' point may be of distinct diagnostic value. Tenderness at this point, even though the only physical sign, makes the diagnosis of appendicitis by the rule of chance probable; when combined with tenderness at McBurney's point, the diagnosis becomes more certain. Its absence does not rule out appendicitis, and it may occur in other conditions.
>
> The point has by no means the importance given to it by Dr. Morris.

Lancet-Clinic, Cincinnati

December 26

19 *Bismuth Paste in Treatment of Rectal Fistula. J. R. Pennington, Chicago.
20 Functional Tests of the Ear. D. A. Vanderhoof, Rockford, Ill.
21 *Why Operations for Bunion Fail, with Description of One That Does Not. J. L. Porter, Chicago.

19. This article was abstracted in The Journal, Nov. 7, 1908, p. 1908.

21. **Bunion.**—Porter enumerates five reasons for the failure of many operations for bunion, and describes his own technic, which for five years has given perfect satisfaction. A curved incision two inches long, just below the edge of the callus covering the head of the metatarsus, is made with the foot elevated and the ankle constricted so as to produce a bloodless field. The capsule is excised in the same direction and extent, and the capsule and periosteum are stripped a little from the bone at their junction. About three-quarters of the articular surface is removed, including all the enlarged inner tuberosity. The head of the bone is not removed, because the deformity can be corrected without, shortening of the inner border is avoided, and motion is more free. The toe is pulled strongly inward and the tendon of the extensor proprius hallucis is divided subcutaneously at the joint. Very little pressure will then straighten the toe. The cavity is filled with gauze, with hot antiseptic solution. While the toe is held in its corrected position a mattress suture of strong iodin catgut is carried from the lower angle to the upper angle, returned through the upper angle, and brought out at the lower angle. The gauze packing is removed and the suture tied, approximating the upper and lower angles of the capsule incision, when, if the bone has been properly removed and the tendon divided, the toe will remain straight. The skin wound is closed with horsehair or catgut, and a thin gauze dressing put on. Over it is a piece of piano felt with a hole in it, like a bunion plaster, and a cigar box splint a trifle longer than the foot and wider than the toe is fastened to the inner border of the foot with adhesive plaster. It is then covered with a bandage, starting from the angle, and is fastened firmly to the foot and the toe firmly fastened to the splint. Unless there is some indication for doing so the dressing is not disturbed for two or three weeks. It is not safe to remove all restraint from the toe for at least six weeks. A straightlasted shoe, with a broad ball, must be insisted on even with women in the height of fashion. Porter well says: "If you can not dictate the shoes, don't do the operation."

Virginia Medical Semi-Monthly, Richmond

December 25

22 The Medical Profession as Represented in the United States Navy. P. M. Rixey, Washington, D. C.
23 *The Human Element in Medicine. P. Zenner, Cincinnati.
24 Relation of the General Practitioner to Public Health Work. E. G. Williams, Richmond.
25 Sprains and Sprain Fracture. M. St. John, Bristol, Tenn.
26 *Necessity for Diagnosis as Preliminary Step to Gynecologic Operations. C. R. Robins, Richmond.
27 Formation of Maternal Part of the Placenta. L. Loeb, Philadelphia.
28 External Uses of Magnesium Sulphate. J. S. Harrison, Elm City, N. C.
29 Case of Tetanus. H. C. Grant, Waynesboro, Va.
30 Plea for the Virginia Consumptive. R. H. Garthright, Vinton, Va.

23. Abstracted in Society Proceedings, The Journal, Nov. 21, 1908, p. 1807, and also published in the *Lancet-Clinic*, Nov. 7, 1908.

26. Abstracted in The Journal, Nov. 14, 1908, p. 1723.

Northwestern Lancet, Minneapolis

December 15

31 Report of 108 Consecutive Abdominal Operations without a Death. G. C. Barton, Minneapolis.
32 Diagnosis and Treatment of Incipient Tuberculosis. L. A. Nippert, Minneapolis.
33 Opsonins and Their Practical Value. H. L. Ulrich, Minneapolis.
34 Medical Inspection of Public Schools. M. J. Abbey, Mayville, N. D.
35 Operation for Hernia, Followed by the Ambulatory Treatment. A. E. Benjamin, Minneapolis.

Archives of Internal Medicine, Chicago

November

36 *Treatment of Thyroidism by a Specific Cytotoxic Serum. J. Rogers and S. P. Beebe, New York.
37 *Acidosis and Associated Conditions. J. Ewing, New York.
38 Hypernephroma. F. J. Hall, Kansas City.
39 *Paroxysmal Hemoglobinuria. C. F. Hoover and C. W. Stone, Cleveland.

36. **Serum Treatment of Tyroidism.**—Rogers and Beebe describe their work as the first attempt to treat disease in the human subject by means of a specific cytotoxic serum, and their conclusions, subject to revision as experience increases, are as follows: The serum has a specific effect in neutralizing the toxic action of the thyroid secretion; as a therapeutic

agent it gives results which can not, in many cases, be attained by any other medical means; not all cases presenting symptoms of thyroidism can be treated successfully with serum, because not all cases are purely hypertrophic in origin. The following types are favorable for serum treatment: Typical exophthalmic goiter in the early stages, including the incipient, the mild, the severe, and those extremely severe forms which develop very rapidly and have been described as the acute toxemic type, resembling malignant endocarditis. Typical exophthalmic goiter in cases which may have existed for some time in subacute form with occasional exacerbations, but without marked secondary changes. The rapid amelioration of symptoms in the acute toxic cases, similar in most respects to the well-accepted instances of neutralization of toxin by antitoxin, is a weighty argument in favor of believing the symptoms to be due to the toxic effects of hyperthyroidism. The beneficial results of combined treatment, especially in the older cases, indicates a dysthyroidism as well as hyperthyroidism as a factor in the production of symptoms. The following types may require combined treatment: 1. The patients who develop thyroidism after reaching the age of 40 or 50 years: (a) those who, after middle life, show thyroidism for a varying period before the appearance of a goiter; (b) those who have borne an innocuous goiter for years and late in life develop signs of thyroidism. 2. Atypical forms of thyroidism: (a) men, and more often women, of any age who present many signs of thyroidism, but who often have a dry skin and bradycardia and are usually considered neurotic or neurasthenic; (b) patients with nervous and vasomotor signs of thyroidism, but who complain of a more or less constant headache accompanied in most cases by nausea and abdominal discomfort; (c) the psychopathic cases, the mental disturbances having no definite relation to the severity or type of thyroidism.

37. **Acidosis.**—The object of Ewing's paper is to present, first, the experimental basis of the doctrine of acid intoxication, and to consider the general problems as presented in the most pronounced form of acidosis, that of diabetes; second, to discuss the physiology and physiologic chemistry of the substances; and third, to deal with the various diseases in which acidosis occurs, and determine, so far as may be, the significance of acidosis, in such conditions as starvation, acute yellow atrophy, eclampsia, delayed chloroform poisoning, cyclic vomiting of children, gastrointestinal diseases, and phosphorus poisoning. It is Ewing's personal opinion that the experimental basis of the theory of acid intoxication is sufficiently well founded, and that the chemical studies of iabetes furnish adequate grounds for concluding that acid ntoxication produces coma in diabetes, but the clinical evidence is unsatisfactory. The status of the whole subject of acid intoxication appears to depend on its position in diabetes.

39. **Paroxysmal Hemoglobinuria.**—Hoover and Stone make a eport on two cases and draw the conclusion that, as the natter at present stands, we are justified only in saying that he hemoglobinemia which follows exposure to cold is due to ome biologic product in the plasma, which in its behavior dmits of the demonstration of every step in hemolysis as xpounded by the side-chain theory of Ehrlich.

Surgery, Gynecology and Obstetrics, Chicago

November

40 *Experimental Study of Intraperitoneal Diffusion. J. L. Yates, Milwaukee.
41 Cystitis Glandularis et Follicularis. H. L. Kretschmer, Chicago.
42 Enormous Ovarian Cysts. O. J. Fay, Des Moines, Ia.
43 *Etiology of Ectopic Gestation. C. D. Williams, Cleveland, Ohio.
44 Gangrene of the Vermiform Appendix. J. D. Malcolm, Edinburgh, Scotland.
45 *Nature of the Cancerous Process. R. Park, Buffalo.
46 Hemorrhages from the Stomach and Bowels Following Operations on the Gall Bladder and Appendix. A. D. Kohn, Chicago.
47 Acute Osteomyelitis. F. G. Dyas, Chicago.
48 *Case of Gastric Tetany, Operation and Recovery. J. Y. Brown and W. Engelbach, St. Louis.

40. **Intraperitoneal Diffusion.**—Yates describes experiments dertaken to ascertain the effect of variations in bodily positions and in gastrointestinal activity on the degree and extent of diffusion of benign and toxic substances when introduced intraperitoneally as a suspension or solution; also to determine the influence of the degree of diffusion on the absorption of toxins. The substances dealt with were lamp black, moccasin venom and cobra venom. The following conclusions are drawn:

1. Intraperitoneal diffusion results from the operation of purely physical forces abetted by physiologic activities.
2. The greatest attainable restriction of this diffusion must result from the opposition of controllable physical force to the paths of greatest extension and the inhibition of physiologic activities.
3. Under similar conditions the rate of absorption varies directly with the extent of diffusion.
4. The restriction of diffusion and consequent absorption is best obtained by the action of generous doses of opium to reinforce the diminished activity in an empty alimentary canal, general bodily quiet with its resultant lessened respiration, and by the maintenance of that position of the body which will oppose the action of gravity to the direction of the most disadvantageous extension.
5. The absorption of toxins is dangerous in proportion to the rate and extent of that absorption, and, although this is complicated by pathologic processes, it is limited by the application of the principles stated above.

The clinical significance of these conclusions emphasizes the beneficial effect of absolute rest, the avoidance of everything that can stimulate peristalsis—nothing by mouth, and, by rectum, only small amounts introduced slowly; bodily quiet and avoidance of forceful or repeated pelvic and abdominal palpation. The importance of the administration of sufficient opium to guarantee freedom of movement is once more upheld, as a valuable means of controlling the diffusion which causes the early and most dangerous absorption. Postural methods are of value, but are of secondary importance compared to the maintenance of adequate blood pressure. External applications are of minor importance.

43. **Ectopic Gestation.**—Williams, from an exhaustive study, concludes that the presence of a precedent inflammatory reaction (found microscopically in all his specimens) is responsible for the onset of ectopic pregnancy. The presence of false diverticula of mucous-lined channels is the chief predisposing cause of tubal pregnancy in from 95 to 98 per cent. of cases—a gonococcus infection is a greater predisponent than any other. Observation shows the inflammatory change, etc., to be commonly bilateral; the frequent recurrence on the other side after removal on one tube is also noted. Therefore, if one tube—not being hopelessly occluded or too densely adherent—is to be saved for conception, it should be pointed out that there is a risk of ectopic gestation. The responsibility should be assumed by the patient or her friends.

45. **Cancer.**—Park insists that cancer is a specific disease, intensely infectious and transmissible, being caused by an extrinsic agent. He therefore urges that cancer must be treated much as we would treat a filth disease, especially when it has advanced to the ulcerative stage—namely, by the most efficient cleanliness. Cremation should supersede earth burial, and all soiled dressings and discharges should be destroyed by fire, while rooms, and even houses, inhabited by cancer patients should be most thoroughly disinfected, both during illness and after death. It would be well, also, to adopt Brand's suggestion that no food should be prepared or consumed with unwashed hands. In addition to this, it would appear that in some respects, at least, we ought to be at an advantage in treating this disease, since its earliest manifestations are local.

48. **Gastric Tetany.**—Brown and Engelbach emphasize the view that obstruction of the pylorus is the anatomic cause of this particular variety of tetany. This anatomic condition can be relieved by surgical means, thereby removing a hitherto fatal disease to the class of curable disease. The dilatation of the stomach that is present in this condition is as much a sequel of this obstruction as the tetany itself is. The authors describe in detail a case in which a practically immediate cure was pronounced by the short loop posterior gastroenterostomy suture method. They discuss the pathology, clinical course, diagnosis, prognosis and treatment. Under this last they emphasize prophylactic treatment by carefully caring for lesions of the pylorus before they cause any serious obstruction—an additional argument for a radical surgical treatment of chronic ulcers, cholelithiasis, etc. Dur-

ing the attacks, expeditious symptomatic treatment should consist of stomach lavage, hypodermoclysis, proteclysis and morphin hypodermically. The operation will depend on individual conditions, pyloroplasty or gastroenterostomy being the most generally applicable.

Annals of Surgery, Philadelphia

December

49 Invagination of Meckel's Diverticulum. H. T. Gray, London.
50 *Peritonitis in Children from Unknown Sites of Infection. C. M. Dowd, New York.
51 *Diffuse Septic Peritonitis, Due to Appendicitis. R. H. Fowler, New York.
52 The Interlocking Suture. R. C. Turck, Jacksonville, Fla.
53 Primary Sarcoma of the Peritoneum. J. M. Elder, Montreal.
54 Gunshot Wound of Abdomen Involving the Stomach and Jejunum, Complicated with Pregnancy. H. M. Lee, New London, Conn.
55 Appendicitis and Tetany. C. M. Goodrich, Brooklyn, N. Y.
56 Harrington's Operation of Intraperitoneal Cystotomy. C. L. Scudder and L. Davis, Boston.
57 Simultaneous Ligation of Both External Iliac Arteries for Secondary Hemorrhage Following Bilateral Ureterolithotomy. A. V. Moschcowitz, New York.
58 *Operative Treatment of Acute Gonorrheal Epididymitis. F. R. Hagner, Washington, D. C.
59 *Finger Enucleation of the Tonsil. F. S. Mathews, New York.
60 Blastomycosis of the Spine. G. E. Brewer and F. C. Wood, New York.
61 Arteriovenous Anastomosis for Gangrene. J. C. Hubbard, Boston.
62 Modification of the Gritti Amputation with Special Reference to Nerve Blocking and Regional Anesthesia. J. M. Wainwright, Buffalo.
63 Skin Grafting of the Heel: By Means of a Flap from Opposite Thigh. C. J. Habhegger, Watertown, Wis.
64 Some Deformities of the Hand. E. Alden, Los Angeles.
65 Fracture of the Os Magnum. A. H. Harrigan, New York.

50. **Peritonitis in Children.**—Dowd says that there are certain phases of peritoneal inflammation in children which differ enough from those ordinarily found in adults to justify their special consideration. Children are more likely to have rapidly spreading, insidious forms of peritonitis than adults are, since they are less likely to encapsulate the inflammation. They are much less likely to be constipated during its course, and hence have less of that tympanites which is so hard for the patient but which is a telltale to the doctor. They are much more likely to have associated cerebral symptoms, so that very competent observers are sometimes at a loss to know whether a given case is to be considered as primarily cerebral or abdominal. Again, pulmonary inflammation is often accompanied by localized abdominal pain and rigidity, so that children with beginning pneumonia are believed to have appendicitis. Pneumococcus peritonitis, either isolated or associated with other pneumococcus inflammations, is much more common in children than in adults. General gonococcus peritonitis is occasionally found. Tuberculous peritonitis is common, and sometimes presents symptoms which are most difficult to interpret.

51. **Diffuse Septic Peritonitis.**—Fowler discusses diffuse septic peritonitis due to appendicitis on a basis of sixty-nine well-marked cases. He draws the following conclusions:

1. We must look, for a lowering of the high mortality rate, to early operation rather than to any further development in mechanical intervention.
2. Early institution of postural drainage is of greater aid in preventing septic material from reaching the diaphragmatic peritoneum than in preventing further absorption after this area is once involved. Ambulance patients with peritonitis of this nature are frequently brought to the hospital in the sitting posture. The trunk should be elevated during lavage of the peritoneum. The manner of instituting postural drainage matters but little, provided that the pelvis is sufficiently low for gravitation to take place and the patient is comfortable.
3. Peritoneal lavage dilutes material, and when practiced should be continued until the cavity is partially closed. Plastic lymph not removed by irrigation or by simple lifting should not be disturbed.
4. Wound drainage: All cases of this nature should be drained. The ideal method in women is by a posterior colpotomy incision, by means of a large rubber tube.
5. Ochsner's treatment should be instituted after operation and Murphy's proteclysis should be practiced.
6. The abdomen should be opened by a small incision over McBurney's point, and the primary focus quickly dealt with. To prevent evisceration the greatest gentleness in handling parts must be observed.

58. Abstracted in The Journal, July 11, 1908, p. 161.

59. **Finger Enucleation of Tonsil.**—Mathews describes a method of enucleating the tonsil by means of the finger, under etherization with a paper cone, for from two to four minutes, until the stage of primary anesthesia is reached without obliteration of pharyngeal or corneal reflexes. The advantages claimed for the finger enucleation of tonsils as described are:

1. Whole tonsils are removed—a tonsillectomy.
2. The anesthesia is primary and of short duration.
3. The operation requires but a couple of minutes even when adenectomy is added.
4. The armamentarium is simple and cheap; only three instruments are used, a mouth gag, a Mackenzie tonsillotome, and an adenoid curette.
5. Only one assistant is needed, either physician or nurse; in the latter case one can give the anesthetic oneself.
6. Skill in enucleating tonsils with the fingers is easily acquired by any one familiar with the anatomy of the parts.
7. As it is done entirely by feeling one is not interfered with by the presence of blood and mucus in the throat.
8. Convalescence is no longer or more painful than after tonsillotomy.

University of Pennsylvania Medical Bulletin, Philadelphia

November

66 Peculiar Blastomycetoid Organisms Met in Two Cases of Parasitic Conjunctivitis. W. C. Posey, J. T. Carpenter, C. M. Hosmer and A. J. Smith, Philadelphia.
67 *Bactericidal Property of Milk. J. S. Evans and T. A. Cope, Philadelphia.
68 Transient Parasitism in Man by a Species of Rhizoglyphus. W. Pepper, A. J. Smith, Philadelphia, and F. W. Schnauss, Cecil, Ga.
69 Growth of Our Knowledge of Adams-Stokes Disease. E. D. Krumbhaar, Philadelphia.

67. **Bactericidal Property of Milk.**—Evans and Cope report an experimental study from which they draw the following conclusions:

1. Freshly drawn milk possesses a bactericidal activity toward certain micro-organisms, and an inhibitory activity toward others.
2. This activity is destroyed at 68° C. and materially injured at 55° C. It varies in different cows and lasts from 6 to 12 hours.
3. Coagulation and acidity of milk do not depend solely on the bacterial content. They are influenced by natural properties of milk which are soon overshadowed by the metabolic products of bacteria.
4. Sterile cow's milk freshly drawn is acid to phenolphthalein and increases very slowly in acidity, independently of bacterial metabolism, due, probably to the destruction of colostrum cells.
5. Results obtained in testing milk with mixed bacterial flora are influenced by bacterial antagonism.

New York State Journal of Medicine, New York

November

70 *Senile Heart and Blood Vessels. J. L. Heffron, Syracuse.
71 Perithelioma of the Chorioid and Ciliary Body. J. B. Thomas, Brooklyn.
72 Mixed Infection in Pulmonary Tuberculosis. A. T. Laird, Albany.
73 Insects and Disease. J. B. Huber, New York.

70. **Senile Heart and Blood Vessels.**—Heffron points out that degenerative changes in the arteries are commonly observed in men past 50 years of age. Investigations into heredity as bearing on the physical makeup of man have demonstrated that the degree of resistance of the body tissues is determined at birth, and is man's endowment from a long line of ancestors. Moreover, the coats of the arteries have practically no rest from their labors, and the fact that their work is increased by physical exercise necessarily involves their eventual degeneration. Acute infectious diseases, tuberculosis, laborious occupations, nervous strain, autointoxication associated with the universal habit of overeating, degeneration of the ductless glands, syphilis and poisons (such as alcohol and lead), nephritis, diabetes and gout, are all discussed as etiologic factors. The process of degeneration is described, and its relation to thrombosis and embolism considered. In the examination of the blood vessels, the author recommends practicing palpation and comparing the results with those registered by the Riva-Rocci instrument. The heart of the aged is valid so long as it can do a good day's work without embarrassment to itself or the other organs; but the consideration of this subject taxes the good judgment of the physician greatly. The thing that has made precocious old age in this country is the intensity of the tasks that have been set for us. The first therapeutic resource is rest of body and mind. The body in bed, but the mind rebelling and keeping up high tension by its excitability is a bad combination. When cases are not extreme, and when the heart is doing good work against a beginning arteriosclerosis, it is not desirable to advise complete rest. Such exercise should be encouraged as will dilate the peripheral vessels and thus diminish arterial pressure—golf, gardening, walking, croquet, bicycle riding on the level, etc. When voluntary exercise is impossible, massage and Swedish movements are invaluable. The second therapeutic resource is the reform of the table:

meat, soups and extracts, teas and broths, must be forbidden. A little meat once a day will not do harm, but a bowl of the waste products of some other animal, introduces just what there is difficulty in eliminating. Fruits, especially apples, pears and grapes, are valuable. Alcoholic beverages should be cut off, but gradually in the case of those long accustomed to them. Coffee, tea and tobacco, if at all, should be used only in the strictest moderation. The patient must not take too much fluid. The water-drinking idea is much overdone. The aged afflicted with arteriosclerosis should avoid chilling. Heffron discusses the drug treatment and says that the one drug that has stood the test of time is potassium iodid, which may be given in doses of from 30 to 45 grains a day, preferably in milk, between meals and at bedtime. This remedy should not be begun until a certain degree of equilibrium has been established. A brisk saline cathartic is necessary. If given in concentrated solutions until watery stools are obtained it will eliminate so much fluid that the volume of the blood will be lessened, and thereby the amount of work for the heart will be diminished. For the pains, dry heat and in the case of the aged, morphin or codein preferably, will serve.

Texas State Journal of Medicine, Fort Worth

December

74 *Abdominal Reflexes from a Surgical Standpoint. W. A. Duringer, Fort Worth.
75 Aqueous Vitreous—Three Members of One Family Similarly Affected. W. A. Harper, Austin.
76 *Elements of Decay in American Civilization. F. E. Daniel, Austin.
77 *Some Neglected Phases of Malarial Pathology. W. Shropshire, Yoakum.

74. **Abdominal Reflexes.**—Duringer discusses the physiologic significance of the vicious circle of abdominal sympathetic plexuses, namely, celiac, renal suprarenal, phrenic, superior mesenteric, aortic and spermatic. He suggests the importance, in abdominal operations, of exploring the condition of accessible organs, in order that in this manner light may be thrown on clinical reflexes. He reports cases in which information quite different from what was expected was obtained in this manner at operation.

76. **Decay in American Civilization.**—Daniel discusses miscegenation, undesirable immigration, and alcoholism and insanity, and calls for a department of public nealth beyond the reach of politics and with an adequate appropriation.

77. **Neglected Phases of Malarial Pathology.**—Shropshire suggests that the toxin excreted by the malarial parasites must be a colorless chemical, acting like an escharotic on the first tissues which it comes into contact, usually the endothelial cells of the capillaries where sporulation takes place. This is his first neglected point. The second is that for some at present unexpl.inable reason the parasites have the power of congregating in certain localities, and there pursuing their usual life cycle. The effect of this is twofold First, the congregation of parasites is probably the determinng factor in the severity and danger of the paroxysms; and second, the location of this grouping for sporulation determines the malarial manifestations—cerebritis, nephritis, gasritis, neuritis, etc.

Journal Tennessee State Medical Association, Nashville

December

78 Adenoids. C. H. Davis, Knoxville.
79 *Retention of Urine in a Female Child. T. J. Happel, Trenton.
80 Unusual Symptoms in Disease of the Appendix. W. A. Bryan, Nashville.
81 Acute Dilatation of the Stomach. C. P. McNabb, Knoxville.
82 Abdominal Operations During Pregnancy. J. A. Gaines, Nashville.
83 Professional, Courtesy and Unity. E. H. Jones, Murfreesboro.

79. **Retention of Urine.**—Happel reports a case of retention f urine in a new-born female child, and from a consideration f the case emphasizes the following points: 1. The meatus rinarius is not always to be found where you are told to ok for it. 2. Although a two months' old child normally rinates every 30 minutes, the child in the case reported did ot pass a drop of urine in at least sixty hours. 3. Aspirating he bladder on two successive days did no harm, and was lopted in preference to anesthetizing the child for catheterization. 4. The successful catheterizing of the child under an anesthetic when the bladder, being reduced in size, ceased to drag the meatus upward. 5. The catheter was retained in the bladder for forty-eight or more hours. 6. To make the bladder resume its function, the catheter was stopped up for several hours, then the plug removed and the urine allowed to escape, thus encouraging the bladder contraction. 7. The small amount of inflammatory trouble resulting from the use of the aspirator and the retention of the catheter, with the prompt response to hexamethylenamin and washing out of the bladder, are worthy of note.

Southern Medical Journal, Nashville

November

84 Treatment of Compound Fractures. D. Eve, Nashville.
85 Decompressive Operations for Relief of Intracranial Pressure. G. Torrance, Birmingham, Ala.
86 Cases of Pellagra. J. M. King, Nashville.
87 *Case of Blastomycosis. W. Litterer, Nashville.
88 Diagnosis of Sarcoma. W. A. Bryan, Nashville.
89 *Intestinal Autointoxication. A. Dixon, Henderson, Ky.
90 Complete Operation for Suppurative Appendicitis. G. A. Hendon, Louisville, Ky.
91 Internal Secretions. J. P. Keller, Nashville.

87. **Blastomycosis.**—Litterer reviews the history of our knowledge of blastomycosis and reports a case of the localized affection cured by operation, with pathologic, bacteriologic and microscopic pathologic reports. He reports the case for the following reasons: First, to stimulate a more thorough search for the condition, which is certainly within our midst unrecognized. Second, because of its geographic peculiarity, it being largely confined to a few localities in America, particularly in the Mississippi Valley, though isolated cases have been reported from practically every quarter of the globe. Third, to emphasize the fact that the disease is commoner than the recorded cases would seem to show, due to its resemblance to many of the less rare conditions, such as all forms of tuberculosis, epithelioma, mycosis fungoides, vegetating syphiloderm, etc. Fourth, from the fact that so far as he is able to determine in the literature, this is the first recorded case this far south in which the diagnosis has been not only made by microscopic findings, but confirmed by the isolation and cultivation of the pathogenic yeast.

89. **Intestinal Autointoxication.**—Dixon reviews the writings of Bouchard and Brunton on intestinal intoxication, and discusses the pathology of the various forms. Nature gives us the cue in treatment, by inducing vomiting and purging, which are plain signs that the economy is trying to rid itself of noxious material that interferes with normal metabolism. The stomach should be washed out with sterilized hot water and a dose of castor oil given; Dixon has substituted this for colonic irrigation, which he believes to be a delusion, the tube simply coiling on itself so that no water ever reaches the colon. The castor oil is followed by copper arsenite, guaiacol carbonate or bismuth subgallate, and a hypodermic of morphin, 1/4 gr., and atropin 1/150 gr. A rigid abstinence from solid food for a few days is required. Many neurasthenics are benefited by a long sea voyage on a slow vessel. The Weir Mitchell treatment is suitable in many cases. Suggestion, without the various additions that in composition constitute the mental therapeutic properties, is of value.

Interstate Medical Journal, St. Louis

November

92 *Cause of Failure in the Treatment of Tuberculosis. F. M. Pottenger, Monrovia, Cal.
93 *Nutritive Disturbances from the Fat in Milk. J. Zahorsky, St. Louis.
94 Addison's Disease. L. H. Hempelmann, St. Louis.
95 An Interesting Gall Bladder Case. W. S. Deutsch, St. Louis.
96 The Case of Jonathan Swift. G. M. Gould, Ithaca, N. Y.

92. This article also appeared in the *Lancet-Clinic*, Nov. 7, 1908.

93. **Fat Indigestion in Children.**—Zahorsky discusses the older view, that the greatest difficulties to digestion in infants are offered by the proteids, and contrasts it with the latter view, that milk indigestion means fat indigestion, and that an enterogenic acidosis lies at the root of the trouble. He reports cases, the history of which he can not reconcile

with the acid-intoxication hypothesis. He is still unable to attribute all the faults of indigestion to the fat, yet believes that we have been laying too much stress on the proteids. Skimmed milk does not solve our difficulties. It is a well-known clinical observation that most infants are constipated on cow's milk that is not decomposed by bacteria. Certified milk usually induces constipation and the stools are hard and light. Yet these infants do well and escape nutritive disorders. The physiologic chemistry of digestion and metabolism must be thoroughly elucidated, but the mistake has been made of overthrowing or disregarding clinical experiences of ages, because test tubes do not show the inferred reactions. "The history of the past shows that the clinical phenomena recorded must be explained by the laboratory and not set aside."

Monthly Cyclopedia and Medical Bulletin, Philadelphia

November

97 Treatment of Tuberculosis of the Lungs. J. Walsh, Philadelphia.
98 Diagnosis and Treatment of Hemorrhoidal Disease. C. F. Martin, Philadelphia.
99 Some Aspects of Alcoholism. A. O'Malley, Philadelphia.
100 Foreign Bodies in the Iris. G. O. Ring, Philadelphia.
101 *Present Status of the Opsonic Theory and Bacterial Therapy. N. Gildersleeve, Philadelphia.
102 Acne Rosacea and Psoriasis. J. V. Shoemaker, Philadelphia.
103 Relation Between Retinal Hemorrhages and High Arterial Pressure. L. W. Fox and W. C. Batroff, Philadelphia.
104 Bronchial Asthma. H. J. Smith, Philadelphia.

101. **Opsonic Theory.**—Gildersleeve has carefully watched the results following the use of both stock and autogenous vaccines, and concludes that autogenous vaccines are in most cases of more value than stock, although he has had better results with polyvalent gonococcus vaccine than with one from the patient. How long vaccines retain their potency is unknown. In view of the present unsettled condition, he applauds those manufacturers who refuse to market the vaccines. The article concludes as follows: The vaccines have come to stay, and we can only ask the profession to be patient and not condemn bacterial therapy because they can not employ it through lack either of knowledge or of time, not to employ it improperly, but to leave it in the hands of those skilled in its use, until the time comes when definite rules can be laid down for the use of vaccines, so that the practitioner can control the inoculations by clinical manifestations.

Therapeutic Gazette, Detroit

December

106 *Prevention, by Operation and Other Methods, of Retroversion of the Uterus After Childbirth. E. P. Davis, Philadelphia.
107 Three Cases of Rupture of the Uterus. F. C. Hammond, Philadelphia.
108 Some Relations of the Thyroid Gland. S. P. Beebe, New York.
109 Personal Experiences in the Surgery of Simple Types of Goiter. J. M. Wainwright, Buffalo.
110 Use of the X-Ray in Exophthalmic Goiter. J. C. Price, Scranton, Pa.
111 Surgical Treatment of Malignant Goiter. E. Martin, Philadelphia.

106. Published in the *Pennsylvania Medical Journal*, November, 1908, and abstracted in The Journal, Dec. 19, 1908, p. 2189.

Louisville Monthly Journal of Medicine and Surgery

December

112 *Present Status of Organotherapy. D. L. Edsall, Philadelphia.
113 *Practical Notes on Vesical Tumors. G. F. Lydston, Chicago.
114 Atypical Typhoid. B. C. Frazier, Louisville.

112, 113. Published in the *Lancet-Clinic*, Nov. 28, 1908, and abstracted in The Journal, Dec. 19, 1908, p. 2186.

American Journal of Orthopedic Surgery, Philadelphia

November

115 Present Day Conception of Acute Anterior Poliomyelitis. B. Sachs, New York.
116 Ultimate Results in Surgical Treatment of Infantile Paralysis. E. H. Bradford and R. Soutter, Boston.
117 Muscle Transference with Particular Reference to Operative Technic. S. J. Hunkin, San Francisco.
118 *Surgery of the Peripheral Motor Nerves. A. S. Taylor, New York.
119 Volkmann's Ischemic Paralysis and Contracture. R. H. Sayre, New York.
120 *Paralysis of Shoulder: Its Mechanical Treatment. D. Silver, Pittsburg, Pa.
121 *Thyroid Spine. G. B. Packard, Denver, Colo.
122 *Actinomycosis of the Ribs and Vertebræ. J. K. Young, Philadelphia.
123 Congenital Scollosis. N. Allison, St. Louis.

118, 120, 121. Abstracted in The Journal, Aug. 8, 1908, pp. 525, 526, 528.

122. Abstracted in The Journal, July 25, 1908, p. 344.

Buffalo Medical Journal

December

124 *Extrauterine Pregnancy and Report of Cases. H. E. Hayd, Buffalo, N. Y.
125 Anesthesia. C. C. Frederick, Buffalo, N. Y.
126 Artificial Dilatation of the Cervix in Obstetrics. J. E. King, London.

124. A similar paper by this author was abstracted in The Journal, Oct. 17, 1908, p. 1355.

Journal of Ophthalmology and Oto-Laryngology, Chicago

November

127 *Ophthalmia Neonatorum. W. O. Nance, Chicago.
128 Cholesteatoma Causing an Erosion into the Horizontal Semicircular Canal, with Methods for Examining the Vestibular Apparatus. G. E. Shambaugh, Chicago.
129 Abscess of Inferior Turbinal. K. W. Baldwin, Philadelphia.

127. Abstracted in The Journal, June 27, 1908, p. 2152.

Journal Kansas Medical Society, Kansas City

November

130 Hysteria. O. S. Hubbard, Parsons.
131 Acute Dilatation of the Stomach. H. Wilkinson, Kansas City.
132 An Iniencephalus. E. T. Shelly, Atchison, Kan.
133 The Roentgen Ray as a Diagnostic and Therapeutic Aid. E. H. Skinner, Kansas City, Mo.
134 Injuries to an Eye. W. H. Graves, Pittsburg, Pa.
135 Osteopathy and the Public Press. F. A. Carmichael, Goodland.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 19

1 *Mitral Stenosis. Sir J. Barr.
2 *Occurrence of Heartblock in Man and Its Causation. T. Lewis.
3 Retardation of the Pulse Wave in Aortic Regurgitation. W. Broadbent.
4 Malformations of the Hind End of the Body (continued). A. Keith.

1. **Mitral Stenosis.**—Barr confines his attention to the debatable points in the clinical manifestations of the disease. The disease is easily diagnosed apart from the murmur (presystolic or auricular-systolic), but such diagnosis is very imperfect unless it takes into account the extent of the lesion and its effects. Rheumatism holds the first place in its causation. Children are very liable to rheumatism, though the other manifestations may escape notice and endocarditis seem to be the only gross expression. Mitral stenosis is frequently associated with chorea. It is more common in females than in males, because these two predisposing diseases are more common. Its course is usually slowly progressive, and while it ordinarily leads to the death of the individual, under proper care and treatment it is quite compatible with a fairly long existence. The deformity produced in the valves is of two kinds, the funnel form and the buttonhole. Contrary to other authorities, Barr finds that while the buttonhole variety is scarcely known in children it is not much more common in the adult than the funnel form. In the evolution of mitral stenosis, excessive calcium ions in the blood play a very important part. In diagnosis it is necessary to do more than recognize a presystolic murmur; we want to know the nature of the obstruction, the size of the orifice, and the effect on the circulation. When the murmur is well pronounced the interference of the physician is uncalled for. In many cases in which it is absent, judicious treatment may be of great value. Sometimes the only murmur is a mitral systolic, due to regurgitation. The treatment of these two conditions is essentially different. Barr discusses the physical diagnosis at great length. He points out that it is not sufficiently recognized that the heart is not a single organ, but two organs, each of which has its own definite work to perform, linked together for mutual assistance in cases of stress or difficulty. Barr says that the myogenic theory of contraction

is plausible and deserves to be true, but like a good many other theories, it has not been considered necessary to establish the truth of the premises; not one scintilla of evidence has ever been adduced to show that the muscle cells, or any node or set of cells, generate any stimulus which excites contraction, and there is no information as to the nature of the stimulus. This theory tends nowhere but to the grave, whereas, if one believes that the rhythmic contraction of the heart is maintained by the diastolic tension, one can often save lives by putting the theory into practice. Many deaths from syncope could be averted by simply hanging the individual up by the feet. This has been long known in chloroform syncope, but it should be firmly inculcated in every ambulance course.

2. **Heart Block.**—Lewis discusses the evidence for conduction by muscular continuity in mammalia, the evidence of heart block in man, and the evidence for associating heart block with damage to the auriculoventricular bundle. He concludes: Surveying the evidence as a whole, we may say that, knowing that heart block can occur in man, and that it may be associated with lesions of a bundle which has been shown to be essential to conduction in the lower animals, we are justified in concluding that heart block in man may arise as the result of such a lesion; but we must bear in mind that such a conclusion is open to limitation, and we are not justified at present in assuming that it will invariably arise from such a lesion, or that it is invariably dependent on such a lesion.

Lancet, London

December 19

5 *Treatment of Wounds. Sir W. W. Cheyne.
6 Treatment of Gout by Thyminic Acid. R. Fenner.
7 Otosclerosis: Etiology, Diagnosis and Treatment. A. R. Tweedie.
8 *Mercurial Reaction as an Element in Diagnosis of Syphilis. F. Curioni.
9 Ruptured Small Intestine. L. E. C. Norbury.
10 Method of Performing Abdomino-Perineal Excision for Carcinoma of the Rectum and Terminal Portion of the Pelvic Colon. W. E. Miles.
11 Treatment in a Case of Arthritis Deformans. F. Booth.
12 Streptococcal ("Septic") Throats. J. O. Hollick.

5. **Treatment of Wounds.**—Cheyne discusses the evolution f the modern treatment of wounds, and sums up his crit-cism on the most recent ideas, by saying that the pendulum as swung too far in the direction of the avoidance of anti-eptics, and that the reasonable use of all the means at our isposal for securing asepticity of wounds will furnish more onstant results. He takes exception to the employment of ressings which do not contain an antiseptic in sufficient mount to render the discharges that flow through them nsuitable for the growth of bacteria, also to the absence uring the operation of antiseptic solutions in which hands, istruments, etc., may be washed from time to time to insure continued asepsis, and he considers the substitution of gauze lugs for drainage tubes, more especially for the drainage abscesses and sinuses, a retrograde step. Minor points are e use of swabs instead of marine sponges and the avoidance catgut. The extreme view has, however, done good, by recting attention to the value of heat as a disinfectant, to e sterilization of instruments, etc., and to the diminishing of ist; but he thinks an attempt to treat wounds without any tiseptics a very unnecessary complication, for it adds to the fficulty of securing asepsis; and if the surgeon has to keep s mind intently fixed simultaneously, on two exacting ocesses, surgical technic and bacteriologic technic, he is e more apt to fall down on one of them. Cheyne says that own results and those of other surgeons who use antiptics judiciously are in every way as good as those obined by the more elaborate aseptic precautions. They are t troubled with sepsis or stitch abscess.

8 **Mercurial Reaction in Diagnosis of Syphilis.**—Curioni, ting during the treatment of a number of suspectedly philitic patients that some of them were strangely intolnt of mercury, and that these patients generally proved to non-syphilitic, the idea occurred to him that persons with philis tolerated mercury much better than normal subjects. therefore made comparative tests of the elimination of mercury in the urine of the healthy and of the syphilitic. An injection of 0.01 gm. of mercury perchlorid in 1 c.c. of distilled water was given about 11 a. m. to the two set of subjects. The urine was collected at 7 p. m., 5 or 6 hours later, and the following morning between 8 and 9. The specific reaction was then tested by Vitali's method, which the author details. As a result of these investigations Curioni formulates the following conclusions:

> 1. The mercurial reaction in the urine of the healthy is much more evident than in the syphilitic, in which sometimes there is no result at all: which means that the elimination of mercury in the urine of the syphilitic is always much slower than in the healthy.
>
> 2. The mercurial reaction is *nil*, or nearly so, in cases of syphilis recently contracted, especially when symptoms are apparent; and the reaction is only slightly evident, and never so well as in normal cases, in syphilitics in whom two or three years have elapsed since the appearance of the ulcer.
>
> 3. Finally, in cases of long standing, of say, 10 or 12 years, the mercurial reaction is as evident as in normal cases. (Mercurial reaction is positive.)

Curioni believes early treatment inadvisable, because the action of the antigen being paralyzed by the mercury the production is stopped of the special antibodies which will be the natural defense of the organism, provided for the true destruction of the virus. He suggests the possible utility of his test not only for clearing up suspicious cases, but in ascertaining whether a person who presents no symptoms of acquired syphilis has at some time past been infected; also in tabes or progressive paralysis not from hereditary syphilis.

Medical Press and Circular, London

December 16

13 Ophthalmia Neonatorum. S. Mayou.
14 Use of Colloidal Mercury by Intravenous and Intraspinal Injection, and Its Mode of Action. P. Claisse and E. Joltrain.
15 Relation of Clinical Laboratory Methods to the Work of the General Practitioner. R. Weiss.
16 Mammary Carcinoma and Its Surgical Treatment. E. H. Taylor.

Clinical Journal, London

December 2

17 *Suprapubic Prostatectomy. W. B. Clarke.
18 *Poisoning from Some Metals and From Dust. F. M. Sandwith.
19 Case in which Portion of a Lung was Excised. J. R. Morison.

December 16

20 Cancer. T. Bland-Sutton.
21 Acute Lymphocythemia in Children. T. R. C. Whipman.
22 Muscular Atrophy. A. Whiting.

17. **Suprapubic Prostatectomy.**—Clarke considers the suprapubic operation destined to supersede the perineal, because it embodies a great surgical principle, namely, "see what you are about and don't be content with feeling that which it is quite possible to see." He describes the technic of the operation, and says that he has purposely refrained from alluding to the time honored custom of rectal examination in cases of prostatic enlargement, because in most instances it is absolutely useless. "What you want to determine is how far the urinary outflow is obstructed and this can only be discovered by the passage of a catheter; the size of the prostate is no gauge of its obstructive power."

18. **Metal and Dust Poisoning.**—Sandwith discusses various industrial diseases, arsenic, copper, brass and mercury poisoning, the diseases of iron and steel workers, especially steel grinding, the health of underground railway workers, workers in cotton mills, linen and jute factories, poisoning by African boxwood, rag sorters' disease, chimneysweep's cancer, and the condition of tin plate workers.

Australasian Medical Gazette, Sydney

October

23 The Mental Factor in Medical Practice. G. E. Rennie.
24 *Prophylaxis of Puerperal Eclampsia. D. Hardie.
25 *Albuminuric Retinitis of Pregnancy. J. L. Gibson.
26 Postdiphtheritic Heart Failure. J. M. Gill.
27 Gastroenteritis in Children—Causes—Prophylaxis and Treatment. E. A. Officer.
28 Diagnosis of Diseases of the Urinary Tract. R. C. Foster.
29 Fatal Case of Arsenic Poisoning. C. H. E. Lawes.

24. **Puerperal Eclampsia.**—Hardy discusses the prophylaxis of this disease and as measures for the treatment of impending eclampsia, places first, absolute withdrawal of food, even milk, water alone being given for from 36 to 48 hours, when

a milk diet may be resumed. Second, an enema of saline fluid into the lower bowel every 2 to 4 hours. Third, the skin must be made to act by plenty of blankets and hot bottles. When free perspiration is induced the question of the advisability of terminating pregnancy must be decided. The object is, wherever or whatever the *fons mali* may be, "to throttle down the inlet and open well the exhaust." He urges the necessity of examining the urine weekly from the beginning of the eighth month, and in primigravidæ the seventh month onward, and twice a week if suspicious symptoms arise.

25. **Albuminuric Retinitis of Pregnancy.**—Gibson reports cases and concludes that it is the duty of the medical attendant, when albuminuric retinitis supervenes, to bring on labor without delay, and to refuse to take the responsibility of the case if his advice is not adopted.

Journal of Tropical Medicine, London

December

30 Dengue in Fiji. A. Montague.
31 Guinea Worm. W. H. Graham.
32 Hemogregarines of Snakes (to be continued). L. W. Sambon and C. G. Seligmann.
33 Investigation of Cerebrospinal Fever in the Northern Territories of the Gold Coast in 1908. A. E. Horn.

Glasgow Medical Journal

December

34 Traumatic Rupture of Small Intestine. G. H. Edington.
35 Gastrototomy for Foreign Body. D. Macartney.
36 Medical Practice in Pondoland, South Africa. J. G. Millar

Journal of Laryngology, Rhinology and Otology, London

December

37 Effect on Vocal Pitch of the Contracture of the Thyroarytenoid Muscles. J. D. Lithgow.
38 Cases of Laryngostomy. Sargnon and Barlatier.
39 Condition of the Vestibular Apparatus in a Series of Cases of Deafness of Non-Suppurative Origin (continued). N. H Pike.

Bulletin de l'Académie de Médecine, Paris

November 24, LXXII, No. 38, pp. 405-433

40 *Sunlight Treatment in Mountain Climate. (Les cures solaires directes, dans les stations d'altitude.) H. Hallopeau and Rollier.

December 1, No. 39, pp. 435-466

41 *Action of Sodium Cinnamate in Pulmonary and External Tuberculosis. (De l'action du cinnamate de sonde dans la tuberculose pulmonaire et les tuberculoses externes.) P. Reynier.
42 Respiratory Interchanges in the New-born and Index of Oxygenation. (Les échanges respiratoires dès nouveau nés et l'indice d'oxygénation.) M. G. Weiss.

40. **Treatment of Surgical Tuberculosis by Direct Sunlight in the Mountains.**—Rollier presented to the Academy 185 photographs of 35 tuberculous patients treated by heliotherapy at a high altitude. His experience includes nearly 150 cases of tuberculosis of various locations, exclusive of the lungs, and it has convinced him that the mountain sunlight has a remarkable curative action on tuberculous processes in general. It seems as if the tubercle bacillus ceases to find a favorable medium for its proliferation as the tissues and organic juices become modified by the conditions in the mountains.

41. **Sodium Cinnamate in Tuberculosis.**—Reynier and Blusson have been giving sodium cinnamate a thorough trial in 21 cases of pulmonary and external tuberculosis, the outcome representing, they think, positive progress in the treatment of the disease. In 10 cases the bacilli vanished from the sputum and the stethoscope showed approximately normal conditions out of the 19 patients who showed the most benefit. Their experience seems to suggest that this drug combines with the toxins engendered by the bacilli, transforming them into non-toxic compounds. Favorable voices have been raised here and there since Landerer first proclaimed the efficacy of sodium cinnamate, and it has been successfully used in Spain, but Reynier asserts that it has not been given generally the attention it deserves. He prefers to give the drug in subcutaneous or intramuscular injections, up to a maximum of 0.3 or 0.4 gm. (from 4.5 to 6 grains) in two days. His patients were mostly adults.

Presse Médicale, Paris

November 28, XVI, No. 96, pp. 769-776

43 Experimental Autodigestion of the Stomach. (Auto-digestion expérimentale de l'estomac.) A. Frouin.

December 2, No. 97, pp. 777-784

44 *To Reduce the Mortality from Cancer of the Uterus. F. Jayle.
45 Light Colored Liver Cells. (Etat clair des cellules hépatiques.) P. Ramond.

December 5, No. 98, pp. 785-792

46 *Criminal Law and Psychiatry. (Droit criminel et médecine mentale.) M. Dupré.

December 9. No. 99, pp. 793-800

47 *Adamantine Epithelioma. L. Boidin and C. Delval.
48 Tetanus Originating in the Uterus. A. Brault and G. Faroy.
49 Isotonic Collyria. A. Cantonnet.

44. **Causes of Mortality from Uterine Cancer.**—Jayle's experience with hundreds of cases of cancer of the uterus has confirmed the fine results from extensive excision when the cancer is localized in the uterus, but cancer still localized in the uterus is extremely rare, as patients do not apply to the surgeon until too late. They are misled by the false and dangerous notion that there may be a physiologic hemorrhage from the uterus during or after the menopause. He advocates that every woman over 35 should be examined by a physician every three months, especially in case of cancerous antecedents or a chronic affection in the uterus or adnexa, and particularly in case of cervical metritis. Even when the cancer has passed beyond the uterus, radical removal may give long survival and there need be no hesitation about operating, even in somewhat advanced cases, if the general condition is good and the patient not too young. The iliac glands should be removed with the uterus, especially in young women with cancer of the cervix.

46. **Insane Criminals Before the Law.**—Dupré reviews the history of the insane condemned in ignorance of their abnormal mental condition. He says that during the five years 1890-1895 255 insane persons were sentenced in France for deeds for which they were not responsible, as directly established later, and he urges the necessity for a clinical course in psychiatry before a lawyer is admitted to the practice of criminal law or to the bench.

47. **Adamantine Epithelioma.**—Boidin and Delval describe two cases which confirm the good prognosis and the origin of these tumors in paradental, epithelial débris scattered around the jaw. Extensive excision of the tumor, without encroaching much on sound tissue, is sufficient and recurrence need not be feared. All the experience to date sustains the assumption that the tumor never spreads to the glands. Differentiation is sometimes difficult in the superficial form, but histologic examination will remove all doubt. They describe two cases in detail, with illustrations of the findings.

Revue de Médecine, Paris

November, XXVIII, No. 11, pp. 943-1008

50 Paroxysmal Cyanosis with Congenital Malformation of the Heart. (Cas de malformation congénitale du cœur avec cyanose paroxystique.) A. Espine and H. Mallet.
51 Syndromes of Insufficiency of Several Glands. (Syndromes d'insuffisance pluriglandulaire.) H. Claude and H. Gougerot. Commenced in No. 10.
52 The Urine in Gastrointestinal Autointoxication. (L'urine dans l'intoxication digestive.) H. Labbé and G. Vitry.
53 *Naturally Faint Pulse. (La microsphygmie.) C. Richet and F. Saint Girons.
54 Pathogenesis of Bilious Hemoglobinuric Fever. (Pathogénie de la fièvre hémoglobinurique, bilieuse.) S. J. Kanellis.

53. **Habitually Faint or Almost Imperceptible Pulse.**—Richet and Saint Girons have observed sixteen cases of what they call "microsphygmia." It seems to be due to spasmodic contraction of the muscular layers of the vessels, not to any anatomic lesion. They have never encountered this microsphygmia except in idiots, and predominantly in those with trophic disturbances and an inherited taint—tuberculosis, syphilis, alcoholism or lead poisoning.

Semaine Médicale, Paris

December 2, XXVIII, No. 49, pp. 577-588

55 Phlegmonous Gastritis. L. Cheinisse.

December 9, No. 50, pp. 589-600

56 The Placenta Theory of the Origin of Eclampsia. R. de Bovis.

Beiträge zur Klinik der Tuberkulose, Würzburg

XI, No. 2, pp. 79-269. Last indexed Dec. 12, 1908, p. 2095

57 *Specific Hypersusceptibility and Immunity to Tuberculosis. (Spezifische Ueberempfindlichkeit und Tuberkuloseimmunität.) P. H. Römer.

58 Complement Fixation by Antibody in Blood of the Tuberculous. (Die durch Komplementbindung nachweisbaren Tuberkulose-Antikörper im Blute von Phthisikern.) S. Cohn.
59 *Tuberculous Infection and Clinical Tuberculosis. (Tuberkulöse Infektion und tuberkulöse Erkrankung.) E. Meissen.
60 Bovine Tubercle Bacilli in Sputum of Consumptives and Their Importance for Treatment of Chronic Pulmonary Tuberculosis. (Vorkommen von Perlsuchtbazillen im Sputum der Phthisiker und ihre Bedeutung für die Therapie der chronischen Lungentuberkulose.) G. Schröder.
61 Importance of Vital Capacity for Origin, Spread and Healing of Pulmonary Tuberculosis. (Bedeutung der Atmungsgrösse für die Entstehung und die Ausdehnung bezw. Heilung der Lungentuberkulose.) N. P. Tendeloo.
62 Diagnostic Uncertainty of Ocular Tuberculin Reaction. (Diagnostische und prognostische Bedeutung der Konjunktivalreaktion.) O. Roepke.

57. **Specific Hypersusceptibility and Immunity to Tuberculosis.**—Römer's further research confirms the fact of the resistance of tuberculous individuals to renewed infection from without, and he presents arguments to show that this is connected with hypersusceptibility to the tubercle bacillus and also with immunity. Some of the animals with slow, chronic tuberculosis bore renewed infection without appreciable injury, although it was rapidly fatal for the controls. That is, the chronic tuberculosis conferred immunity on the animals. He compares it to a fortress conquered by surprise but finally driving out the invaders, although still suffering from the consequences of the invasion. Henceforth it is on the alert, and opposes effectual resistance to renewed invasion, unless the invaders come in overwhelming force. He regards an intense reaction to the local tuberculin test as a good omen. A tuberculous infection, if weak, and if it does not materially affect the health of the individual, not only is not harmful, but is directly useful, as it protects against further infection. The logical consequence is that severe, massive infection must be warded off, but that it is futile and useless to attempt to protect mankind from all contact with the tubercle bacillus. The campaign against tuberculosis should be directed against phthisis rather than against tuberculosis. When one member of a family has phthisis, the children are more exposed to contagion from it than the other members of the family. The great majority of mankind have been infected with tuberculosis before reaching adult age, and the aim should be to prevent massive infection of children. The battle should begin in the home, in the family, where it threatens most the younger children.

59. **Tuberculous Infection and Tuberculosis.**—Meissen protests against the assumption of direct contagion of tuberculosis, showing that those most exposed seldom acquire the disease, nurses, consorts and the residents of health resorts. He argues that as one is protected against the invasion of tubercle bacilli, which form small, latent foci, which may possibly but not necessarily lead to clinical tuberculosis. For the bacilli to develop clinical manifestations, predisposing factors are necessary. The latter are thus really responsible for the tuberculosis; the tubercle bacillus is only the remote cause. Tuberculous infection and tuberculosis are far from synonymous terms. The prospects for successfully combating the disease are shown to be much brighter with this conception.

Berliner klinische Wochenschrift

November 3, XLIV, No. 48, pp. 2129-2176

63 *Gastric Ulcer Perforating into the Pancreas. (Behandlung eines in das Pankreas perforierten Magengeschwürs.) R. Klapp.
64 *Treatment of Neuralgia with Injections of Alcohol. W. Alexander.
65 Bilateral Crural Paralysis After a Gynecologic Operation. (Beiderseitige Cruralislähmung nach gynäkologischer Operation.) K. Mendel and B. Wolff II.
66 Digestion of Living Tissue. (Zur Frage der Verdauung lebenden Gewebes.) H. Kathe.
67 Micromelic Dwarf Growth, not Congenital. (Ueber das klinische Bild der Achondroplasie bei Erwachsenen und eine ihr sehr ähnliche bisher noch nicht beschriebene Form von mikromelen Zwergwuchs bei einer 56 jährigen Frau.) P. Schrumpf.
68 *Aortic Insufficiency and Syphilis. J. Citron.
69 The Hessing Orthopedic Technic. M. Böhm.
70 Pathologic Anatomy of Appendicitis. (Wurmfortsatzentzündung.) R. Beitzke.

63. **Treatment of Gastric Ulcer Perforating into the Pancreas.**—Klapp reports a case of gastric ulcer with symptoms suggesting cancer. On opening the abdomen nothing abnormal was found on the stomach until the discovery of a tumor on the rear wall, just below the cardia, adherent to and perforating into the pancreas. The cachexia was so extreme and the site was so inaccessible that further intervention seemed too hazardous, but Klapp removed the spleen and thus obtained access to the tumor which was then easily excised, with the rapid recovery of the patient.

64. **Treatment of Neuralgia with Injections of Alcohol.**—Alexander extols the advantages and benefits of this treatment of neuralgia, urging it in all cases before resort to operative measures. His experience has been favorable, but he emphasizes the necessity of practice on the cadaver and anatomic studies before attempting to apply this technic. Even when it is impossible to remove the constitutional cause, injection of alcohol may yet relieve the patient of pain, as in case of a brain tumor, while waiting for the exact diagnosis. In one such case the patient was relieved of pain for a year, until the intracranial cause was located. Great caution is required with this technic, he warns, for nerves with a motor element.

68. **Aortic Insufficiency and Syphilis.**—Citron relates experiences which show that the positive response to the serum test for syphilis reveals a syphilitic origin in a surprisingly large proportion of cases of pure aortic insufficiency. Even when there is congenital or other valvular or arterial trouble, specific treatment will relieve it of the burden of the superposed syphilitic lesions.

Deutsche medizinische Wochenschrift, Berlin

November 26, XXXIV, No. 48, pp. 2057-2104

71 *Treatment of Burns. (Therapie der Verbrennungen.) Pels-Leusden.
72 Climate and Kidney Disease. (Klima und Nierenkrankheiten.) H. Strauss.
73 Antipneumococcus Serum. (Pneumococcenheilserum.) G. Landmann.
74 *Indirect Tuning Fork Auscultation: Phonometry. (Indirekte Phonometrie, eine exakte Methode zur Bestimmung der Organgrenzen mittels der Stimmgabel.) E. Schlesinger.
75 *Tricuspid Insufficiency and Its Symptoms. D. v. Tabora.
76 *Hypotony or Relaxation of Muscles as Early Sign of Tabes. (Messung der Hypotonie.) J. v. Cesiky.
77 Inflammatory Tumors in the Omentum. (Entzündliche Geschwülste des Netzes.) J. P. Haberern.
78 Dangers from Anomalous Color Perception in Railway Employés. (Untauglichkeit der sogenannten anomalen Trichromaten zum Eisenbahndienst.) Schlodtmann.
79 Chilling of Body Liable to Bring on Paralysis After Treatment for Hydrophobia. (Zur Frage der während oder nach der antirabischen Behandlung auftretenden Paralysen.) P. Pampoukis.

December 3, No. 49, pp. 2105-2152

80 *Treatment of Inoperable Uterine Cancer. (Behandlung des unoperablen Gebärmutterkrebses.) H. Freund.
81 *Technic for Medication by Inhalation. (Ein Halator.) B. Fränkel.
82 Transformation of Albumin During Treatment of Obesity. (Eiweissumsatz bei Entfettungskuren.) P. F. Richter.
83 Disturbances in Pancreatic Secretory Functioning, and Case of Continuous Hypersecretion. (Sekretionsstörungen des Pankreas im Anschluss an die klinische Beobachtung eines Falles von Supersecretio pancreatica continua.) A. Bickel.
84 Filariasis. zur Verth.
85 *Belt to Shut Off Circulation from the Legs During Operations. (Zur künstlichen Blutleere der unteren Körperhälfte nach Momburg.) G. Axhausen.
86 *Operative Treatment of Emphysema. (Zur operativen Behandlung des Lungenemphysems.) R. Stich.
87 *Retroflexion of the Uterus. (Zur Klinik der Retroflexio.) A. Mayer.
88 Silver Salts and Electrolysis in Gonorrheal Urethritis. (Zur Therapie der akuten und chronischen Urethralblennorrhoe.) G. J. Müller.
89 Roentgen Apparatus with Pulsating Current. F. M. Groedel, iii.
90 *Syphilis in the Husband of Patient and Professional Secrecy. (Darf der Arzt der vom Ehemanne mit Lues infizierten Frau die Natur ihres Leidens verschweigen?) N. Macry.

71. **Treatment of Burns.**—Pels-Leusden thinks that it is extremely important to promote the elimination of the toxins generated in the skin by burned tissues, flushing out the body and counteracting their depressing influence on the heart. The pulse is liable to be frequent and small, vascular tone reduced, with hemoglobinemia, hemoglobinuria and subnormal temperature. Intravenous injections of a heart tonic with an abundant supply of fluids are indicated. The patients complain of thirst and take readily strong coffee and tea, brandy and champagne by the mouth. This should be supplemented by 100 c.c. of physiologic salt solution by the rectum every 15 minutes, with intravenous saline infusion, especially when vomiting occurs, as is liable with children soon after the burn; but in older persons it does not occur until a later

stage, just before delirium or stupor. These measures may save in the border-line cases in which from one-third to one-half the surface of the body is burned. Under all circumstances the pain should be relieved, possibly with morphin, which also soothes the patient tormented by a realization of the carelessness responsible for the burn, dread of death and anxiety for the fate of his family. Local measures should be applied cautiously, as the patients are in shock. The danger from this general intoxication from the burn is generally over by the fifth or sixth day, although death may occur after eight or ten days, without question of sepsis, but with diarrhea and hemorrhage from a duodenal ulcer. For local treatment for burns in the second and third degrees he prefers Tschmarke's technic, as this prevents secondary infection and thus the epithelium retains its vitality. He treats the burned surface as if preparing it for an aseptic operation. For a small area, anesthesia of the sensory nerve trunk may suffice, but extensive burns on the head, trunk and arms require general anesthesia, for which ether is preferable to chloroform, as it raises the blood pressure. The blisters are opened and the burned area for some distance around is scrubbed with soap and water for ten minutes, then rinsed with alcohol and 1/1,000 solution of bichlorid of mercury for two minutes and then covered with gauze compresses packed thick with absorbent cotton, with non-absorbent above. The exclusion of air generally arrests the pain, but if not, morphin is given. When the serous discharge wets the absorbent dressing through, the dressings are renewed down to the gauze compress, under the most scrupulous asepsis—the physician must disinfect himself each time as for a major operation. This must be repeated as often as the dressings become soaked, which does not occur after a few days. After ten or fourteen days the dressing is thrown off and the epidermis heals over with little tendency to contracture. He does not approve of iodoform gauze for burns or any antiseptic powder on account of the danger from absorption. The painfulness and general anesthesia required for this technic are far outbalanced by the rapid healing and avoidance of secondary infection, suppuration and fever. If the burn is not recent or general anesthesia is contraindicated, he applies Bardeleben's "bismuth bandage" or powders thick with bismuth after cleansing the burned area with salt solution. He unconditionally denounces all home remedies, but advises the continuous bath as indicated, or an early injection of thiosinamin and possibly a splint to ward off contraction.

74. **Indirect Tuning Fork Auscultation.**—Schlesinger uses a phonendoscope with a tuning fork, G natural, with 48 vibrations in the second. The fork is placed on the thorax and moved along toward the phonendoscope, and the resonance suddenly increases as the fork passes the margin of the heart or other organ being examined. The technic is more instructive when the organ is outlined with the "threshold" of audible capacity. He lauds the instructive findings with this indirect phonometry in examining the lungs, liver and spleen, and in detecting incipient foci.

75. **Tricuspid Insufficiency and Its Symptoms.**—Tabora declares that the only certain sign of tricuspid insufficiency is the systolic, positive liver and venous pulse, and eventually a systolic pulsation in the bulb.

76. **Relaxation of Muscles as Early Sign of Tabes.**—This communication from Jendrassik's clinic at Budapest calls attention to the diagnostic importance of the lack of normal tone in the muscles in the incipient phase of tabes. A method is described by which it is possible to measure the degree of this hypotony. As the patient stands, the distance from the floor to the greater trochanter and to the seventh cervical vertebra is measured. The patient is then asked to stoop forward as far as possible, with the knees stiff, and the distance from the floor to the seventh cervical vertebra is again measured as the patient bends the trunk forward. In health and in all other affections it is impossible to bend the trunk forward so that this vertebra is brought to or much below the level of the trochanter, but the diminished tonicity of the muscles in tabes allows stooping until this vertebra is 21 or more cm. below the level of the trochanter. In two cases of abducent paralysis he diagnosed incipient tabes from the high degree of hypotony shown by the test, and his diagnosis was confirmed by the further course of the cases.

80. **Operative Treatment of Inoperable Uterine Cancer.**—Freund advocates abdominal removal of as much as possible of the growth, even when a radical operation is out of the question. In seven patients thus treated the results were satisfactory, abolishing the pains, the discharge and the repulsive odor. This effect alone is enough to justify the operation, as the relief to the patient is so intense. The operation can be completed in forty minutes on an average, and the patients bear it remarkably well. The general health shows promptly the great benefit from the removal of the compression from the tumor and of the decaying masses. Spinal anesthesia is particularly useful in these cases. In the usual operative cases he does not attempt much preparation, but the success in the palliative cases depends on the preparatory measures for days or weeks beforehand. The cancer focus is curetted and cauterized, with the patient slightly anesthetized, and the focus is then treated with astringent and disinfecting applications, for which he has found bolus alba, tannin and salicylic acid useful, with repeated rinsing with 3 per cent. solution of peroxid of hydrogen, but no tampons. In operating, the protection of the peritoneum is the main point. No resection as for a radical operation should be attempted. Unless the field of operation can be roofed over completely, with enough intact peritoneum in front of and behind the uterus to cover over the site, the removal of the cancer should be abandoned and nothing done beyond ligating the arteries. He has found that stovain spinal anesthesia is able in some cases to reduce the sensibility of the nerves so that the uncontrollable pain can be kept down afterward by morphin, which had previously been ineffectual. All his patients have been relieved of hemorrhages and discharges during the interval since the operation, up to three years in one case.

81. **The Inhalator.**—Fränkel gives an illustrated description of a simple vapor lamp to vaporize menthol as the patient sleeps. It burns for ten hours, keeping the fluid at 70 C., the proper temperature for vaporizing menthol. He has applied this method in 20 cases of superficial processes in the larynx, with excellent results. It also has a favorable influence on pulmonary lesions. Some of his patients were spared curetting by the use of this inhalator.

85. **To Expel the Blood from the Legs by Momburg's Technic.**—Axhausen adds another to the four cases on record in which operations were performed with the blood shut off from the legs by a rubber tube wound two or three times around the waist. Momburg's case here described is the most severe among those yet reported, the progress of a tuberculous process in the hip joint after exarticulation requiring resection of parts of the pelvis. The constricting belt was not applied until the patient was completely under the influence of the anesthetic, to insure the relaxation of the muscles and spare the patient the disagreeable sensation of the constriction. The femoral pulse is the index for the degree of constriction to be attained and maintained, and this is not materially influenced by the general anesthesia. A rubber drain tube, the width of a finger, was wound around three times, doubled, after raising the remaining leg, lowering the leg after the constriction. The reliable hemostasis gives the operator a feeling of security unobtainable by compression of the aorta by a finger or pad. There was no hemorrhage; only a few drops of blood oozed from the spongy part of the bones in the case reported. The constricting belt was in place for 45 minutes in all. No mishaps have been reported with this technic to date.

86. **Operative Treatment of Emphysema of the Lung.**—Stich adds another to the eight cases on record of chondrotomy according to Freund's method of treating emphysema of the lung, the result of pathologic changes in the thorax. These changes are revealed by primary changes in the cartilage, malformation of the costal cartilage and the position of the diaphragm. The first five ribs were resected on both sides, but the intervention was not especially difficult or dan-

gerous. The benefit from the operation becomes evident at once.

87. **Retroflexion of the Uterus.**—Mayer has become convinced that retroflexion *per se* scarcely ever requires any treatment, particularly in nulliparæ. He warns against local examination of neurasthenic women, and of nulliparæ in particular. The symptoms ascribed to the retroflexion in many cases are merely the results of constipation and the resulting pressure on the sacro-uterine ligaments. The sacral and abdominal pains are often a nervous symptom or local complication. Among the latter a tendency to prolapse is the most important, and the disturbances generally vanish as this tendency is corrected. A simple round ring without regard to the displacement will sometimes suffice for this.

90. **Syphilis in the Consort of Patient.**—Macry urges the necessity for informing the wife, even against the will of the husband, of the syphilitic nature of the disturbances for which the physician has been consulted. He describes a typical case in which the first physician consulted instituted specific treatment, but without informing the patient of the nature of her trouble. The consequence was that the course of treatment was entirely inadequate, as the importance of the matter was not appreciated, and this disregard avenged itself later.

Medizinische Klinik, Berlin

November 15, IV, No. 46, pp. 1747-1784

91 Acne. P. G. Unna.
92 *Hemolytic Substances in Stomach Content in Diagnosis of Cancer. (Vorkommen hämolytisch wirkender Substanzen im Mageninhalt und ihre Bedeutung für die Diagnose des Magenkarzinoms.) J. Fey and G. Lefmann.
93 Behavior of Systolic Murmurs on Change of Position. (Verhalten systolischer Geräusche bei Lagewechsel.) M. Herz.
94 Recurrence of Scarlet Fever. (Scharlachrezidiv.) E. Fürth.
95 Spastic Obstipation. (Gibt es eine spastiche Obstipation?) M. Pickardt.
96 Alcohol and Life Expectancy. (Alkohol und Lebensdauer.) Stille.
97 *Treatment of Pancreas Diabetes. F. Bruck.
98 Intravenous Anesthetization. (Intravenöse Narkose.) J. Nerking and W. Schürmann.

November 22, IV, No. 47, pp. 1785-1822

99 *Treatment of Clubfoot in Infants by General Practitioner. (Behandlung des Klumpfusses beim Säugling durch den praktischen Arzt.) W. v. Oettingen.
100 Value of Serodiagnosis of Syphilis in General Practice. (Was leistet zurzeit die Wassermannsche Reaktion für die Praxis?) F. Hoehne.
101 *Abdominal Vascular Crises in Tabes and Their Relation to Abdominal Aortitis. (Zur Kenntnis der abdominellen Gefässkrisen der Tabiker und ihrer Beziehung zur "Aortite abdominale.") J. Pal.
102 *Treatment of Old Fractures of Patella. (Behandlung veralteter Kniescheibenbrüche.) L. Wrede.
103 *Therapeutic Application of Bromids on Experimental Basis. (Therapeutische Anwendung der Bromsalze auf experimenteller Grundlage.) H. v. Wyss.
104 Oxygenated Baths in Treatment of Neuroses. (Sarasons Ozetbäder bei der Behandlung von Neurosen.) G. Flatau.
105 Mental Work a Growth Process. (Geistige Arbeit und Wachstum.) O. Kohnstamm.

92. **Hemolytic Substance in Stomach Content in Diagnosis of Cancer.**—Fey and Lefmann have been studying the cause for the hemolytic action of the stomach content, and they report that it was pronounced in 14 out of 17 cases of various forms of gastritis, ulcer, nervous dyspepsia, etc., without a trace of malignant disease. The only feature common to all these positive cases was the constant presence of bile and trypsin. The method is not reliable, therefore, for the diagnosis of cancer.

97. **Treatment of Pancreas Diabetes.**—Bruck suggests that the antagonistic action of adrenalin and the pancreatic secretion might be utilized in the treatment of diabetes. In normal conditions the joint action of both substances prevents glycosuria, but if the pancreas secretion is lacking, the adrenalin gets the upper hand and glycosuria follows. The pancreas diabetes is therefore rather a negative pancreas and a positive suprarenal diabetes, as the over-production of adrenalin is responsible for the glycosuria. No glycosuria is observed in dogs after pancreatectomy if the suprarenal secretion is inhibited or if an active pancreas preparation is injected into the veins. He suggests that the same principle might be applied in pancreas diabetes which is the base for the treatment of exophthalmic goiter with the serum or milk of thyroidectomized animals. By excluding the adrenalin from the circulation, the milk or serum of animals thus treated might prove an effectual means of supplying the diabetic with the missing neutralizing pancreatic secretion.

99. **Treatment of Clubfoot by General Practitioner.**—Oettingen remarks that during 2,000 years of experiences with clubfoot, the important part played by the knee in the correction has been almost entirely overlooked. The deformity develops with the knee flexed to the utmost and it should be flexed at a right angle in the immobilization. This has the great advantage that the sole can be held in proper position by traction on the knee. Treatment should commence the moment the child is first presented to the physician, even if it is only one day old. No anesthesia is required, merely a stout twilled cotton flannel bandage about 4 or 5 cm. wide. The bandage is passed first around the foot after the foot and thigh just above the knee have been smeared with a soft solution of mastic which glues the fuzzy stuff firm to the skin. The bandage starts at the little toe and is wound around the foot and then passes from the little toe over the knee and is then brought around across the front of the leg to the inner aspect of the foot, forming thus a figure-of-eight bandage. Before applying the bandage he manipulates the foot to bring it with maximal outward rotation of the leg into its normal position, watching the clock to see that he does not take less than five minutes to accomplish this. During the application of the bandage the assistant holds the thigh with one hand and the middle toe of the foot with the other, not releasing it until the bandage is completed. By this means the sole of the foot is held in correction supported by the thigh, the bandage holding the foot in pronation, outward rotation, abduction and dorsal flexion. It is impossible for the foot to slide back into its old position. This bandage leaves free the entire thigh, the under part of the knee, and the entire inward aspect of the leg and ankle, with a certain possibility for movement in all the joints. These are all immense advantages. The child is allowed to go home for two days, and can be bathed if the leg is held up out of the water. After two days the physician removes the bandage, washes the leg with warm water and soap and massages the leg for a few minutes. A bandage is then applied, which is left for five days, and is then removed for an interval of four days. In the same way three more bandages are applied, each for a week. By the end of the fourth week the foot is in normal position, ready for the after-treatment. So far, the mother is not allowed to massage or work on the foot, but now she is taught to massage three or four times a day, seizing the leg above the malleolus, the sole toward her as she sits or stands in front of the reclining child. With the middle finger of the other hand on the little toe of the foot, she strokes the sole away from her. This one single simple movement combines the four compensating elements for clubfoot, continuing the pronation, extension, abduction and outward rotation of both foot and leg. With older children a rubber strap is applied afterward, passing around the foot and knee like the other, with a buckle to keep it fast, tied with tape to keep it from slipping off the knee.

101. **Abdominal Crises in Tabes.**—Pal supplements his previous communication on this subject, stating that determination of the tension in the vascular system may throw light on many obscure abdominal attacks. Especially instructive is examination of the abdominal aorta and observation of its behavior in such attacks; this may allow differentiation and thus obviate unnecessary surgical intervention. Many tabetics, he declares, have been operated on at the first crisis. He has found that the symptoms which Potain and Teissier have reported as characteristic for abdominal aortitis are in certain cases the initial symptoms of the abdominal vascular crises of tabes. These vascular crises in the abdomen may occur without pain. The vascular phenomena are evidently an important element in the syndrome of the crises in tabes. Abdominal and gastric crises may alternate. The arterial tension may increase by 50 and even 150 per cent. in the abdominal crisis; not so high in the gastric.

102. **Treatment of Old Fracture of the Patella.**—Wrede bridged a gap of 8 cm. ten months after fracture of the right

patella in a man of 39. The quadriceps was completely atrophied. A long tongue-shaped muscle-tendon flap was cut in the quadriceps, its base at the upper margin of the patella. This flap was turned over and drawn down into a cavity made to fit it in the front of the lower half of the patella, and fastened there and also to the ligament, to the periosteum of the tibia and the connective tissue in the gap. The bed of the flap was sutured together and a plaster cast was applied. By the end of four months the patient could bend his knee and use it almost normally.

103. **Experimental Basis for the Use of Bromids.**—Wyss reports research on animals which shows that the bromids accumulating in the blood drive out the sodium chlorid until there are serious symptoms from lack of the latter. The animals develop ataxia progressing to fatal paresis from the lack of salt—the symptoms being similar to those we are accustomed to regard as signs of bromid poisoning. In reality, the animals are suffering from the lack of sodium chlorid. The most interesting feature of these experiments is that it was possible by injection of salt, almost up to the last moment, to save the animals. They recuperated entirely in less than twenty-four hours with no signs of their previous derangement. He suggests that the symptoms observed in these experiments indicate that chlorin is of special importance for the undisturbed functioning of the motor nerve cells. Continuous administration of the bromids causes a considerable retention of bromin ions in the blood. An abnormally high concentration of salts in the blood is prevented by increased elimination of sodium chlorid. The resulting deficiency of chlorin leads to serious consequences, but they can be arrested by restitution of the missing salt. He applies his findings to the clinic, asserting that reduction in the proportion of chlorin in the blood is the effective principle in the treatment of epilepsy. This is accomplished by systematic administration of the bromids combined with a reduction in the amount of salt in the food, but no total abstention from salt except in urgent cases, and then only in the beginning. Bromism is merely the sum of the disturbances in the cell metabolism resulting from long deficiency of chlorin; it is not a specific consequence of administration of the bromids. He discusses the hypnotic action of the bromids, which he thinks has been exaggerated. He adds that an affection of mental origin is not to be influenced by the bromids; they only exert an injurious influence on the total metabolism. He thus regards them as directly contraindicated in neurasthenia and hysteria.

Münchener medizinische Wochenschrift

November 24, LV, No. 47, pp. 2417-2472

106 *New Principle for Maintaining Positive or Negative Pressure in the Lungs. (Zur Theorie und Praxis des Druckdifferenzverfahrens.) H. Brat and V. Schmieden.
107 Tuberculin Treatment in General Practice. John and Volhard.
108 *Diagnosis of Irregular Heart Action without Apparatus. (Diagnose der Herzunregelmässigkeiten ohne Kurvenaufnahme.) H. E. Hering.
109 *Simplified Measures to Ensure Obstetric Asepsis. (Einschränkung der aseptischen Massnahmen in der Geburtshilfe.) B. Krönig.
110 Dysmenorrhea. J. Veit.
111 *Spinal Anesthesia and Scopolamin. (Lumbalanästhesie und Dämmerschlaf.) G. Klein.
112 No Anatomic Grounds for Decline in Breast Nursing. (Eine Abnahme der Stillfähigkeit unserer Frauen aus anatomischen Gründen existiert nicht.) Walcher.
113 *Determination of Typhoid Bacilli in Stomach Content Containing Bile. (Nachweis von Typhusbazillen im gallenhaltigen Mageninhalt.) A. Weber.
114 Operative Treatment of Suppurative Meningitis with Suppuration in Internal Ear. (Operative Behandlung der eitrigen Meningitis bei Labyrintheiterungen.) Wittmaack.
115 Parabiosis of Rats of Opposite Sexes. (Parabiose von Säugetieren verschiedenen Geschlechtes.) B. Morpurgo.
116 Technic for Secondary Suture of Tendons. (Zur Technik der sekundaren Sehnennaht.) T. Kölliker.
117 *A New Aspect of the Pyrenol Question. (Die Pyrenolfrage—von einer ganz anderen Seite.) W. Straub.
118 Syphilitic Infection in Physicians. (Luetische Infektion bei Aerzten.) Heermann.

December 1, No. 48, pp. 2473-2520

119 Action of Solutions of Tryptic Ferment on Local Surgical Tuberculosis and Treatment of Suppurative Processes with Antiferment. (Einwirkung von tryptischen Fermentlösungen auf örtliche chirurgische Tuberkulose, und über die Antifermentbehandlung eitriger Prozesse.) G. Joehmann and W. Baetzner.
120 *Practical Importance of Serodiagnosis of Syphilis. (Praktische Bedeutung der Serodiagnostik bei Lues.) F. Bering.
121 *Serodiagnosis of Syphilis in the Cadaver. (Die Wassermannsche Reaktion an der Leiche.) E. Fracnkel and H. Much.
122 *Physiology and Pathology of Digestion in the Stomach. (Magenverdauung.) O. Cohnheim and G. L. Dreyfus.
123 Surgery of the Lungs. (Lungenchirurgie.) P. L. Friedrich. Commenced in No. 47.

106. **Maintenance of Intrapulmonary Positive Pressure.**—This communication from Bier's clinic describes an apparatus which is said to combine the advantages of the methods for positive and negative intrapulmonary pressure with a device for artificial respiration and insufflation of oxygen and an arrangement which permits anesthetization—all with the same apparatus, with or without a peroral tube. The apparatus is illustrated, and it is claimed that it is entitled to be regarded as an instrument of precision. One of its advantages is that, being used for so many different purposes, it is kept consequently in good order and many are familiar with its application, so that all is in readiness for emergencies. The principle on which the apparatus is based is that each respiration during intrapulmonary positive pressure is necessarily accompanied by more difficult expiration, and, consequently, that the overpressure in the lungs can be induced by merely rendering expiration more difficult. By preventing the free escape of air, the pressure within the lungs is kept high. Artificial respiration works better when the spontaneous respiration is arrested. Consequently the arrangement for maintaining artificial respiration is particularly useful when the spontaneous respiration is failing. The experiences with this apparatus have shown that it supplies a method by which the lungs can be kept inflated during the phase of expiration without at the same time preventing the retraction of the lung necessary to keep up the spontaneous ventilation. An adjustable spring valve regulates the amount of air expired. All methods for inducing positive and negative intrapulmonary pressure should be regarded more from the technical and surgical than from the physiologic standpoint, as none approximates physiologic conditions.

108. **Diagnosis of Irregular Heart Action Without Tracings.**—Hering reviews his five types of irregular heart action—1, irregularis respiratorius; 2, extrasystolicus; 3, irregularis perpetuus; 4, transmissorius; 5, alternans—and here gives the diagnostic physical differentiating points for each. He remarks that our knowledge of cardiac arrhythmia has made remarkable progress during the last ten years. The physician who has not made a study of these five types of irregular heart action deprives himself of an important aid for differentiation of the condition before him, as well as for treatment and prognosis. It is especially important to differentiate the first two of these types, which are comparatively harmless, from the third and fifth types. The prognosis for the third type—absolute irregularity—is grave, as no treatment is yet known which will cure it; the dissociation can be arrested only when it is of syphilitic nature. The fifth type, pulsus alternans, is the more severe the slower the heart action and the smaller the lesser systole. If the physician is unable to differentiate the second from the fourth of these types, he may give drugs which are directly contraindicated in the case in question. He shows how the differentiation of these various types, even without tracings, is not difficult, but the physician is liable not to be able to convince others without the objective records.

109. **Restriction of Measures to Insure Asepsis at Childbirth.**—Krönig declares that there is no necessity for such extreme attempts to realize asepsis in a normal obstetric case as others insist on. The results at his clinic bear out his statements that in a normal childbirth all that is necessary is to refrain from adding to the stock of germs already on hand. His three maxims are: No disinfection of the genital region. No necessity for disinfection of the hands of the person conducting the case. Full appreciation of the importance of the local and general predisposition for the development of infection. He presents arguments to show that the natural secretion of the vagina will take care of the local germs, and that scrubbing the external parts is liable to introduce more germs into the vagina. He trains his students to make their examination through the rectum, confi-

dent that information sufficient for all obstetric purposes can be thus obtained. He has never witnessed any injury from rectal examination, and it causes no pain to the parturient if she is asked to strain a little as the finger is introduced. The finger is protected from soil by rubber gloves or a rubber cot with flaring base. The rectal examination spares the patient and the obstetrician the necessity for disinfection. The only time when actual contact is necessary is during the maneuvers to protect the perineum. For this he wears mittens of stout, thick rubber cloth, recently boiled. In case an operation is required, these principles cease to apply; the woman is shaved and disinfected and the operator disinfects his hands as for a major operation anywhere. In 705 normal deliveries the morbidity has been 5.96 per cent. since he has been applying these principles. All these patients were allowed to get up the first day.

111. **Spinal Anesthesia and Scopolamin-Morphin.**—Klein relates his experiences with these technics, saying that spinal anesthesia has proved most useful in his hands, especially when combined with the scopolamin-morphin technic. He believes that the aftereffects of chloroform have been underestimated, and that it is responsible for many fatalities from the third to sixth day, which have been ascribed to shock or other cause. He regards spinal anesthesia as neither easy nor free from all danger, but says that it has a wide field in case of degeneration of the heart, in cachexia, anemia and affections of the respiratory organs. It has proved especially useful in some cases of coincident degeneration of the heart, anemia and nephritis. Its benefits are striking for myomotomy. He does not approve of spinal anesthesia for minor or brief operations nor for vaginal operations as the sympathetic is not anesthetized. It is important to have the patient sit up for five or ten minutes to allow the anesthetic to lave the roots in the lumbar region in operations on the genitals or laparotomies. One great disadvantage of the lumbar technic is the occasional stiffening of the abdominal wall, but this can be remedied with a few whiffs of chloroform. He remarks that the dose of 0.0008 gm. of scopolamin is too high for some patients on account of its action on the heart, and he advises individualization even with this technic. After the first injection of scopolamin a trained nurse should watch over the patient continuously, and the second injection should be made only when the pulse is full and slow, but in every case he repeats the injection of 0.01 gm. morphin. It is important to refrain from speaking in the presence of the patient, even during the operation. Combination of this technic with spinal anesthesia and chloroform permits long major operations, such as abdominal hysterectomy for cancer, even in the severest cachexia and degeneration of the heart. He has applied this in 77 cases, and is convinced that the danger from the anesthesia is much reduced by this combination. The "twilight sleep" and spinal anesthesia form a combination whose results are evident in the behavior of the patients after the operation. They partly sit up in bed, converse and seem lively, in marked contrast to the patients after chloroform anesthesia. The aspect of the ward is entirely transformed.

113. **Typhoid Bacilli in the Stomach Content of Bacillus Carriers.**—Weber has found that it is possible to cultivate typhoid bacilli from the stomach content of a chronic bacillus carrier when the urine and stools are sterile; the only condition is that the stomach content contains admixture of bile. He has the patient drink 200 c.c. of oil, and pumps out the stomach content half an hour later. The layer of oil on top contains the bacilli in large amounts, and they are evident for two days. Besides two chronic bacillus carriers tested, he obtained positive results from a paratyphoid carrier.

117. This article will be discussed in the Pharmacology Department.

120. **Serodiagnosis of Syphilis.**—Bering reports application of the serum test in 896 cases, the results confirming anew its reliability. He prefers the simpler Bauer technic to the Wassermann method. It was described in detail in the *Deutsche med. Wochenschrift*, April 16, 1908, page 699.

121. **Serodiagnosis of Syphilis in the Cadaver.**—This communication from the great Hamburg public hospital fills a gap in our knowledge of the serodiagnosis of syphilis as the findings in the cadaver had not been extensively studied. The findings all confirmed the clinical verdict during life, although the investigator examining the serum was not acquainted with the case history at the time. The only discordant note was that scarlet fever cadavers gave also a positive response. This has little practical, but much theoretical interest.

122. **Gastric Digestion.**—Cohnheim's experimental and clinical experience has convinced him that in certain cases the disturbances ascribed to the stomach are in reality of intestinal origin. The stomach symptoms are the result of reflex action from an affection farther along in the digestive tract. He found it possible to induce gastric symptoms in dogs merely by acting on the small intestine.

Therapie der Gegenwart, Berlin

December, XLIX, No. 12, pp. 529-576

124 Occurrence of Non-Specific Serum Reactions. (Zustandekommen unspezifischer Serumreaktionen.) M. Jacoby.
125 Indications and Technic for Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. (Indikationen und die Technik des künstlichen Pneumothorax bei der Behandlung der Lungenschwindsucht.) C. Forlanini. Commenced in No. 11.
126 *Importance of Adsorption for Therapeutics. (Bedeutung der Adsorption für die Therapie.) L. Lichtwitz.
127 What Institutions Shall Care for Wage-Earners Suffering from Neuroses? (In welchen Anstalten sollen die an Neurosen Leidenden der weniger bemittelten Klassen behandelt werden?) S. Auerbach.
128 Sydenham's Treatment of Gout in Light of Recent Research. (Sydenhams Behandlung der Gicht im Lichte neuerer Untersuchungen.) F. von den Velden.
129 Treatment of Rachitis. J. Hoppe.

126. **Importance of Adsorption in Therapeutics.**—Lichtwitz reports research on the adsorbing power of bolus alba, charcoal, bismuth, talcum, etc., that is, their property to take up acids, ferments, toxins and the like. The practical results are that adsorbing substances may be given to aid in taking up the toxins in the digestive tract, especially in pernicious anemia and autointoxication of gastrointestinal origin, in which these adsorbing substances will help to carry off the toxins from the parts of the gastrointestinal canal inaccessible to lavage. The adsorbing action is of course greater the larger the adsorbing surface. It is also larger the greater the dilution of the toxins. Prompt evacuation of the adsorbing substance should be provided for.

Wiener klinische Wochenschrift

December 3, XXI, No. 49, pp. 1691-1726

130 Resection of Eyeball. (Resektion des Augapfels.) L. Müller.
131 *Allowing Patients to Get Up Soon After Surgical Operations. (Aufstehen nach chirurgischen Operationen.) K. Büdinger.
132 Protective Inoculation Against Hydrophobia. (Ueber das Lyssavirus "Fermi," über Schutzimpfung mit normaler Nervensubstanz, und über Wirkungen des rabiziden Serums.) R. Kraus and Fukuhara.
133 *The Cutaneous Tuberculin Reaction in the New-born. (Kutanreaktion bei Neugeborenen.) O. Bondy.
134 *Anthrax and Its Prevention. (Die Milzbranderkrankungen und deren Verhütung.) H. Kokall.
135 *Treatment of Syphilis on Basis of Latest Research. (Die Spirochaete pallida und die klinische Forschung, nebst Betrachtungen über Syphilistherapie auf Grund der jüngsten Forschungsergebnisse.) E. Lang. Commenced in No. 48.

131. **Allowing Patients to Get up Early After Operations.**—Büdinger thinks it necessary to keep patients in bed after most abdominal operations, including hernias, till toward the end of the second week, as a rule. The exceptions are the patients with a tendency to pneumonia, especially the aged and infirm. The danger of pneumonia is the greater, the nearer the field of operation to the diaphragm. The most dangerous in this respect is gastrotomy for cancer of the esophagus. Such patients should always be got out of bed on the very day of the operation. When the expectoration is ample and the danger of pneumonia seems past, the patient can be allowed to stay in bed.

133. **Cutaneous Tuberculin Reaction in the New-born.**—Bondy applied the test in 350 cases to both mother and child, between the second and fourth days after delivery. A positive response was obtained in 71 per cent. of the mothers,

but in the infants the test always gave negative findings. Similar tests with diphtheria toxin in 50 cases resulted in a positive response in 30 per cent. of the mothers, but constant negative findings in the infants.

134. **Prevention of Anthrax.**—Kokall states that anthrax is becoming more and more prevalent at Brünn, notwithstanding elaborate disinfecting measures in the factories using imported hair and rags. He pleads for legislation compelling disinfection before importation. The disinfection might be done at the port of entry, or a certificate of thorough disinfection beforehand might be required before admitting the goods.

135. **Syphilis.**—Lang presents evidence to show that the treatment of syphilis should be more like the natural process of immunization. Large doses and brief courses of treatment do not give such favorable results as smaller doses and continuous treatment, supplemented by hygienic measures. He shows that the course of the syphilis corresponds to a formula including the syphilis virus, S; the constitution, K, of the individual, and the external circumstances, $n + t$. The last element, $n + t$, is the influence of non-therapeutic and therapeutic factors. The formula thus shows the variability in the course of syphilis, as these inconstant elements vary so widely. He expresses it thus: $V = F\,(S, K\,[n + t])$. His method is to give one mild mercurial pill and increase by one a day until 6 are being taken, repeating this dose for two weeks, then reducing by 1 pill every two days to 3 pills, and continuing this dose for two or three months, then 2 pills for the same length of time, then 1 pill. This mild preventive course requires five or six months, and the patient should be kept under supervision throughout. The best results are obtained when the treatment is begun not less than ten or twelve days after infection. Some of his patients thus treated have contracted new infection, with typical local and general phenomena. Lang believes that the organism is able to cope with the infection unassisted, to a certain extent, and that the biology of the spirochete explains the superior advantages of this mild, continuous method of treatment.

Zentralblatt für Chirurgie, Leipsic

December 5, XXXV, No. 49, pp. 1457-1488

136 Changes in Blood in Consequence of Operations. (Aenderungen im Blutserum infolge von Operationen.) G. Bolognesi.

December 12, No. 50, pp. 1489-1520

137 *Absorbability an Essential Factor in the Catgut Question. (Abstufung der Resorbierbarkeit ein Wesentliches in der Catgutfrage.) F. Kuhn.

137. **Absorbability of Catgut.**—Kuhn has catgut treated with iodin before it is twisted, as described in these columns Aug. 10, 1907, page 529. Catgut thus treated is tough like leather and does not soften for weeks, so that it remains in the tissues comparatively unmodified for from 25 to 40 days. When it finally softens it dissolves as candy does in the mouth. Before it softens it remains passive, non-irritating, in the tissues, like wire. In selecting catgut, therefore, the absorbability should be regarded; the deeper the suture, the more important to have the catgut non-irritating and comparatively durable.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Black-Water Fever. By Captain S. R. Christophers, M.B., I.M.S., and Dr. C. A. Bentley, (Officers on Special Duty). No. 35, of Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India, being the First Report of the Advisory Committee Appointed by the Government of India to Conduct an Inquiry Regarding Black-Water and Other Fevers Prevalent in the Duars. Boards. Pp. 239. Simla: Government of India Monotype Press, 1908.

Surgery of the Upper Abdomen. In Two Volumes. By John B. Deaver, M.D., LL.D., Surgeon-in-Chief to the German Hospital, Philadelphia, and Astley Paston Cooper Ashhurst, M.D., Surgeon to the Out-Patient Department of the Episcopal Hospital, Philadelphia. Vol. I: Surgery of the Stomach and Duodenum. Cloth. Pp. 468. with illustrations. Price, $5. Philadelphia: P. Blakiston's Son & Co., 1909.

Phrenology. By J. G. Spurzheim, M.D., of the Universities of Vienna and Paris, and Licentiate of the Royal College of Physicians of London, with Introduction by Cyrus Elder. Revised from Second American Edition (Boston, 1833). Cloth. Pp. 459. Price, $3. Philadelphia: J. B. Lippincott Co., 1908.

Influence of Food Preservatives and Artificial Colors on Digestion and Health. U. S. Department of Agriculture, Bureau of Chemistry, Bull. No. 84, Part V: Formaldehyde. By H. W. Wiley, M.D. Paper. Washington: Government Printing Office, 1908.

Infants' Milk Depots and Their Relation to Infant Mortality. The New York Milk Committee of the New York Association for Improving the Condition of the Poor. Paper. Pp. 80. Price, $0.50. New York: The Nation Press, 20 Versey St.

Transactions of the Sixteenth Annual Meeting of the Hawaiian Territorial Medical Society, held in Honolulu, November, 1907. Paper. Pp. 88. Honolulu: Hawaiian Star Print, 1908.

Applied Physiology. By Robert Hutchinson, M.D., F.R.C.P., Physician to London Hospital. Cloth. Pp. 298. Price, $2. New York: Longmans, Green & Co., 1908.

Report of the President of the Board of Health of the Territory of Hawaii for 1908. Paper. Pp. 150. Honolulu: Bulletin Publishing Co., 1908.

Report of the Commissioner of Education for the Year Ended June 30, 1907. Vol. II. Cloth. Washington: Government Printing Office, 1908.

John Montcalm, Heretic. By Frederick A. Rupp, M.D. Cloth. Pp. 272, with illustrations. Price, $1. Reading, Pa.: I. M. Beaver, 1908.

New Patents

Recent patents of interest to physicians:

904677. Electric-current bathing tub. F. Braun, Dresden, Germany
904760. Surgical appliance. M. R. Cutting, Seattle, Wash.
904942. Urinary apparatus. V. De Incognito, Chicago, Ill.
904515. Invertible atomizer. T. A. De Vilbiss, Toledo, Ohio.
904779. Vaccinating needle. C. H. Higgins, Ottawa, Ont., Canada.
904615. Pasteurizing and sterilizing apparatus. C. E. Hinman, Council Bluffs, Iowa.
905083. Putting up antiseptic bandages. J. E. Lee, Conshohocken, Pa.
905087. Atomizer. H. H. Mallory, Chicago, Ill.
904362. Vibratory apparatus for ear treatment. E. Meyer, New York.
904986. Pasteurizing apparatus. A. A. Pindstofte, Frederiksberg, Denmark.
905007. Surgeons' needle holder. A. F. Sether, Glendale, Oregon.
904739. Disinfectant distributor. J. O. Walker, Burlington, Iowa.
905032. Spray nozzle. A. S. Washburn, Germantown, N. Y.
904587. Invalids' bed. E. A. Wible, Eureka, Cal.
905633. Nose-piece for microscopes. E. Bausch, Rochester, N. Y.
905296. Spray-head for atomizers. T. A. DeVilbiss, Toledo, Ohio.
905301. Surgical device. J. H. English, Farmington, Mo.
905415. Manufacturing ammonia. F. W. Frerichs, St. Louis, Mo.
905705. Supporter. N. Johnson, Grove City, Minn.
905197. Atachment for syringes. C. L. Loffler, Sioux Falls, S. D.
905372. Cushioned joint for artificial limbs. J. F. Rowley, Chicago, Ill.
905602. Dehydrating moist chlorin. E. A. Sperry, Brooklyn, N. Y.
906188. Rendering carbohydrates soluble. A. Boidin, Seclin, France.
906207. Obtaining curative animal serum. R. H. Deutschmann, Hamburg, Germany.
906435. Inhaler. W. L. Knapp, Marietta, Ohio.
905890. Truss. F. A. Lane, Manchester, N. H.
905937. Disinfecting apparatus. M. Schnaier, New York.
905943. Preparation of casein. E. Soncini, Milan, Italy.
906081. Production of ozone. J. Steynis, New York.
906468. Production of ozone. J. Steynis, New York.
906084. Remedy for poison oak-rash. A. Terzich, Sonora, Cal.
906085. Dermatological instrument. A. L. Tolman, Orange, Mass.
906350. Truss. J. H. Windisch, Toledo, Ohio.
39683. Design, Medicine-dropper. O. F. Hall, Chicago, Ill.
906845. Wheeled crutch. J. W. Adair, Marion, Ohio.
906504. Capsule filler. P. H. Brown, Temple, Texas.
906772. Massaging implement. G. H. Coates, Worcester, Mass.
906694. Manufacturing a medicament. H. W. Davis, Weatherford, Texas.
906711. Syringe. H. M. Hill, Dallas, Texas, and C. O. Farrington, Chicago, Ill.
906918. Making neutral Oxychinolin salts. L. Ostermann, Hamburg, Germany.
907090. Tonsilotome. R. H. Rice, Milwaukee, Wis.
906975. Apparatus for the sterilization of liquids. H. J. Wessels, Paris, France.
39688. Design, Medicine-dropper and stopper. O. F. Hall, Chicago, Ill.
907319. Fumigator. H. W. Curtis, Chicago, Ill.
907331. Surgical package. F. P. Gates, J. D. Cogswell and H. L. Grant, Manteo, N. C.
907146. Artificial limb. H. Hanger, Washington, D. C.
907377. Vibrator. H. Larsen, Springfield, Ohio.
907263. Truss. I. Meissl, Cleveland, Ohio.
907388. Bandage. R. K. Morris, Fresno, Cal.
907392. Aspirator. C. W. Nance. Sydney, New South Wales, Australia.
907639. Pasteurizing apparatus. J. T. H. Paul, Chicago, Ill.
907178. Nasal inhaler. A. Riggs, Cincinnati, Ohio.
907290. Nursing waist. C. Rouff, New Orleans, La.
907294. Dose indicator. J. H. Scott, Winston Salem, N. C.
907192. Ankle-joint for artificial limbs. M. Spring, Oakland, Cal.
907536. Toe-Stretcher. G. Sperzel, Philadelphia, Pa.
907428. Manufacture of camphol esters. A. Verley, Paris, and E. Urbain and A. Felge, Gentilly, France.
907664. Manufacturing dialkyl barbituric acid. O. Wolfes, Darmstadt, Germany.
907665. Manufacturing barbituric acid. O. Wolfes, Darmstadt, Germany.

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ANTIBACTERIAL OR ANTITOXIC IMMUNIZATION IN TUBERCULIN TREATMENT

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Owing to the limitations of our knowledge as to the effect of tuberculin on the tuberculous organism and to a most indefinite conception of its action, the best method to be followed in its therapeutic application still remains unsettled and to a great degree empirical. Leaving aside the minor debatable details of the treatment, two most important features in its application still remain unsettled; namely, the part played by moderate reactions and the place held in our conception of the treatment by tuberculin immunization. Are moderate reactions beneficial or always injurious? Is the highest limit of tolerance, attainable through steady progression in dosage, the object to be held in view in applying the treatment? These questions can not be definitely settled until we have a clearer conception of just what we are trying to accomplish by tuberculin injections than we have at present.

Two very widely differing conceptions of what tuberculin treatment accomplishes may be said to prevail at present. These may be summed up as the "vaccination" theory, which claims, through the stimulation of all the various defensive resources of the organism, to bring about as a result of the injections a greater or less degree of specific immunity to the action of the tubercle bacillus itself; and the "toxin immunization" theory, which holds that toxin tolerance or immunization to the chemical poison of the tubercle bacillus alone can result from the treatment; that progression in dosage in order to increase the toxin tolerance to the highest point attainable is essential, and the aim ever to be kept in view in applying the treatment; that the local disease is influenced but secondarily as by any measure which increases the general resistance of the patient, the healing of the tuberculous process taking place under treatment when this is possible, only by the natural physiologic defensive resources of the organism, and not by any specific immunity acquired through the medium of the injections.

THE VACCINATION THEORY

On the first conception, that of specific immunization to the bacillus, are based Koch's later attempts at producing an immunizing tuberculin, the work of Wright and his vaccine treatment according to the readings of the opsonic index, and that of many other investigators, who have held to the conception of a specific immunization to the bacillus, and tried to develop a method that would bring about a more or less solid immunity to the disease, analogous to that produced by other vaccines in other infections.

Sahli, Denys, and others, on the other hand, hold solely to the conception of a purely antitoxic immunity, and in their proposed plan of injections they adopt a gradual progression in dosage and ever hold in view the aim of producing the highest degree of tuberculin tolerance or immunity attainable in each case.

Now it is evident that the method of administration—that is, the best dose to begin with—the necessity and ratio of its increase and the intervals between doses, as well as the length of the treatment, must depend greatly on our conception of just what tuberculin can and does accomplish. The place held in the treatment by general and focal reactions, for instance, still remains very undetermined, and it is evidently of the utmost importance that we should have some clear conception of the part they play, because we can decide whether they are beneficial or injurious. They hold no place in Dr. Wright's method, which aims only to gauge the specific immunization by the readings of the opsonic index, and which looks on fever reactions as evidences of a negative phase.

In the toxic immunization conception of the treatment, also, general and even focal reactions play no part, and are looked on merely as evidences of intolerance and of overdosing. They are to be avoided as much as possible, because they produce no specific immunization to the tubercle bacillus, and because, though when moderate, they are generally well tolerated and apparently harmless, if at all severe they are apt to exhaust and arrest the production of antitoxic substance, to influence the patient's general condition unfavorably, and to aggravate and activate the diseased focus by the violence of the inflammatory changes they bring about in it.

In the conception which aims at the production of specific immunity, general and focal reactions hold a more or less distinct place, the fever and the focal reaction being looked on as being a part of the mechanism of immunization by which a certain degree of specific resistance is brought about, as well as reparative changes in the local process.

Clinical experience has pretty definitely established by this time that marked reactions, whether general or focal, are not beneficial, and may be dangerous by their baneful effect on the general condition of the patient, and also by producing aggravation and extension of the local lesion. It is to a great extent owing to the very evident ill effects of treatment by strong reactions that tuberculin fell into such general and deserved disrepute. The value of mild general or focal reactions, however, still remains a debatable question, and their usefulness has many advocates. Any conclusion as to their beneficial influence must rest principally on extended clinical observations, and the study of the records of cases in which they occur as compared with those in which, owing to the tolerance of the patient or the care with which the dosage is regulated, no reactions took place throughout the treatment.

Clinically it is already pretty well demonstrated, however, that, as good results may be obtained in cases where no general or appreciable focal reactions at all occur during the entire course of injections as in those in which they do. Animal experiments offer no proof as to the immunizing value of fever reactions produced with tuberculin, for in healthy treated animals no specific immunity to the tubercle bacillus results, whether the doses be large enough to produce fever or not. On the other hand, if there is little or no evidence forthcoming that the general fever reactions are in themselves beneficial, clinical observations tend to show that mild reactions are harmless and are often followed by a certain degree of general improvement, and there is some evidence, where it is possible to observe the tuberculous process, that moderate focal reactions produce improvement in the local process.

In lupus, in laryngeal tuberculosis and in eye tuberculosis in man, as well as in artificially produced eye tuberculosis in rabbits, we note a very apparent local improvement in the lesion following moderate focal reactions caused by the injections. Besides, slight focal reactions, unappreciable clinically, no doubt are taking place constantly as the result of the injections, and it is only when they are marked enough to cause symptoms that we realize that the minute doses of tuberculin injected have had any direct influence on the local lesion. Improvement in the lesion may depend on the influence of these mild reactions, but in considering the advisability of utilizing mild general and focal reactions as a feature of the treatment we must not forget that we have no means of controlling the severity of these reactions, and that violent reactions are not without danger.

THE TOXIN IMMUNIZATION THEORY

In the second conception, that of toxin immunization only, general reactions play no part, and progression in dosage is necessarily the essential feature. In aiming to establish tuberculin tolerance, we are brought face to face with the as yet little understood phenomena of hypersensitiveness and anaphylaxis, and our lack of exact knowledge as to the part played by hypersusceptibility in tuberculous infection is a serious stumbling block in our attempts to form a conception of what it is advisable to aim to accomplish by our treatment. We do not even know whether the usual sensitiveness to tuberculin in the infected organism, a sensitiveness which in most cases we can overcome to a marked degree by our injections, is one of the defensive resources of the organism and represents an effort on the part of Nature to protect it against an advancing infection, or whether it is the first step in an attempt at the production of a toxin immunization which is never realized.

The cure of the tuberculous process by the natural physiologic resources of the infected organism is certainly not dependent on a general toxin immunization, and, indeed, hypersusceptibility is an accompaniment of latent tuberculosis and may persist for some time after the tuberculous process has become extinguished. Experimentally, as in serum anaphylaxis, and clinically also, however, we know that progression in dosage is essential to obtain toxin immunization instead of toxin hypersusceptibility, the same moderate doses repeated at long intervals tending to bring about hypersusceptibility, and very minute but gradually increased doses at shorter intervals, tolerance. It is true, however, that tuberculin intolerance can also be produced by too frequent and too rapidly increased doses.

The toxin immunization conception is founded on clinical observations which show that tolerance of patients to tuberculin can be in most cases increased enormously by long-continued and careful progression in dosage, in some patients ten, in some a hundred, in some a hundred thousand, and in some a million times, and that gradually increased tolerance in most cases goes hand in hand with improvement in the patient's general condition. It is true that the chronic toxemia we are aiming to efface by stimulating the cells to a production of antibodies is only one of the evil effects produced by the infection, but by its baneful influence on the appetite, the vital functions and the nutrition it must tend to weaken the other defensive resources of the organism—leucocytosis, bacteriolysis and phagocytosis and fibrosis—which are coping locally with the infection, and it can not be denied that to relieve the patient of his systemic poisoning must have a favorable influence on the course and ultimate issue of his disease. This is shown clinically by the improvement in the patient's general condition which this method of treatment produces, and also by the many instances where the improvement seems to be maintained for long periods after the treatment is discontinued and so long as the toxin immunity persists, and where a return of toxin susceptibility is found to be accompanied by evidences of activity in the local lesion.

It can not be said, however, that the amount of good a patient derives from tuberculin treatment is always in direct ratio to the size of the dose of toxin he can be brought to tolerate. This evidently depends principally on the natural physiologic resources of each infected organism. If these are markedly deficient no amount of artificially induced toxin tolerance can cure the disease. Tuberculin tolerance, we must remember, does not mean immunity to tuberculosis either clinically or experimentally, and we should not expect too much from its production. Above all, we should beware of exhausting by too rapid an increase in dosage the power of the organism to respond to the increasing stimulation of the toxin and thus produce in an aggravated form the very toxemia we are aiming to efface.

NEITHER CONCEPTION SATISFACTORY

As we review the claims of these two conceptions as guides to a method of treatment, we are obliged to own that neither is satisfactory, owing to our as yet imperfect knowledge of the mechanism of tuberculous infection, and especially of acquired and artificial immunity. The production of a general antibacterial immunity by tuberculin is not supported by experimental evidence, and in holding this conception we have nothing to guide us clinically in our attempts to induce it, for the fluctuations of the opsonic index as a guide to dosage in the treatment of pulmonary tuberculosis have been found unreliable and impracticable. On the other hand, I can not accept a purely antitoxic immunization as explaining all the good effects of tuberculin treatment, for in cases of purely localized disease, as in the skin or the eye, or even where the infection is confined to the lymph nodes and where the general health is unimpaired and no evidence of chronic toxemia exists, it is impossible to deny the favorable influence which the injections exert on these localized lesions. This may be due, however, to the many imperceptible focal reactions brought about by the injections and not to any general specific immunity.

If we must have a working theory and must decide between the two, I prefer for the present to hold to the conception of an immunity that is principally at least antitoxic as produced by the treatment, and to consider tuberculin habituation its essential feature and the best guide to dosage. This conception does not lead us to expect too much; it is more in keeping with what we observe clinically as a result of treatment, and explains its very evident limitations. It is also in accord with experimental evidence which shows that vaccinations with living cultures alone produce any real immunity to subsequent tuberculous infection, and that no specific antibacterial immunity worthy of the name can be brought about in animals by dead germs or chemical products derived from cultures.

MAIN FEATURES OF TREATMENT

If we accept the toxin immunization conception as the essential feature and guide to the treatment, instead of measuring the degree of a questionable antibacterial immunity by the opsonic index, or attempting to produce it more or less empirically by a series of moderate reactions, the severity of which we can not in any way control, the main features in our treatment would be:

1. To raise the degree of tolerance to tuberculin to the highest point attainable in each case by an almost imperceptible and long-continued progression in dosage.

2. To avoid general and focal reactions as much as possible and consider them merely as evidences of intolerance.

3. To follow no arbitrary rule as to rate of increase or the maximum dose to be reached, but to be guided merely by the degree of toxin tolerance of each patient as shown by the symptoms and general condition, whether the highest individual maximum dose attainable be only a small fraction of a milligram or a cubic centimeter or more.

HYPEREMIC TREATMENT IN GYNECOLOGY AND OBSTETRICS *

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The marked operative tendency which existed among gynecologists toward the end of the last century was naturally followed by a more conservative era. Signs were not wanting that the pendulum had reached the limit of its swing toward the operative side and that its return movement had begun. At one of the New York medical societies Emmet ridiculed the common occurrence of presenting large jars with uterine adnexa at gynecologic meetings. Ramy,[1] in a warning against operating without indication, ironically called attention to the fact that at some gynecologic meetings the surgeons who reported the most radical operations on the female genital organs received the greatest recognition. After these and similar warnings the question naturally arose whether it was not possible to attain normal conditions or nearly such in the female pelvis with non-operative methods. It is not to be denied that the non-operative treatment often requires weeks to accomplish its end and that it, therefore, taxes the patience both of the physician and patient. The result will in most instances amply justify the trouble and time bestowed on the treatment, as normal organs, of normal function, will often be preserved.

The trend toward conservative gynecology came at a time when in general surgery efforts were being made to avoid operations as much as possible in acute and chronic inflammatory conditions. In this work Bier was the pioneer. Though not the first to introduce special apparatus for the production of artificial hyperemia (Ambrose Paré seems to have been the first, and Jules Guyot[2] in 1835 described a hot-air apparatus), he placed hyperemic treatment, which had been used empirically for centuries, on a scientific basis and gave new impulse to this form of treatment. Bier demonstrated its great practical value and usefulness. After the surgeons grasped the indications for, and technic of, producing artificial hyperemia, and had gained some experience with the method in minor surgical conditions, the gynecologist was not slow to adopt it in the treatment of the diseases of women.

It would lead too far to consider here the many theories advanced in the explanation of the effects of artificial hyperemia and to go into details regarding hyperemia in general; these can be found in Bier's[3] book and in Willy Meyer and Schmieden's[4] recent publication. Suffice it to say that there are two kinds of artificial hyperemia: active or arterial hyperemia produced by means of hot air, and passive or venous, brought about by cupping glasses or the elastic bandage. What artificial hyperemia particularly attains is diminution of pain. While it is not possible to suppress every infection before pus is formed, there is no doubt that, by means of artificial hyperemia, suppuration can be avoided in a large percentage of cases. In cases in which pus has formed it must, of course, be evacuated, but the hyperemic treatment enables us to accomplish with small incisions what formerly could be accomplished only with large disfiguring ones. By increasing the supply of blood the course of the pathologic process is hastened and absorption is favored.

INDICATIONS FOR DRY HOT-AIR HYPEREMIA

Turning to the discussion of the treatment of gynecologic and obstetrical conditions with artificial hyperemia, I shall consider first active hyperemia produced by dry hot air. This has been extensively used by the gynecologist, but has not received the attention of the general practitioner which it deserves. The latter frequently has the opportunity to treat gynecologic conditions in which the hot-air treatment is applicable, and he could use this just as well as the specialist can, for I believe that nothing is easier in private practice than to apply this form of treatment in diseases of the female generative organs.

As regards its indications and contraindications, it must be emphasized that fever, when it is caused by the pelvic trouble, is a positive contraindication, as are pregnancy and hemorrhage when not of ovarial origin; thus it is contraindicated during menstruation and in hemor-

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*Read at a meeting of the Harlem Medical Society, New York, Oct. 7, 1908.

[1] From Pincus: Belastungslagerung, p. 5, Wiesbaden, 1905.

[2] Guyot, Jules: Arch. gén. de méd., series 2, 1835, viii.

[3] Bier, August: Die Hyperämie als Heilmittel, Leipzig, 1906.

[4] Bier's Hyperemic Treatment, Philadelphia, 1908, W. B. Saunders & Co.

rhagic endometritis. Advanced pulmonary and cardiac disorders are also contraindications. The large field in which it is applicable includes chronic inflamed adnexa, pelvic exudates, chronic parametritis, and perimetritis, contracted painful scars, and fixed malposition of the uterus and its adnexa when the result of inflammatory processes.

It frequently happens that patients who have had no fever get a sudden rise of temperature immediately after the first hot-air treatment. This occurrence indicates the presence of an old encapsulation of pus somewhere in the inflammatory process, one that had not been detected by the finger of the examiner. In such cases it is best to stop the treatment and to try to bring about an absorption of the pus by other means. When the latter has taken place the hot-air therapy can be continued. Of course, I would not advise against it if there is only a slight elevation of temperature. Whether or not the treatment is to be adopted must be left to the judgment of the attending physician in each individual case. The fact that the presence of a small collection of pus causes the body to react so readily to hot air has led to the use of the latter as a diagnostic measure. I have seen many cases in which hot-air treatment was given in order to reach a definite conclusion as to whether pus was present or not. We must remember that the old saying, "ubi pus ibi evacua," has not become obsolete since the introduction of Bier's hyperemia. Pus when present must always be evacuated by surgical means.

APPARATUS FOR HOT-AIR TREATMENT

The hot-air treatment may be applied in two different ways, by means of hot-air chambers and by the hot-air vaginal douche. I shall confine myself, however, to the former, as the hot-air chambers are just as convenient to use and far more effectual than the douche. According to the simplicity of construction, the hot-air boxes or chambers may, for convenience, be divided into three groups. The first group includes the now obsolete Roth apparatus, which consists of two parts, an asbestos cylinder and a separate hot-air chamber which surrounds the asbestos; its application is cumbersome and complicated and is, therefore, not to be recommended. The second and third groups include apparatus of simple construction, box-like chambers, quadrangular or cylindrical in shape, which encompass the pelvis of the patient.

For all practical purposes the easiest way to give hot-air treatment in private is to use the ordinary semicircular cradle. This is placed over the patient's pelvis and made air-tight by putting blankets over it. The hot air is carried into the chamber through a small funnel-shaped sheet-iron chimney (the well-known Quincke chimney); an alcohol lamp or a Bunsen burner placed on a stand underneath the funnel supplies the heat. E. Kehrer recommends the use of electric light bulbs on the inner side of the cradle to supply the necessary heat. He has obtained good results in this way, and it must be admitted that this method has the advantage of being clean. (Colored bulbs should be used, as they prevent the chemically effectual rays from reaching the patient.) Every apparatus should be supplied with a well-constructed thermometer to avoid burns.

RESULTS OF HOT-AIR TREATMENT

The chief physiologic function of dry hot air is the production of an active hyperemia, an increased supply of arterial blood. Bier attributes the curative qualities of this mode of treatment to the fact that it causes more blood to flow through the diseased tissues in a given time, rather than to the increased supply of oxygen brought to the part. Klapp's experiments have demonstrated that not only the skin but the abdominal contents as well become hyperemic. In this way the tissues are better nourished, their regenerative functions are stimulated to greater activity, and an increased local metabolism is established. Perspiration is increased and through its evaporation the skin is cooled; this explains the fact that temperatures from 210 to 230 F. can be tolerated. It must be borne in mind that advanced pulmonary or cardiac disease are contraindications for this treatment and that therefore the lungs and heart should always be carefully examined before applying it. The first treatment should not be prolonged beyond twenty-five or thirty minutes; later, if the patient's condition makes it seem wise, the treatment may be prolonged to sixty minutes. A treatment begins only when the temperature has reached from 175 to 212 F. A cold cloth on the forehead adds to the patient's comfort. After a treatment the patient is dried, given dry linen and permitted to sleep. The evening temperature should be taken on the day of the treatment. Pain which was excruciating before the treatment was begun is often allayed before it is ended. The patient looks forward to the treatment or even asks to have it repeated.

Besides this change in the subjective symptoms, the objective ones also undergo important changes. Polano,[5] in his first publication concerning this method of treatment, states that chronic pelvic exudates are especially amenable to it. He cites the history of a case in which after twenty sittings a large parametritic exudate entirely disappeared. Everyone who has used hot-air therapy extensively has been able to report similar results. In two of my own patients with hard chronic exudates filling the entire pelvis I found practically a *restitutio ad integrum* after five to six weeks' treatment. Frequently the hot-air applications do not cause a disappearance of the exudate, but instead cause it to break down, thus making it ripe for incision; after the incision the condition is usually cured. Firm scars in the parametrium and in the vagina, old bands and adhesions which hold the uterus in an abnormal position are made amenable to massage by dry heat. The reason why chronic inflammatory adnexa tumors frequently show objective improvement after the treatment is because they are usually accompanied by a parametritic process or by edema, and these are readily amenable to hot-air therapy.

TREATMENT BY WEIGHTING

In connection with the hot-air therapy in the above-mentioned conditions I wish to mention another form of treatment to which altogether too little attention has been given. I mean the combination of the hot-air therapy with *Belastung* or *Belastungslagerung* (treatment by weighting). In looking over the literature I find that this combination is mentioned only by Stoeckel,[6] Kehrer[7] and Frankl.[8] The latter says: "Chronic inflammatory adnexa tumors which are unaccompanied by fever are often greatly improved by a combination of dry heat, massage and *Belastung*

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[5] Eine neue Methode der Behandlung chronischer Beckenexudate, Centralbl. f. Gynäk., 1901, No. 30.

[6] Diskussionsbemerkungen, Sitzungsb. d. Gesellsch. f. Geburtsh. u. Gynäk. zu Berlin, July 14, 1905.

[7] Beitrag zur Behandlung chronischer Beckenexudate, Centralbl. f. Gynäk., 1901, No. 57.

[8] Die physikalischen Heilmethoden in der Gynäkologie, 1906, Berlin, Urban and Schwarzenberg.

(weights). The enlarged adnexa which previous to the hot-air treatment were too sensitive to be amenable to massage and weighting becomes painless, so that a combination of all three forms of treatment can be carried out."

Belastung is nothing new. Diokles, Strato, Celsus, Charcot, Bozeman and Chrobak all employed it, but not until 1897, when W. A. Frennd improved the method sufficiently, did it receive more general recognition. He placed a glass tube speculum in the vagina and filled it with shot. Later Schauta and his pupil Halban modified the method in that they filled a colpeurynter with mercury.

Pincus[9] still further improved the method by employing *Belastungslagerung,* that is to say, he brought pressure against the exudate like Schauta, but in addition placed a bag containing clay, shot or sand and weighing from one to two kilo on the patient's abdomen.

The foot of the patient's bed is raised 30 cm., and the weights are kept in place from six to eight hours. By combining the elevation of the foot end of the bed with the application of the external and internal weights, called by Pincus *Belastungslagerung,* two things are accomplished. The pelvic viscera, especially the uterus and adnexa, are carried up toward the pelvic inlet so that the inflammatory mass in the pelvis is made more accessible to the weights. The inflammatory mass brought between the vaginal and abdominal weight is flattened out like a sponge. This pressure, aided by the Trendelenburg position, brings about an anemia of the inflammatory mass as long as the treatment lasts. Immediately after the weights are removed and the patient assumes the horizontal position a marked reaction sets in, the anemic tissue becomes markedly hyperemic. To the latter the pain-relieving action of the treatment must be attributed.

The indications for the employment of weight therapy are the same as for hot-air therapy. When combining the hot-air and weight therapy I obtained the best results by alternating the two on successive days. In private I prefer filling the colpeurynter with mercury instead of with shot, as the patient can readily let the mercury run out at a specified time without the aid of the physician.

It is not within the scope of this paper to go into details regarding the various modifications of this method, such as colpeurynter massage, Pincus' mercury-air colpeurynter, etc.; these can be found in Pincus' monograph. I mention them for the sake of completeness, as, in a broad sense, they, too, come under the head of hyperemic treatment.

A judicious combination of the hot-air therapy and the weight therapy is especially advantageous, as the former often affects only the subjective symptoms favorably, while the latter affects the objective ones. Both methods should be employed, not only by the specialist, but also by the general practitioner, as they require only patience and no complicated apparatus. That the hot-air treatment can also be carried out in dispensary practice is amply proved by Buerger's[10] and Eltze's[11] publications.

SUCTION HYPEREMIA FOR UTERINE INFLAMMATORY CONDITIONS

Of late the suction cup has also been introduced into gynecologic therapeutics. In 1905 Rudolph[12] of Heilbronn published the first article regarding it, and was soon followed by Baner,[13] Eversmann,[14] Kroemer,[15] Lewith[16] and others. They recommended it in inflammatory conditions of the uterus and cervix—that is, in erosions, endometritis and metritis, also for parametritis, amenorrhea and dysmenorrhea. Kroemer even employed it to prevent an infectious process from spreading beyond the uterus after the latter was infected.

The suction glasses have the shape of the well-known old-fashioned glass tube speculum. One extremity is slightly funnel-shaped and receives the cervix. The other end is closed and near it a small tube is attached which connects with the suction pump. The suction cup is made of plain glass so that the degree of hyperemia and the amount of uterine secretion brought out by the suction can be easily watched. The general rules which apply for the use of the suction cup elsewhere apply here: after five minutes' suction, from two to three minutes' rest, etc., in all about one-half hour a day.

I have had considerable experience with the suction treatment in gynecology and believe that the benefits to be derived from it are no better than those attained with other forms of treatment. It appears to me to be expecting too much to cure a metritis or endometritis by treating only the cervix. The whole organ should be treated, and as this can not be done with the suction glasses, other modes of treatment will accomplish as much or more in these conditions. If it seems desirable to scarify an inflamed cervix the use of the cup is of value in increasing the bleeding. Recently favorable results have been reported with the suction glasses, obtained by somewhat modifying the technic. A high degree of suction is employed so that the cervix is aspirated for some distance into the vaginal cup; each suction is kept up a shorter time than usual and the intervals between the suctions are also made shorter, the duration of each sitting being the same as before—one-half hour. In this way a kind of massage (suction massage) is combined with the hyperemia. Those who use it recommend it in chronic parametritis and in cases of old scars and periuterine adhesions, with the idea of stretching and softening the latter. As far as my own experiences go. I believe that bimanual massage, possibly combined with weight therapy, is more effectual than suction massage.

Attempts have also been made to relieve dysmenorrhea by applying large suction cups to the breasts instead of to the cervix. Theoretically and clinically a close relation exists between the uterus and the breasts. An increase in the physiologic function of the former influences the latter, as the well-known facts during pregnancy and the puerperium go to show. From these premises Polano[17] concluded that disturbances of menstruation could be influenced by artificial stimulation of the breasts—that is, by the suction treatment. He reports some favorable results and states that pain is always diminished. The clinical observations with this form of treatment in dysmenorrhea are only of recent date, so that it is impossible at present to estimate the benefit to be expected from it.

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[9] Pincus, Ludwig: Belastungslagerung. Grundzüge einer nichtoperativen Behandlung chronisch entzündlicher Frauenkrankheiten und ihrer Folgezustände, 1905, Wiesbaden.

[10] Buerger, O.: Zur Heissluftbehandlung gyn. Erkrankungen. Wiener klinische Wochenschrift, No. 28. 1903.

[11] Eltze, H.: Poliklinische Erfahrungen über Heissluftbehandlung. Alte und neue Gynäkologie, Festschrift f. von Winckel, Munchen, 1907.

[12] Rudolph. I.: Die Bier'sche Stauung in der Gynäkologischen Praxis. Centralbl. f. Gynäk., 1905. No. 39.

[13] Die Bier'sche Stauung in der gynäkologischen Praxis. Wien. klin. Wchnschr., 1905, No. 47.

[14] Eversmann, I.: Die Bier'sche Stauung in der Gynäkologie. Centralbl. f. Gynäk., 1905, No. 48.

[15] Das Bier'sche Stauungsverfahren in der Gynäkologie, Centralbl. f. Gynäk., 1906. No. 4.

[16] Ueber Stauungsbehandlung bei gynäkologischen Affektionen, Monatschr. f. Geburtsh. u. Gynäk., 1906, xxiv, 551.

[17] Zur Behandlung der Dysmenorrhoe, Centralbl. f. Gynäk., 1908, No. 9.

SUCTION HYPEREMIA TO INCREASE FLOW OF MILK

With reference to the field of obstetrics, suction cups are applied to the breast with the idea of increasing the production of milk in nursing mothers, or to start anew the flow of milk in a breast which had stopped secreting (lactagoge Stauungshyperämie). Jaschke[18] asserts that it is especially successful in women in whom there was no secretion of milk at all during previous puerperal states. He cites the history of a para who had no milk during her two previous puerperiums. After her third labor her breasts were cupped and as a result she had plenty of milk for her baby. In another patient labor was prematurely induced on account of a flat rachitic pelvis, during the thirty-fifth week of pregnancy. The mother at the time had no colostrum in the breasts; after three days of cupping there was sufficient milk for the child. Another case was one of an old primipara with no colostrum at full term. Her breasts were cupped on the second day postpartum; on the third day the infant was able to obtain forty grams of milk at a single nursing. Jaschke's experience leads him to conclude that "the secretion of milk is so increased by cupping that a causal relationship between artificial hyperemia and increased secretion can not be denied" and that "breast cupping is applicable in cases in which there is no flow of milk, as well as in those in which the breasts do not secrete early enough or in insufficient quantity." He also recommends cupping as a cure for retracted nipples, which in private practice often are the cause of the mother not nursing her baby.

Polano[5, 17] reports similar good results, one of his cases being especially interesting: In a patient in whom the milk became insufficient seven times during six months, two treatments per day for two days re-established the normal flow each time.

Such evidence demands consideration, and cupping can not be too strongly recommended for these conditions, especially as no harm can be done. The hyperemic treatment in these conditions bids fair to increase the number of nursing women and to do away with artificial feeding to some extent. The explanation of the increased secretion brought about by cupping is to be found in the fact that by moderate suction more arterial blood is brought to each secreting cell, while more forcible suction brings about a venous hyperemia. After the latter has been produced and the suction is stopped a marked arterial hyperemia again sets in. In this way more blood is brought to the gland in a given time than under normal conditions and the breast is better nourished than before. The treatment of puerperal mastitis by suction hyperemia is described in detail in Meyer and Schmieden's book. In my experience the treatment should be begun as soon as the first signs of a mastitis set in. When the treatment is started promptly, pain and inflammatory signs are allayed at once. When pus has once formed the time has come for incision: "ubi pus ibi evacua." The incisions required in conjunction with hyperemic treatment, however, need only be very small. This method has the great advantage of preserving a functionating breast without any disfigurement, while the old method of making large radial incisions left disfiguring scars and often destroyed so much parenchyma that the breast was useless for nursing purposes during her future puerperal states.

I stated above that treatment should be begun when the first symptoms of a mastitis set in. This statement is contrary to the findings of Zangemeister,[19] who believes that treatment should not be started too early, as it favors suppuration. I am not convinced that this is so; larger statistics only will determine which method gives the better result.

Another indication for the suction treatment in obstetrics is found in the induction of abortion, when the cups are applied to the cervix. This is hardly to be recommended, as the other methods of inducing abortion are more certain and quicker.

In connection with artificial hyperemia, it is all-important to treat the patient's general condition. It is the aim of the hyperemic treatment to increase the flow of blood through the diseased tissue in order that the latter may better resist the deleterious invasion of bacteria. This will be the more easily accomplished if the blood is in good condition, and, therefore, hygienic, dietetic and tonic treatment should not be lost sight of. From what has been said it can not be denied that the hot-air treatment, alone or combined with *Belastungslagerung* is of great value in the treatment of chronic inflammatory conditions in the female pelvis and that the cupping of breasts is a valuable aid in treating puerperal mastitis and breasts which secrete poorly or not at all. It is, therefore, not going too far when I venture to say that the general practitioner should familiarize himself with these forms of treatment, and that hospitals should do justice to the progress of medical science in establishing so-called "conservative wards" in which the above discussed treatment can be given a thorough trial. If this be impossible, special rooms should be established in gynecologic dispensaries for this purpose. Thus many women would be cured who now are but slightly improved or mutilated by operative treatment.

As a further incentive to the use of conservative methods, let me remind you of the famous Czerny's words: "All operations are accompanied by some danger and are justified only when all other methods of treatment have been exhausted."

1 West Eighty-fifth Street.

PURULENT PLEURITIS: PATHOLOGY AND TREATMENT

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The pleural sac is kept in its normal condition of simple moisture by a definite lymph circulation; the stomata both on the visceral and parietal layers, in health, keep this fluid down to certain limits. The thorax being a closed sac and the pressure within being negative, it follows that the aspirating qualities are usually most efficient. Samuel West[1] speaks of this as "the lymphatic pump," and shows that with any collection of fluid within the pleura there must be some mechanical obstruction to the operation of this pump. It is probable there is always more or less absorption of fluid through these minute mouths, and that the attempt of Nature in an inflammatory reaction to block them completely, is ineffectual.

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[18] Stauungshyperämie als ein die Milchsecretion förderndes Mittel, Medizinische Klinik, Feb. 23, 1908.

[19] Die Behandlung der puerperalen Mastitis mit Saugapparaten, Deutsche med. Wochenschrift, 1908, No. 6.

[1] Lancet, London, March 25, 1905.

PATHOLOGY

In the last few years the bacteriologic examination of exudates in the thorax, systematically carried out, has shown to a certain degree the prognosis, and also the methods of treatment. A considerable number of authorities—Frankel (among the earliest), Weichselbaum, Renvers, Netter, Pruden, and lately Withington[2]—have investigated the relation of various specific bacteria to empyema. It seems evident that serous exudates which become purulent really contain pus organisms from the first, irrespective of paracentesis. At the present time, from a bacteriologic standpoint, the conclusion of most observers appears to be that in purulent pleuritis the pneumococcus is extremely frequent, occurring as a pure infection; that it is the common cause of metapneumonic effusions, and is usually the secondary infection in tuberculosis, and that the prognosis of pneumococcus empyema is relatively favorable. Streptococcus occurs more often than pneumococcus, and the effects of the former are more serious than those of the latter. Tubercle bacilli have been shown to be a less frequent cause of pus formation in the pleural cavity than of serofibrinous exudates. The finding of other organisms does not exclude the possibility of tubercle bacilli, nor does the discovery of tubercle bacilli in empyema exclude the possibility of other organisms, especially the pneumococcus, which may have died out.

Infection due to staphylococcus is rather infrequent. Mixed infection, that is, pneumococcus with streptococcus, pneumococcus with tubercle bacilli, or staphylococcus with tubercle bacilli, is about 10 to 20 per cent.

Babcock[3] believes, and rightly, that from the standpoint of pathology the three varieties, dry pleurisy, serofibrinous pleurisy and empyema, are simply several stages of the same kind and form of inflammatory reaction. From a bacteriologic standpoint, the differences are more marked and evident. The differentiation of the primary from the secondary pleurisy is always more or less difficult; that is, the discovery whether in a given disease the same infecting agency is causing both. It is most probable that whatever the pleurisy, the immediate agent is bacterial.

TREATMENT

From the time of Hippocrates the chest has been opened by the knife, actual cautery, or simple thoracentesis, for accumulations of fluid within the pleural sac. The operation fell into disrepute, however, for a long period, and was advocated only in extreme cases. It was not until the middle of the nineteenth century that the procedure was looked on with favor. Bowditch, in America, deserves most credit for impressing on his professional confrères its value. Aspiration in both purulent and serous pleuritis was at first a common practice, but of late paracentesis has been restricted to serous exudates, while thoracotomy is performed in empyema.

It is not my intention to describe either of these measures for the relief of this condition. They are both not only well known, but the last at least is a purely surgical procedure. Thoracotomy has attained the position of being almost classical, and generally is performed indiscriminately whenever pus is diagnosed as occupying the pleural sac.

Unquestionably, with our present clinical knowledge and in view of the results secured by many operators, a free opening and drainage of the chest cavity might appear to be the most rational method of treatment. In this pus-containing cavity, however, we do not find the usual conditions. It is surrounded by walls capable of expanding and contracting as the fluid is removed. The method of cure is, therefore, closure of the pleural sac, secured by evacuation of its contents and expansion of the lung or falling in of the chest wall. If the empyema is of long standing, adhesions are surely formed binding down the lung, so that, the pressure being removed, expansion is nearly, if not quite impossible, and the thorax must of necessity retract in its attempt to close the cavity.

Expansion of the atelectatic lung is very much to be desired. Lately Ransohof[4] has described a method of releasing this organ, and in 1893 De Lorme, a French surgeon, showed by an operative procedure that "the functional value of lung tissue long buried in thickened pleura and fibrous adhesions could be restored.

I desire now to speak of two methods more fully, which approach rather closely the field of the medical man; the first briefly, the second in detail.

Last year Dr. Joseph Bryant[5] advised the treatment of empyema by continuous suction. As a matter of fact this seems to be a modification of Bulau's siphon drainage. The pus is evacuated by means of a large canula, a small rubber tube being passed into the chest cavity through this. To the rubber tubing is attached a collapsible rubber bag. The vigor of the suction can be regulated by the size and expanding power of the bag. The rubber tubing is attached to the chest wall by adhesive straps and worn continuously. Of course the apparatus is emptied and cleaned as the occasion arises. Not only is the exudate evacuated in this manner, but the influence of the negative pressure, supplemented by the normal respiratory movement, is of great benefit in expanding the former atelectatic lung. Bryant treated many cases in this manner, but failed to state the number or to give the mortality. The average duration of illness of those who recovered appears to have been about four to eleven weeks. The practical utility of the plan is one that he is not "disposed to emphasize in a great degree as a substitute for rib resection."

Dr. John Murphy of Chicago has lately employed a method of treatment in empyema, which is most interesting and instructive, and may prove of great value. It consists first in the aspiration of the pus, followed by the injection of one to five ounces of a 2 per cent. solution of formalin in glycerin through the same canula without removing the instrument. The treatment is repeated in ten days to two weeks if necessary.

Although up to the present time Dr. Murphy has not published a description of this procedure, or in fact formally presented the results of his work, it is known that he is most enthusiastic over what has been accomplished, even going so far as to intimate that it will, in the majority of cases, supersede rib resection.

Theoretically, the method appears to be based on the fact that the injected solution will not only wholly or partially sterilize the pus cavity, but will also stimulate the more or less formed inflammatory products (adhesions, flocculi, thickened pleura, etc.) and lead to their gradual absorption. In this treatment there does also seem to be a certain amount of breaking down and softening of these exudates, perhaps in part due to the hygroscopic action of the glycerin. In any event, the irritative properties of the solution would bring an enormous number of leucocytes to the area, and also a dilution of the contents of the cavity by serum.

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[2] Withington, C. F.: Tr. Assn. Am. Phys., vol. xvii.
[3] Diseases of the Lung.
[4] Ann. Surg., xliii.
[5] Surgery Gynec. and Obst., iii.

All these factors might seem to be of considerable help in the disappearance of the contents of the sac, for by the action of the lymphatic pump (undoubtedly there are many stomata which are not shut off in pleuritis), in conjunction with osmosis, absorption in the majority of cases does clinically occur.

REPORT OF CASES

Through the kindness of Drs. Gaub, Elterich and Edwards, I am able to report seven cases treated by this method, the patients ranging in age from 3 months to 30 years. Of these seven patients, three died, a mortality of 42.8 per cent., but two were practically hopeless when treated. Of the four who recovered, all except a woman 30 years old were children. The infections appeared to be metapneumonic. The average number of injections were two, the interval between ten days to two weeks.

The infecting agent in two cases was staphylococcus, in one streptococcus, in another mixed infection, pneumococcus and streptococcus. The length of time from the first injection to discharge was four to six weeks. In every case after injecting the formalin there was a reaction, slight rise in temperature, increased cough, or moderate amount of thoracic pain. All these symptoms quickly subsided.

Of the patients who died, one, a boy, aged 9, was suffering from a most pronounced kidney lesion, with general anasarca. While the patient was in the hospital, pus was discovered in the left pleural sac; it was a mixed infection of streptococci and pneumococci. Murphy's method was employed, and 3½ ounces of the solution injected. In eleven days another injection of four ounces was made. The patient died about three weeks after the treatment.

The second fatal case was that of a child 3 years old. The empyema developed during an attack of bronchopneumonia. On February 17 two ounces of formalin-glycerin solution was injected. On February 27 the chest was aspirated; no injection was given. On March 10 the chest was again aspirated, two ounces of creamy pus removed, and one ounce of formalin-glycerin injected. The patient died the same afternoon. In this child there was an undoubted cavity, located in the right lung, upper lobe, posteriorly. Bacteriologic examination showed streptococci.

The last fatal case was a most instructive one. An infant 2 years of age was admitted to the Pittsburg Hospital for Children, with a history of measles three months before. Examination of lungs showed an empyema, for, on aspiration of the right side of the chest, three ounces of pus were removed. One ounce of Murphy's formalin-glycerin solution was injected. Immediately there was a marked reaction, extreme dyspnea, rapid and irregular pulse, and cyanosis. In spite of the most vigorous measures, the child died about an hour after the injection. There was no bacteriologic examination.

GENERAL CONSIDERATIONS

Relative to the above case, Capps and Lewis[6] have shown (1907) that all operative procedures inside the thoracic cavity, on an inflamed pleura, may be followed by disturbances in the circulation. The patient may become dyspneic, cyanotic, the pulse thready, and death occur in a few moments or hours.

It is most interesting to note that in seventeen cases of experimental pleurisy in dogs the injection of three or four drops of formalin into the inflamed pleural cavity brought about a decided fall in blood pressure in 47 per cent., followed by death in a number. The reflex did not occur in some cases, and Capps and Lewis believe this may have been due to a certain protection of the pleura by a thick fibrinous mass.

The ideal method in the treatment of purulent pleuritis would be that one in which the mortality was the lowest, the recovery quickest, and with the least operative interference.

At the present time, whenever pus is diagnosed in the pleural sac, in the great majority of cases a rib resection is performed. Unquestionably this is absolutely necessary in many instances, but in others it is certainly uncalled for, since it prolongs the convalescence and produces more or less deformity, and occasionally a stubborn and protracted sinus. Empyema, before the days of radical operative interference, was cured frequently by simple paracentesis. It seems possible that in the near future more discrimination will be shown by surgeons in dealing with this condition. From the work done by bacteriologists, we know that the pneumococcus infections within the pleural cavity are comparatively benign; therefore it is possible that a simple thoracentesis, or at most a small incision drained for a few days, will be found to meet the requirements of this condition. Streptococcus or mixed infections containing this organism are known to be virulent, and a thoracotomy with drainage is unquestionably indicated in cases of such infections. In tuberculous empyema, uncomplicated by pyogenic cocci, repeated aspirations at long intervals will probably be found to give the best results.[7]

Murphy's method, when the indications and contraindications are more fully understood and Dr. Murphy has reported his clinical results, will perhaps be of great value. It may be found of greatest benefit in empyemas of long standing, for, as Capps and Lewis have shown, formalin injected into a pleural cavity in which the inflamed membranes are not fully protected seems to be a procedure of some danger.

Our knowledge of all the conditions existing in the pleura and lung during an empyema is incomplete, but certainly a careful and systematic bacteriologic study of each case will go far toward indicating a line of treatment.

Craig Street and Fifth Avenue.

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[6] Capps and Lewis: Tr. Assn. Am. Phys., xxii.

[7] Brawn: Deutsch. med. Wchnschr., xxxii, No. 14.

Cooperation in the War on Tuberculosis.—Tuberculosis is driving labor bureaus and health boards into cooperation. The cooperation cannot be accomplished unless we have uniformity in the nomenclature of diseases and occupations. We must also agree on standard units of investigation for housing and occupation.—Prof. John R. Commons, University of Wisconsin.

SOME FACTORS IN THE HISTORY OF HEMOGLOBINURIC FEVER

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It is probably a unique circumstance in the history of pathology that a complex of symptoms so striking as hemoglobinuric fever should have such an obscure history. As this obscurity is intimately associated with the etiology and symptomatology of the condition an investigation of some of the factors in its history is not without interest. After a short statement of the history of hemoglobinuric fever I shall breifly consider how far it has been influenced by, first, its confusion with bilious remittent fever and yellow fever; second, the introduction of cinchona bark and its alkaloids into the treatment of malaria, and, third, the advent of Europeans into regions where the fever is endemic.

HISTORY OF HEMOGLOBINURIC FEVER

In the years from 1850 to 1853 blackwater fever was described by Lebeau, Daullé and Leroy de Méricourt, physicians of the French navy, who observed it in Madagascar and, especially, on the island of Nossi Bé, off the northwest coast of the former island. They named the condition "icteric pernicious fever." In 1861 cases observed in the Antilles, Guiana and Senegal were described by Dutrouleau as "hematuric bilious fever." In the early sixties Barthélemy-Benoit also described "hematuric bilious fever," and in 1874 appeared the monograph of Bérenger-Féraud on "melanuric bilious fever." This writer states that the disease has existed in Goree since 1845, and in St. Louis, in Senegal, according to the hospital record of that city, at least since 1820, shortly after the settling of Europeans there. The first twenty-three settlers at Gabun, in 1843, were attacked with blackwater fever and almost all of them died. A great increase in frequency has occurred since 1850.

Crosse[1] believes his own case, in 1888, to be the first on record in the Niger Territories, though he states that the disease was said by old coasters to have existed in the Niger delta since 1882. F. Plehn[2] does not believe the disease to be of recent introduction into West Africa, ont attributes its comparatively late recognition to two 'actors: first, the fact that the susceptible population vho formerly lived as traders on anchored hulks began o take up their abode on the shore, and, second, the fact hat the disease was formerly confounded with yellow 'ever. It has been known in Senegambia[3] since 1855, ınd in the Dutch East Indies since the Atjeh War,[4] Calmette saw a number of cases in Gabun in 874-78. 886-87, and Fluit,[5] in San Juan del Sur, has seen umerous cases since 1850. The condition was not decribed in India until 1855, and Sambon[6] regards this s conclusive proof of its recent introduction, as "it ould be absurd to think that it could have escaped the ttention of such men as Annesley, Chevers, Carter, Iartin, Fayrer, Morehead and MacLean had they met ith it."

Dr. Elliotson,[7] in 1832, mentioned a case of ague accompanied by a discharge of bloody urine during the cold stage.

Todd,[7] in 1849, asserted that "a state of general cachexia, such as often occurs in scurvy, may bring on hematuria, or such as results from an aguish state brought on by the malaria of marshy districts."

In the United States hemoglobinuric fever was first described by Dr. J. C. Cummings,[8] of Monroe, Louisiana, in 1859. He reported six cases and refers to the occurrence of cases during previous seasons. Faget[9] treated the disease as early as 1859, and states that cases with hematuria and hematemesis had frequently been seen in New Orleans and mistaken for yellow fever. Inasmuch as Faget considered hematemesis a common symptom of hemoglobinuric fever, it is possible that he himself confounded the two diseases in some instances. In 1867, Dr. T. C. Osborn,[10] of Greensboro, Alabama, observed ten cases, five of which ended fatally, some with anuria and uremia. All the patients had been repeatedly attacked with malaria. A few months later his son, Dr. J. D. Osborn,[11] read before the Greensboro Medical Society a paper from which it is evident that the disease was becoming more prevalent and that the country people were regarding it as yellow fever. Dr. H. C. Ghent,[12] of Port Sullivan, Texas, in 1886, reported hemoglobinuric fever endemic in parts of Texas. In March, 1869, Dr. R. F. Michel, of Montgomery, Alabama, read a paper before the Medical Association of the state of Alabama in which he spoke of the disease as "a malignant malarial fever, following repeated attacks of intermittent, characterized by intense nausea and vomiting, very rapid and complete jaundiced condition of the surface as well as most of the internal organs of the body, an impacted gall bladder, and hemorrhages from the kidneys. These phenomena presented themselves in an almost uninterrupted link, attended by remissions and exacerbations. It is a fever peculiar to the United States." He recorded the morbid anatomy in one of his fatal cases.

In Arkansas hemoglobinuric fever was first recorded by Dr. E. R. Duvall, of Fort Smith, in a paper read before the state society in 1871. He believed that the case he recorded was the first to occur in the state. This paper is said to be a model of accurate clinical observation. In 1880, Dr. G. B. Malone, in Monroe county, Arkansas, reported 155 cases met in his practice.

The affection was first reported in Georgia by Dr. W. A. Greene, of Americus, in 1872, and in North Carolina, by Dr. Norcom, of Edenton, in 1874. Norcom asserts that the disease did not, as some stated, make its first appearance a few years ago, but that it had long been recognized.

Dr. McDaniel,[7] of Camden, Alabama, described hemoglobinuric fever in 1874, and says: "In calling up my own reminiscences, I am sure that I have occasionally, ever since my boyhood, seen isolated cases of what was considered intense bilious fever, with the surfaces and under tissue stained deeply yellow and with the urine deep red. They were nearly all fatal and were called in older phrase 'bilious congestive,' and in more recent 'pernicious bilious.' I have also, but more rarely, known groups of similar cases associated; say three or four cases occurring on the same premises or in the same family about the same time. All such cases, in addition to the deep so-called bilious color and the red urine, had jactitation, suspirous breathing, inordinate thirst and vomiting of variously shaded and tinted so-called bilious matters. By diligently inquiring I have ascertained that very many old physicians, some of whom have now retired from practice, are satisfied that they have observed similar cases, sometimes singly and sometimes in groups."

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[1] Crosse: Blackwater Fever, London, 1899.
[2] Plehn: Die Kamerun Küste, Berlin, 1898.
[3] Mense: Arch. f. Schiffs- u. Tropen-Hyg., iii, 4.
[4] Kohlbrugge: Arch. f. Schiffs- u. Tropen-Hyg., iii, 2.
[5] Cited by Mense: Arch. f. Schiffs- u. Tropen-Hyg., iii, 4.
[6] Sambon: Practitioner, March, 1901.
[7] Cited by Sternberg: Malaria and Malarial Diseases, New York, 1884.
[8] Cummings: New Orleans Med. News and Hosp. Gaz., vi, 811.
[9] Faget: New Orleans Med. Jour., October, 1868.
[10] Osborn: New Orleans Med. Jour., 1868, p. 644.
[11] Osborn: New Orleans Med. Jour., xxii, 61.
[12] Ghent: Richmond and Louisville Med. Jour., v, 271.

The late lamented Dr. A. G. Mabry, in a report of a case of intermitting icteroid hematuric fever, made to this association in 1870, says: "It is a mistake to suppose that this is a new form of disease. More than twenty-five years ago I treated, in the vicinity of Selma, cases of intermitting fever, presenting, in a marked degree, all the symptoms characteristic of these cases at the present day."

The acrimonious dispute of the earlier writers on the subject of what constituted the coloring matter of the urine is paralleled only by that occurring later concerning quinin in the treatment. While Daullé and Bérenger-Féraud stoutly maintained that the dark color was due to the presence of bile in the urine, Dutrouleau, Pellarin, Barthélemy-Benoit, Antoniades and Corre ascribed it to blood. It is remarkable that none of the first American writers attributed the color of the urine to bile but considered it due to blood. Corre (1881) and Karamitsas (1882) proved that the process was a hemoglobinuria instead of a hematuria.

The credit of first directing attention to the etiologic relation between quinin and hemoglobinuric fever is generally but erroneously assigned to Tomaselli, who published his first observations in 1874. At a meeting of the Greek Medical Society, Nov. 6, 1805, Veretas[13] reported that the majority of physicians practicing in the marshy regions of Greece had noticed hematuria following the administration of quinin. He adds: "Among these observers my father has a place, having attentively observed this action of the medicament, not only in several other persons, but in himself also, unfortunately, as he was for a long time tormented with intermittent fever during his long residence at Vonitsa." Konsola[13] is said to have observed similar cases in 1858. During this year, also, Antoniades published an article "On Hemorrhages and Particularly Hematuria in Intermittent Fever," in which he opposes the theory that quinin is a cause. Other Greek physicians whose observations were published before those of Tomaselli are Papavassilou, Rizopoulos and Karamitsas.[13]

CONFUSION WITH BILIOUS REMITTENT FEVER AND YELLOW FEVER

The close relationship between malaria and blackwater fever renders it easy to understand why the latter might have been confounded with bilious remittent fever. Moreover, the early pyretologists almost completely ignored the condition of the urine in fevers. Hence in a clinical scene, preceded by or opened with ordinary malarial paroxysms and characterized by dark urine, between the color of which and the bilious urine of bilious remittent fever there are all degrees, it is slight wonder that the two conditions were confounded. This probably occurred chiefly in India and to a less extent in certain portions of Africa and America. One is struck, on reading accounts of the Indian fevers, with the description of the intense jaundice of the skin and the scleræ, out of all proportion to this symptom in the bilious remittent fevers of the present day. In fact, some of these descriptions, for instance Johnson's[14] of his first case in India, lack only the mention of the characteristic urine, about which the author is altogether silent, to make a fairly complete case of hemoglobinuric fever. Cleghorn[15] graphically depicts what he regards as a form of tertian fever, accompanied by hemorrhages, dark urine, deep jaundice and other symptoms of hemoglobinuric fever. Since it is reasonably certain that there was no yellow fever in Minorca during the period of Cleghorn's sojourn in the island, namely, from 1744 to 1749, it may reasonably be inferred that he saw cases of blackwater fever.

The fact that the early history of hemoglobinuric fever opens with disputes as to whether the coloring matter of the urine was due to blood or to bile is evidence of the confusion by some observers between hemoglobinuric fever and bilious remittent fever, since formerly *bile* and *malaria* were practically synonymous.

It has been mentioned that the first reliable records of the existence of hemoglobinuric fever were, according to Bérenger-Féraud, those of the hospital of St. Louis, in Senegal, where it is shown to have existed as early as 1820. It is a singular coincidence that this city afforded, in 1778, the first epidemic of yellow fever occurring in Africa.[16] Later Plehn[2] gave as one of his reasons for believing that hemoglobinuric fever was not a new disease in West Africa, the fact that it had formerly been mistaken for yellow fever. Besides Senegal, two of the other regions where hemoglobinuric fever was first seen, the West Indies and Guiana, were yellow fever foci. In the United States we have the early statement of Dr. J. D. Osborn that the condition was then regarded as yellow fever.

The similarity of the symptoms and the relative immunity of the black race to both diseases render the mistake somewhat excusable. As recently as 1897 Below[17] maintained the identity of yellow fever and blackwater fever.

INTRODUCTION OF CINCHONA BARK

Cinchona bark was introduced into Europe in 1640 by the Countess del Chinchon, wife of the viceroy of Peru, in whose honor it has received its name. The efficacy of the bark in malaria was first known to the Indians in the region of Loxa, in the southern portion of Ecuador. The Corregidor of Loxa, hearing of the severe illness of the countess with tertian fever, at Lima, in 1638, advised her physician, de Vega, to give the bark a trial. The remedy effected a prompt cure, which in those days was regarded as nothing short of miraculous. When the countess returned to Spain she took a supply of the bark with her. Here it seems at first to have been employed chiefly by the Jesuits, who introduced it into Rome in 1649. It was then known as countess' powder or Jesuits' powder. Its use was antagonized by other religious denominations and by the medical profession. The bark was imported into England in 1671 by Sir Robert Talbot, an English quack, who kept the remedy a secret and sold it for one hundred louis d'or per pound. Louis XIV, who was attacked with a severe and rebellious intermittent fever in the year 1679 and was cured by Talbot by means of a concentrated vinous tincture of the bark, purchased and made public the secret remedy, for which he paid 48,000 pounds and a life annuity of 2,000 pounds.

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[13] Cited by Cardamatis: La fièvre bilieuse hémoglobinurique, Paris, 1902.

[14] Johnson: The Influence of Tropical Climates on European Constitutions, New York, 1826.

[15] Cleghorn: Diseases of Minorca, London, 1762.

[16] Hirsch: Handbook of Geographical and Historical Pathology, 1, London, 1883.

[17] Below: Berl. klin. Wchnschr., Nov. 15, 1897.

In India the remedy was employed by Bogue[18] as early as 1657. In these times, in Spanish-America, where the bark was indigenous, extraordinary methods were employed to prevent the nature of the drug becoming recognized. But during the eighteenth century cinchona bark was almost universally known. Lind is said to have employed, in Lower Bengal, during 1765, over 140 pounds of the bark. In 1714 Ramazzini[19] wrote that should a fever patient die it was considered a crime not to have employed cinchona. In fact, so widespread was the use of large doses of bark that Calmenero (1647), Casati (1661), Daval (1684), Ramazzini (1714), and others wrote vehemently against the abuse of the drug.

Pelletier and Caventou, in 1820, succeeded in isolating quinin from the bark.

The institution of cinchona plantations in Java, in 1854, and in Ceylon, in 1859, caused a drop in the price of quinin, which had formerly sold for its actual weight in gold, to one-twentieth the original price.

Marchiafava and Bignami[20] seek to explain the seeming late appearance of hemoglobinuric fever by the fact that the use of quinin became prevalent at the time when the disease was first described. It is probable that this factor has caused an increase in certain localities, but a comparison of the history of the disease with that of the drug shows no very intimate chronologic relations. Further, blackwater fever is on the decrease in some regions where the use of quinin is becoming more general. This is reported to be the case in German East Africa by Meixner,[21] in Cameroon by Ziemann,[21] in Togo by A. Plehn,[22] and by Kohlbrugge[4] in the Malay Archipelago. The large number of cases occurring without the previous use of quinin should also be considered.

ADVENT OF EUROPEANS INTO REGIONS WHERE THE FEVER IS ENDEMIC

A consideration of the importance, in the history of hemoglobinuric fever, of the immigration of Europeans into regions where the condition is endemic, involves the history of the tropics and subtropics. This factor is manifestly an essential in countries where the natives are nearly immune, as in parts of Africa. Historic events which were probably potent in the development of blackwater fever were the discovery of America, the Portuguese discoveries and settlements on the coast of Africa, the African slave trade and the later efforts to abolish the same, the advent to Africa of missionaries and explorers, especially in the early part of the nineeenth century, and the operations of the East India Company.

The immigration of Europeans was influential in the history of hemoglobinuric fever in several ways: by the ncrease of susceptible population, by the importation f quinin, and by the advent of physicians competent to ecognize and to describe the disease.

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Statistics presented at the second annual meeting of the Philippine Islands Medical Association, held in February, 1905, showed that there were in the islands only an average of one physician to 21,209 of the population of the archipelago, or one to each 430 square miles of territory; this, in spite of the fact that the medical school of the University of Santo Tomas had been earnestly engaged in educating young men in this professional field for years, having taken up the work inaugurated in former times by the missionary priests, who themselves, in their individual parishes, were compelled to assume the dual function of priest and physician. These statistics gave abundant evidence, not only of the need of more physicians in the Philippines, but also of the fact that an additional school of medicine could be established. As a result of the movement inaugurated at this meeting of the Philippine Islands Medical Association, the government, following the report of a committee, passed a law in December, 1905, establishing the Philippine Medical School. However, the time was not yet ripe for beginning the course of instruction; it was necessary carefully to scan the field, to decide on plans of instruction and to determine what chairs should be filled at the beginning. It was consequently not until Nov. 6, 1906, that the faculty was finally organized and the first members appointed. The school began its work on June 10, 1907, with fifty-four students.

We have, in the years since American occupation, as a result of the systematic studies carried on by many earnest investigators in the field of tropical medicine, obtained a much more exact insight into the causes underlying many of the diseases which are supposed particularly to pertain to the tropics. The health authorities, by energetic work, have been in a position steadily to improve their methods of prophylaxis, and, above all, they have learned what they have to contend with and what the attitude of the people toward infections and epidemics is. This, however, does not go far enough.

Cholera, bubonic plague, or smallpox are what might be termed the spectacular infections; their occurrence in a community is at once recognized and the people themselves can more or less readily diagnose the diseases. Measures looking to their limitation, therefore, while they may not have the cooperation of the masses, at least have the backing of the officials and of the more intelligent public. The people, while they may strongly doubt the usefulness of the means employed to prevent infection, such as confining themselves to the drinking of boiled water and the eating of cooked food during times when cholera prevails, or being vaccinated against smallpox during the periods of that disease, nevertheless do something along the lines indicated, for the reason that the evident mortality from these diseases is so great as to make a deep impression.

It is different with the infections which are not spectacular, such as tuberculosis or malaria. Very little, if anything, is done to prevent them, for they do not attract much attention; yet tuberculosis, and, I am inclined to believe, malaria, are among the most serious forms of infection we have to contend with in the Philippines. A recent comparative study of one hundred autopsies at the Philippine Medical School showed tuberculosis to be the cause of death in thirty-five of the cases. No statistics are available in regard to malaria, as no careful studies have as yet been made in the provinces, but malarial infections certainly are present in great numbers. Not only are these a cause of mortality, but they also, even where the outcome is not fatal, act as one of the factors limiting the energy and output of the individual.

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[18] Cited by Rogers: Fevers in the Tropics, London, 1908.
[19] Ramazzini: Sur l'abus du quinquina, 1714, Paris reprint, 905.
[20] Marchiafava and Bignami: Malaria, New York, 1900.
[21] Medizinal Berichte über die deutschen Schutzgebiete, 1903-04.
[22] Plehn: Arch. f. Schiffs- und Tropen Hyg., vii, 12.

We also encounter other classes of infections which may not appear as causes of death, but which, nevertheless, have their effect, and which are widely disseminated. A recent statistical study in Bilibid prison showed, among 4,106 prisoners examined, 3,447 to be infested with one or more forms of intestinal parasites. While their presence may not cause immediate or apparent manifestation of disease, nevertheless, if the results in Bilibid are any criterion of the condition in the country at large—and they certainly are such a criterion—it would follow that about 5,000,000 persons in the Philippines are infested with intestinal worms. It is scarcely to be doubted that a people in this condition would be unable to reach their best physical and mental development, and, perhaps, while we blame the masses themselves for lack of energy and distaste for work, we should really blame the infectious agents and the unhygienic conditions under which the people live.

The health authorities, with their small force of men who must be engaged in other directions, can scarcely make an impression on the conditions leading to the prevalence of these parasitic infections or of the not easily recognizable causes of disease. The older physicians in the islands, having been brought up in a school which did not have for its fundament a careful and complete laboratory training, scarcely believe that any large measure of sickness or death is caused by these conditions and can not, at their best, influence more than a small part of the community. The people themselves, fundamentally, know nothing about the dangers to which they are exposed, or if they did, would not know what remedy to take.

Herein lies the reason for the Philippine Medical School. It is in a position to give adequate and careful laboratory instruction; it has filled its chairs of anatomy, pathology, bacteriology, physiology and chemistry with well-trained men, some of them called to the Philippines especially for the purposes of the school, others directly connected with the Bureau of Science, but doing their share in the work of teaching. In the more advanced years, after the foundation of laboratory training is laid, it gives equal advantages to its students in having on its faculty men who have made reputations in their lines of work in tropical and clinical medicine, in surgery, obstetrics, hygiene and public health, in medical zoology, clinical microscopy, pediatrics, medical entomology and other branches, some of these teachers being from the profession at large, others from the Bureau of Science and yet others from the Bureau of Health and the medical staff of the constabulary. The school has ample laboratory equipment; it is about to construct a new laboratory building; the plans for a new pavilion hospital are complete and construction work will soon begin. In other words, the school is equipped to give a thorough, modern course in medicine with all the exactness incident to a good foundation of laboratory work. The course extends over five years.

The students are enthusiastic, as well prepared for passing the entrance requirements as can reasonably be expected, and they certainly follow the work remarkably well. The indifferent or lazy ones, so often the bane of the teacher in the United States, seem to be almost entirely absent.

These are the missionaries whom we hope to send among the people in the course of the next few years. They will be so well grounded in the fundaments of their profession that they will be convinced of the scientific basis of the hygienic measures they will advocate; they will be able to reach the people with sincerity and truth, not in a half-convincing or half-convinced manner; and, above all, they will be of the people. The result will be that the graduates will eventually be able to bring about an improvement of hygienic conditions from within, and by their work will finally succeed in combating superstition and introducing rational methods of thought in regard to disease. They will be able to advance the condition of the masses so as to eliminate causes of excessive mortality, will curtail the spread of epidemic and will improve the general health conditions to such a degree that the Filipino people will increase in numbers, in physical strength and in mental power, so that ultimately they will be able to take the position to which nature has entitled them. The foundation of the Philippine Medical School is therefore one of the great works of the present government; in it Americans and Filipinos are working side by side, advancing the standard of medical education as well as the prosperity and well-being of the country.

A FURTHER CONTRIBUTION TO PALLIATIVE OPERATIONS FOR BRAIN TUMOR *

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Since the publication of the paper by Dr. Charles H. Frazier and myself,[1] some articles of much interest bearing on decompressive operations have appeared. It is the author's intention to refer briefly to the more important of these, to report some cases not included in the former paper with Dr. Frazier, to discuss palliative operation where choked disc is the only important sign of intracranial disease, and to report cases of this character, to speak of rapid increase of blindness under certain conditions as a result of decompression, and of palliative operation performed when the respiration has ceased, but the heart is continuing to beat.

Recurrence of choked discs may occur after decompression, as described by de Schweinitz and Thomson.[2] Their patient was trephined for the relief of the symptoms of a tumor, believed to be situated in the right motor area. The tumor was not removed. Three and one-half months after operation the double optic neuritis had subsided and there was postneuritic atrophy. One year later the patient returned with all the symptoms of brain tumor re-established, from which he had

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* Read in the Joint Meeting of the Section on Nervous and Mental Diseases, and the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908. Because of lack of space the clinical histories are here abbreviated, but the complete article appears in the Transactions of the Section and in the author's reprints.

[1] The Journal A. M. A., Sept. 1, 1906, p. 679.

[2] Arch. Ophth., 1905, xxiv.

been entirely free, totally blind and with double optic neuritis, the apex of each swelling being 6 D., or as high as it had been before the original operation.

De Schweinitz[3] states that his experience has been somewhat as follows: Usually there is no marked change in the swollen nerve head after trephining in which the dura has been opened, or after the removal of a tumor, until the tenth to the fourteenth day. He has not seen decided subsidence of engorgement edema at the end of forty-eight hours, except in one instance, when within that period, following the removal of a cerebellar cyst, there was a decline of several diopters in the height of the swollen papilla. It is not uncommon to find within the first thirty-six hours, and even earlier, a diminution in the congestion of the retinal vessels. After the tenth to the fourteenth day there is gradual subsidence of the neuritis, from six weeks to two months being required for its complete disappearance. The ultimate vision may be (a) better than that which existed prior to the operation; (b) equal to that which existed prior to the operation; (c) worse than that which existed prior to the operation. Sometimes total blindness results.

In the cases with preservation of vision, either as good as or better than that which the patient possessed before the operation, the sight may be better in one eye than in the other, or exceedingly defective in one eye and good in the other, or one eye may be blind and the other retain or regain excellent vision. The most satisfactory results follow the reduction of great intracranial pressure, provided the papillitis or choked disc has not so long existed that it has already destroyed the optic nerve fibers. He gives the results in three cases.

In a certain number of cases de Schweinitz found that luring the first day or two after trephining there may e a slight increase in the neuritis, or a slight increase n edema, associated with fresh hemorrhages. This is pparently of no importance, as the added edema and resh hemorrhages disappear in the subsequent general ubsidence of the swelling. In some of these cases here are marked degenerative changes in the retinal essels. De Schweinitz, on several occasions, noticed a emporary depreciation of vision within the first week fter the operation, probably due to shock or hemor- age, and which, apparently, is of no importance in the ubsequent preservation of vision, provided the primary ision has been good and the neuritis of comparatively ort duration. Where little vision exists prior to trehining, this may rapidly disappear after trephining, pecially if there has been much hemorrhage.

Bruns,[4] in his excellent work on tumors of the nerv- s system, puts the matter of decompression in this anner: "Shall one refuse this possibility [palliative eration] of considerable relief from the disorder to ose in whom a localizing diagnosis is not possible en after longer observation, or removal is unattain- le? I think we are not justified in so doing." In eaking of saving sight by decompression, Bruns men- ns that many persons with brain tumor may live g, and that all the symptoms of tumor may disap- ar spontaneously, except that blindness may become mplete. Such a case seems to be Case 5 of the paper Dr. Frazier and myself, which is referred to further in this article. In cases of this character, decom- ession would probably have saved the sight.

The danger of blindness is great when vision begins to fail with choked discs, and flecks of fatty degeneration in the retina are always serious. If the tumor implicates the basal visual tracts, decompression can not prevent blindness. Usually, this may be recognized by typical contraction of the visual field, and then decompression is not to be recommended.

Some have held that it would be well to rest content with decompression when the tumor is in the posterior cranial fossa, and not to attempt its removal because of the danger in so doing; this opinion Bruns does not share. I must confess that I am partly persuaded that in many cases decompression is the best procedure, as the attempt to remove a tumor of the posterior cranial fossa usually terminates fatally, or the condition of the patient after the removal of a tumor from the cerebellopontile angle is so pitiable that death is welcomed as a release. It is true that a few brilliant cases are on record, but many failures are recorded. Further improvement in technic may make these operations on the posterior cranial fossa more successful. I am referring especially to the cases in which the tumor is in the cerebello-pontile angle.

Relief of pressure is not obtained in all cases by trephining and opening the dura to allow escape of fluid, and the decompression is not without danger. Bruns advises against it when the patient is in deep stupor, and, at the same time, the symptoms indicate that the tumor is very large; palliative operation could only serve to restore a consciousness which mercifully has been lost. He is not referring to decompression in the sudden attacks of syncope in cases of brain tumor; such as I have seen repeatedly. Bruns thinks the dura must be opened in palliative operations, and this view I fully share. In one of his cases, Bruns recommended operation over the left parietal lobe, the prolapse of the brain that followed caused ataxia and optic aphasia, so that under some conditions the results of decompression may be serious. A less important region should be chosen for decompression.

When the cerebrospinal fluid does not escape after trephining, and relief of pressure is not obtained, Bruns recommends puncture of the ventricle, following the teaching of Wernicke, Sahli, Kocher, and von Bergmann. Continuous drainage may be employed. Lumbar puncture Bruns regards as dangerous in brain tumor, as the medulla oblongata may be crowded into the foramen magnum and obstruct it so as to prevent the escape of fluid. This opinion experience has fully confirmed.

It is necessary to mention that some authors speak of trephining as synonymous with decompression. The opening in the skull should be larger than that made by a trephine when relief of pressure is sought.

Alfred Saenger[5] reports 19 cases of brain tumor with palliative operation. In two cases, improvement occurred after the trephine opening was enlarged so that more cerebrospinal fluid could escape. In two cases trephining had no beneficial results as the tumor was too large. The condition was made worse only in one case, and in this the tumor was at the base. In all the other cases beneficial results were evident. Saenger states that Finkh, in 1904, collected 31 cases from the literature; in 30 of these the choked disc disappeared; in one case the symptoms increased. According to his statistics, palliative operation causes improvement of vision in 73 per cent. of the cases.

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[3] Univ. Penn. Med. Bull., April and May, 1906, and personal munication.

[4] Die Geschwülste des Nervensystems, 2d edition, p. 282.

[5] Klin. Monatsbl. f. Augenheilk., 1907, p. 145.

Saenger chooses as the time for operation the commencement of diminished visual acuity. He selects the region where the tumor is supposed to be, but when this is impracticable he recommends the decompression to be done over the right parietal region.

Lumbar puncture, or puncture of the lateral ventricle, is not to be compared with decompression, as either method is much less effective than decompression.

The dura was always opened in von Krüdener's[6] cases. Only those patients were operated on who were in danger of complete blindness and were in a late stage, otherwise the author thinks the results probably would have been better. He states as certain that trephining causes altered conditions of the circulation and brings about a reduction of the choked discs, which is noticed in the first twenty-four hours following a diminution in the congestion of the blood vessels. The diminution in the swelling begins, however, on the second or third day, and the swelling does not completely disappear after two or three weeks, as the papillæ are still somewhat elevated. If the trephine opening grows together in such a way as to cause a continuance of the intracranial pressure, the papillæ soon attain their former prominence.

He does not hold a very positive opinion regarding the effect of trephining on inflammation of the optic nerve, as he had only one case in which probably basal meningitis was present, although the result seemed to be good. He has not observed a sudden reduction in the papilla immediately after the operation, although he has observed the eyegrounds during and immediately after the opening of the cranium. The change was always very gradual, and not until the evening following the operation or the next day could he say positively that the veins were somewhat smaller and the papilla and adjacent retina somewhat paler, although the arteries were not wider. Changes in the hemorrhages, in degenerative foci in the macula, or in the edema of the retina when present were always slight.

Subjective disturbance, unconsciousness, especially from brain tumor, disappear at times entirely, and he thinks trephining is proper when pain and the feeling as though the head would burst are present and blindness threatens, although he believes that a tumor grows more rapidly after the cranium is opened. The pressure of the distended third ventricle and of the distended floor of this ventricle on the chiasm can be removed at times by trephining. After we learn to distinguish between increased intracranial pressure of inflammatory origin and that of non-inflammatory origin, trephining will be more advantageous. There is more danger of prolapse of the brain with hydrocephalus in children. In hydrocephalus of childhood he found that the protruding brain so closed the opening in the skull in some instances that no liquid escaped and the bandages remained dry; in other cases the bandages were soaked the day following the operation.

Single or repeated lumbar puncture in twelve cases of brain tumor produced no effect on the choked discs. Also in cerebral tuberculosis lumbar puncture produced no improvement in the condition of the eyegrounds. Division of the dura of the optic nerve, recommended by de Wecker, was useless, and some stretching of the nerve occurred because of the small field of operation. In a case of cerebral tuberculous meningitis, in which an exudate was found in the sheaths of the optic nerves, lumbar puncture produced no visible change in the eyegrounds. Lumbar puncture has been believed by quite a large number of writers to aid in recovery from meningitis, and where recovery occurs the optic nerves may be benefited, and puncture should be employed in syphilitic meningitis with papillitis. The effect is not to be determined by the ophthalmoscope, and consists probably in slight relief of pressure from the papillæ and brain, so that more blood may reach the diseased parts.

von Krüdener observed in one case that after removal of the brain pressure meningitis developed on the brain and optic nerves, and notwithstanding the intense inflammation the choked disc gradually and constantly diminished. This would seem to me to indicate that decompression may be useful in inflammatory conditions, but in a case of purulent meningitis, that Dr. Frazier and I recently have had, palliative operation was followed by death within a few days. von Krüdener and others (Bruns) have observed that after trephining in hydrocephalus choked disc disappeared, although no liquid escaped on account of the prolapse of the brain.

It is not necessary to assume the existence of phlogogenous substances in the cerebrospinal fluid to explain the choked disc of brain tumor and of hydrocephalus, and the inflammatory appearances so often present are a result of stagnation of lymph and of edema. In local brain pressure von Krüdener accepts the opinion of von Graefe, and explains them as the result of compression of the cavernous sinus and congestion in its venous tributaries. He thinks the future must decide whether it would be advisable to remove the bone about the chiasm under certain conditions to relieve choked discs. He has done puncture of the ventricle twice with the drill, according to Kocher's idea; the cases were not very suitable and the choking was not affected thereby. Wilbrand and Saenger[7] believe that when the pressure is lowered in the spinal canal the medulla oblongata is pressed downward, and until the pressure is restored the circulation of fluid from the cranium to the spinal column is prevented.

Lumbar puncture has usually little effect on choked disc for several reasons, the pressure is not always the same in the vertebral cavity and the cranial cavity, and probably is higher in the cerebral ventricles than in the sheath of the optic nerve. After lumbar puncture the pressure on the brain is relieved and the circulation of blood is improved, and thereby poisonous products are removed; and probably it is useful in syphilitic choked disc. Lumbar puncture has been recommended by many as a therapeutic and diagnostic means for syphilitic choked disc.

von Krüdener speaks of two other forms of choked discs, viz., from aneurism of the carotid artery and after operations on the ear. The former may be unilateral one or two years, and later become bilateral, and may be accompanied by very high swelling. The latter occurs with abducens paralysis. Gradenigo assumes that a meningitis occurs at the point of the petrous portion of the temporal bone and extends to the optic nerve; other authors speak of edema and compression of the wall of the sinus from an edematous brain.

Risien Russell[8] recognizes that it is useless to trephine for the relief of intracranial pressure when the patient is deeply comatose or the heart has failed, but he thinks it should always be attempted when the respiration alone has ceased and the heart is continuing to beat, even though the chances of saving the patient's life may be remote. He believes that some reported cases seem to show that by removal of a part of a tumor the growth of what is left may be retarded. This has always seemed to me very doubtful. He says he is strongly impressed with the value of trephining for the relief of optic neuritis in order to preserve sight, that he recommends that no patient suffering from intracranial tumor should be allowed to become blind when in this operative measure we have a means of preventing it, provided the operation is undertaken early enough. He does not believe that trephining will relieve every form of optic neuritis, whether due to increase of intracranial pressure or not. It would be worse than useless, he thinks, to trephine when the optic neuritis is of toxic origin. It seems to me, however, that this question is open to discussion.

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[6] v. Graefe's Arch., 1907, lxv, 69.

[7] Die Neurologie des Auges, iii.

[8] Brit. Med. Jour., Oct. 27, 1907.

Lumbar puncture can only be regarded as a temporary measure and can not be expected to relieve symptoms in the permanent way that trephining does. In lumbar puncture he thinks we have a means of relieving urgent symptoms of pressure, when to wait for a surgeon to trephine would be to allow the patient to die; or it is valuable when the patient's condition is too serious to permit the major operation, even when a surgeon is available. In both these classes of cases relief by lumbar puncture may be sufficient to permit of the major operation of trephining later. Lumbar puncture, in his opinion, is valuable for diagnosis and for the relief of urgent symptoms in cases of intracranial tumor, but is not likely to permanently relieve symptoms and prolong life or to effect a cure.

J. Mitchell Clarke[8] recommends that when no localizing signs are present the trephining should be done at the site of a persisting tender area, and in one of his cases a large tumor of the upper parietal lobe was found in this way. Dependence on a tender area in one of my cases, Case 2 of the paper by Dr. Frazier and myself, proved unreliable. Clarke thinks a palliative trephining makes a later diagnosis of location more difficult.

Mr. Marcus Gunn[8] states that when the papilla becomes more opaque and sometimes more prominent, the hemorrhages increase in size and number, there are inlammatory exudations on the disc and surrounding etina and vision has become impaired; the prognosis egarding the saving of vision is bad after relief of inracranial tension, although he has known useful vision btained even in such unfavorable circumstances. Pal-ative operation to save vision is useless in the stage of radually decreasing vascularity of the papilla, when arts of its surface become even paler than normal, while the prominence either persists or slowly subsides nd the branches of the central artery become diminhed in breadth.

Certain conditions Mr. Gunn emphasizes as important, viz.: The degree of swelling of the papilla in itself not an accurate indication of the visual prognosis, and l the ophthalmoscopic appearances must be considered. he presence of retinal hemorrhages does not contradicate surgical intervention, nor is retention of noral vision before operation a safe guide, though it is ore favorable. Vision previously normal may be lost ter operation. Visual improvement may ultimately be ry satisfactory, even though long delayed. In one of s cases very slight improvement in vision was observed ter two months, yet two months later the result was ost satisfactory, one eye having regained 6/5 from 18, and the other 6/6 partly, from mere hand reflex. ome of the most striking results in vision he has obrved after operation were in cases of cerebellar tumor. So far as vision is concerned he has found that it makes little difference whether the tumor is removed or whether the dura is merely freely opened.

Mr. Gunn has had no experience regarding the relief of tumor papillitis by lumbar puncture; he believes it would not afford so thorough a relief as the cranial operation, and would need to be frequently repeated. He does not favor opening the optic nerve sheath immediately behind the globe. We may well, I think, ask why it should be recommended, as it does not relieve the other distressing symptoms. It would have to be performed on both optic nerves, and the opening is liable to soon close up.

Mr. Gunn mentions that tumor papillitis is commonly associated with hypermetropia and is relatively rare in myopia. It appears as if in myopia an increased pressure within the sheath space is less likely to affect the optic nerve and more likely to be relieved by filtration or absorption of the excess of fluid.

H. C. Thomson[9] reports a case of tumor supposed to be in the temporal lobe in which palliative trephining caused gradual subsidence of the optic neuritis, and in a few weeks the discs showed only an insignificant trace of infiltration. During the six months following the operation the symptoms did not increase, but later did so. He refers to a case of cerebellar tumor in which palliative operation also was effective.

Merz[10] has studied the causation of optic neuritis. He states that in his experiments, in which he produced increased intracranial pressure by injecting fluid, changes in the rabbit, consisting of venous hyperemia and arterial anemia of the retina and the appearance of vessels in and about the disc which usually are not visible in the healthy eye, can be brought about almost instantly. In dogs a longer time is required for the development of the venous hyperemia; the difference is owing to the different arrangement of the vessels in the eyes, that in the dog more nearly resembles the condition in man. The further changes in the fundus of the dog appear two or three hours after the beginning of the increase in tension. The papilla becomes gradually edematous, loses its sharp outlines, projects forward and acquires a rosy hue. After eight or ten hours the arteries and veins arch perceptibly in passing from the papilla to the retina, and they appear blurred, veiled or even in places interrupted from the edema and cloudiness of the tissues in which they run. Further observation is usually impossible because the animal dies.

In every case, dog or rabbit, the subvaginal space about the optic nerve was found to be dilated. The cerebrospinal fluid passes between the dural and pial sheaths to the bulbar end of the space which ends in a blind sac. Since the intracranial tension does not diminish the liquid distends the subvaginal space, and more excessively at its bulbar end. Thus arises the ampulla-formed dilatation described by Manz, Schultén and others. Frequently a round-cell infiltration is found in the sheaths of the nerve and the surrounding connective tissue and the subvaginal space suggesting a perineuritis.

No one doubts the possibility of a choked disc arising in certain cases after the introduction of various poisons into the body. Experimental and clinical observations teach us that undoubtedly choked disc develops at times in consequence of local irritation of the papilla and optic nerve from toxins and various poisons. Solowieff found that the introduction of the *Staphylococcus aureus* into the vitreous was in most cases followed by papillitis and choked disc. Selenkowski made similar observations. Hallermann saw choked disc in a case of erysipelas of the face, Adamück in a case of retention of urine. The inflammation theory is admissible for some cases of choked disc but not for the majority of cases. No one has determined the presence of phlogogenous substances in cases of brain tumor, and it is in these cases that choked disc most frequently appears. For the unprejudiced investigator the mechanical theory has more points of plausibility than the inflammatory. Twenty hours of slightly increased intracranial tension is sufficient in dogs to cause edema of the optic nerve.

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[9] Brit. Med. Jour., Dec. 21, 1907, p. 1761.
[10] Arch. Ophth., 1901, xxx, p. 349.

White blood corpuscles emigrate in large numbers from the vessels and form the round cell infiltrations, especially in the parts most exposed to pressure, such as the outer sheath and the neighboring tissues. Thus increased intracranial tension suffices to cause symptoms of stasis and even of inflammation in the optic nerve and papilla.

Increased intracranial tension alone is sufficient to produce choked disc. There is similarity in anatomic construction between the eye of the dog and that of man.

Brudenell Carter, in three cases of choked disc, made an incision through the outer sheath of the optic nerve, and in each case vision improved and the symptoms of papillitis decreased and all the other symptoms of increased intracranial tension vanished.

Other important papers on cerebral decompression that have appeared since our former paper[1] are those by Starr,[11] Chance[12] and Stieren.[13]

It is sometimes extremely difficult to decide what is best to be done when choked discs are the only sign of intracranial disease. The patient may otherwise appear to be in perfect health, and the physician hesitates to recommend the opening of the skull. It may be difficult to convince the patient and his relatives that a neoplasm probably is present, especially if the physician also be in some doubt about the diagnosis, and he is likely to be if choked disc is the only sign. There is the possibility that the swelling may be caused by nephritis or meningitis, and as yet we are uncertain whether or not the choked disc of meningitis is improved by decompression.

Antisyphilitic treatment may be beneficial and cause great improvement for a time, as in Case 1, but such treatment is known to be useful occasionally in glioma or other form of cerebral neoplasm. Valuable time may be lost by attempting to relieve the symptoms by mercury and iodid, and yet a too hasty operation is to be deprecated. The suggestion of decompression seems so terrifying to the patient, and so unnecessary in view of what appear to him as insufficient symptoms, that he is likely to be driven to consult some other physician, and possibly he may be assured in this consultation that he need have no fear and that recovery without operation will occur. When the patient finally consents to decompressive operation, valuable time often has been lost, and it may be too late to save the eyesight. The following case, in which operation was unavoidably delayed, illustrates these statements:

Case 1.—Miss K., aged 20 years, was referred to me Nov. 15, 1906, by Drs. Ferguson and Schneiderman.

Examination.—Dr. Schneiderman first examined her eyes Sept. 29, 1906, simply because she complained of headache. He found slight optic neuritis and a flame-shaped hemorrhage in each eye, more marked in the right eye. An increase of optic neuritis was observed October 6, and by November 15 the swelling was 4 or 5 D. in each eye, and more in the right eye. Central vision was full, but the fields were contracted. Headache had been severe since June, and was both frontal and occipital. She had not had vertigo, but she felt as though she staggered, and yet her mother had not seen any ataxia. Nausea was felt November 14. Menses were always late, and were more delayed during the past few months. She had complained of numbness occasionally for more than a year, from the back of the head, down the neck into the left shoulder, and down the left arm. It was a sensation of pressure, not of pain. She had not had convulsions. Dr. Schneiderman found the pupils normal and no paralysis of ocular muscles.

Dr. C. H. Frazier performed a palliative operation Jan. 10, 1908.

The report of Dr. Van Pelt, who has had the patient under observation since the operation, is as follows: Jan. 30, 1908. In the right eye the swelling of the optic disc has decreased from 5 to 2½ D. since the operation. In the left eye the swelling has decreased from 3½ to 2 D. The optic nerve shows evidence of increasing atrophy, and the retinal arteries are becoming more attenuated. These atrophic changes are more decided in the left eye. The vision has markedly decreased in each eye in the last ten days.

Case 2.—*History.*—Miss F., 19 years of age, was referred to me from the service of Dr. John H. Musser, Sept. 5, 1907. She had had headache since April, 1907, nearly every morning. The pain was back of the right ear and was sharp. This area of the head was not tender to touch. The headache disappeared almost every day about 11 o'clock, although occasionally it persisted all day. It was more severe in April or May, 1907, and at that time she had much nausea. She vomited often when she had the pain, and sometimes when the pain was not severe. She had some diplopia in looking toward the right, but she thinks it was formerly in looking toward the left. She was of fragile build, weighed 85 pounds, and appeared anemic. The patient's mother died of tuberculosis, though she herself had never had any distinct pulmonary trouble, and yet Dr. A. Fife found some suspicious signs at the right apex, but he was not positive of their value.

It seemed to Drs. Musser, de Schweinitz and Frazier and to me advisable to have a decompressive operation in order to save vision. Dr. de Schweinitz wrote Nov. 20, 1907: "I examined Miss F. yesterday and found the vision very much reduced as compared with what it was when Dr. Holloway first examined her on August 15, when it was 5/12, while to-day it is only 5/30, and that not quite perfectly. There has been very little change in the appearance of the optic nerves. They are swollen moderately, not more than 2 or 2½ D., possibly 3, while at that time they were swollen to 4 or 4½ D. Somehow the discs do not impress me as very surely dependent on increased intracranial pressure. I presume, however, that a simple trephining could do no harm, although I should think it very desirable to make it as nearly a bloodless operation as possible, because a very little additional drain would surely very greatly depreciate the vision. The results of trephining, however, I am inclined to think are very problematical." This latter view we all shared.

Operation.—A decompressive operation was done by Dr. C. H. Frazier Dec. 3, 1907. A small hernia formed at the site of operation. It was painful to touch.

The patient was discharged, January 22, in much better condition.

In the following case the question of decompression was considered, but the operation was not performed:

Case 3.—C., a boy, aged 14 years, was sent to me Dec. 19, 1907, by Dr. G. E. de Schweinitz, with the following report: Double optic neuritis is subsiding, with every indication of rapid atrophy beginning. The swelling of the disc is now about 4 D.; apparently no paralysis of any external ocular muscles exists; very curious symmetrical defects are seen in the nasal field of each eye. Such defects, however, I think are now universally conceded to be due, not to lesion around the chiasm, but to lesion of the optic nerve itself, and I have seen them before with optic neuritis when there evidently was no chiasm lesion.

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[11] The Journal A. M. A., Sept. 22, 1906, p. 926.
[12] Penn. Med. Jour., August, 1907, p. 877.
[13] Ophth. Rec., March, 1908, p. 139.

History.—The boy had scarlet fever at the age of 3 years, which left a discharging ear. In March, 1904, he was operated on for mastoiditis. He had very severe nephritis at that time, and was in a serious condition after the operation. The discharge of the left ear continued after the operation. Optic neuritis was discovered in October, 1906. He had not had headache, dizziness, nausea or vomiting.

Examination.—I found that the left pupil was a little larger than the right, both irides responded to light, the left iris not so promptly as the right. He was partially deaf in the left ear. A careful examination failed to reveal other signs of disease. The case seemed to Dr. de Schweinitz and to me unsuitable for a palliative operation. A cerebral abscess might be present, and if this were the cause of the optic neuritis decompression might be of benefit. Rapid optic atrophy was present, and the report of the urinary examination was: one-fifth of 1 per cent. of albumin; no sugar; hyaline casts and cylindroids; and a specific gravity of 1016. It seemed probable, in the absence of all other cerebral symptoms, that nephritis was the cause of the atrophy, and a palliative operation was not performed.

The increase in the blindness which follows relief of intense intracranial pressure, and possibly the hemorrhage into the retina which occurs in some instances, as in Cases 4 and 5, may be explained by the sudden relief f the extracerebral pressure, with persisting intradural ressure. Cushing[14] remarks: “It must be remembered, owever, that the sudden removal of pressure from the rain when the blood pressure has been forced to coniderable heights, may be followed by a paralysis instead f a release from the major compression symptoms. The ccasion of this is readily brought out by postmortem xaminations, which, under such circumstances, oftenmes discloses a brain and medulla of a uniform cherryed color, from the widespread extravasation of blood, ue to the multiple rupture of the minute blood vessels. he external supporting pressure of the high intraanial tension has been suddenly removed, leaving the nternal or intravascular pressure too great for the rength of the vessel walls.”

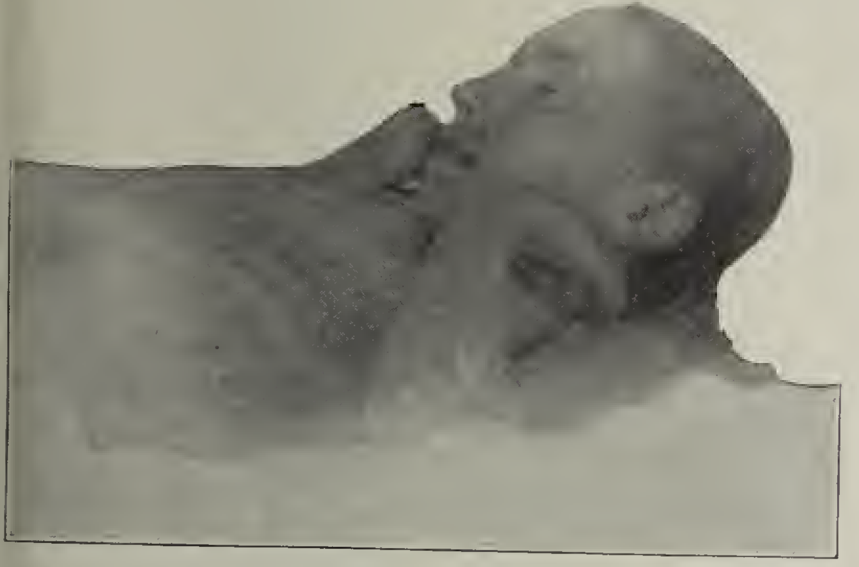

Fig. 1.—Showing the cerebellar position of upper limbs caused y a large tumor at the base of the brain displacing the cerebellum Fig. 2).

De Schweinitz thinks the increase in blindness which curs in advanced cases is caused by the loss of blood in he operation (personal communication).

The following two cases illustrate the occasional occurrence of retinal hemorrhage after palliative operaon:

CASE 4.—This was a case of cerebellar cyst, in the service of Dr. Wharton Sinkler. Dr. de Schweinitz stated that there was exceedingly rapid subsidence of the optic neuritis, but, in spite of it, rapid loss of vision occurred. There were symptoms of cerebellar tumor, and the operation, in two stages, was performed by Dr. Wm. J. Taylor. A cyst protruded when the skull was opened on the left side, ruptured spontaneously, and a stream of clear, straw-colored fluid squirted at least a yard. Considerable hemorrhage occurred at the first operation. The boy improved after the operation, except that immediately following it a hemorrhage developed in the right eye, and resulted in complete loss of vision.

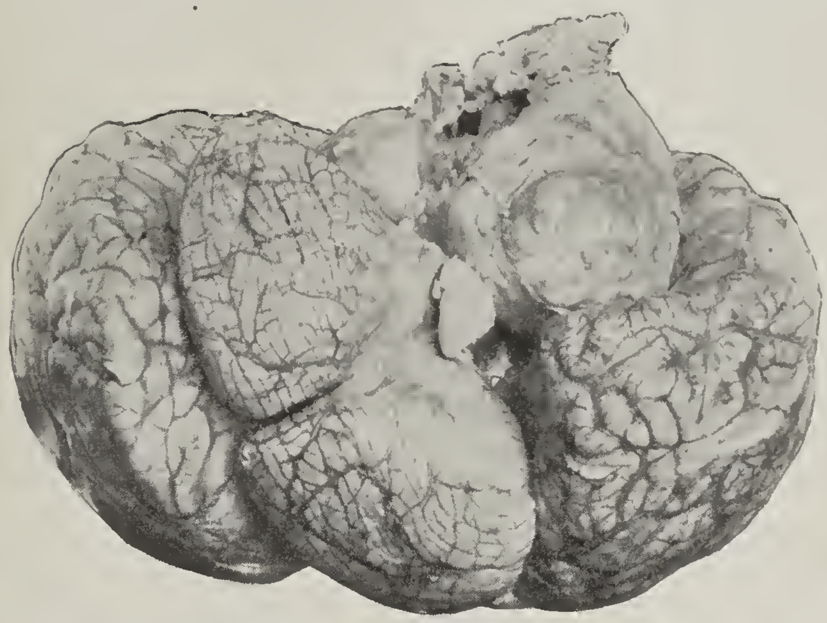

Fig. 2.—The tumor has twisted the cerebellum on its axis and pushed it between the occipital lobes.

CASE 5.—W. R., 43 years of age, white, house painter, was a patient of Dr. C. S. Potts, with whom I saw the patient, and to whom I am indebted for the notes.

History.—Family history negative. He has used considerable alcohol, has had much family trouble of late. Syphilis denied. He was struck in the right temporal region with brass knuckles one year before admission (Nov. 6, 1907). Symptoms of present trouble began about September, 1906, with headache and dizziness. On admission he complained of

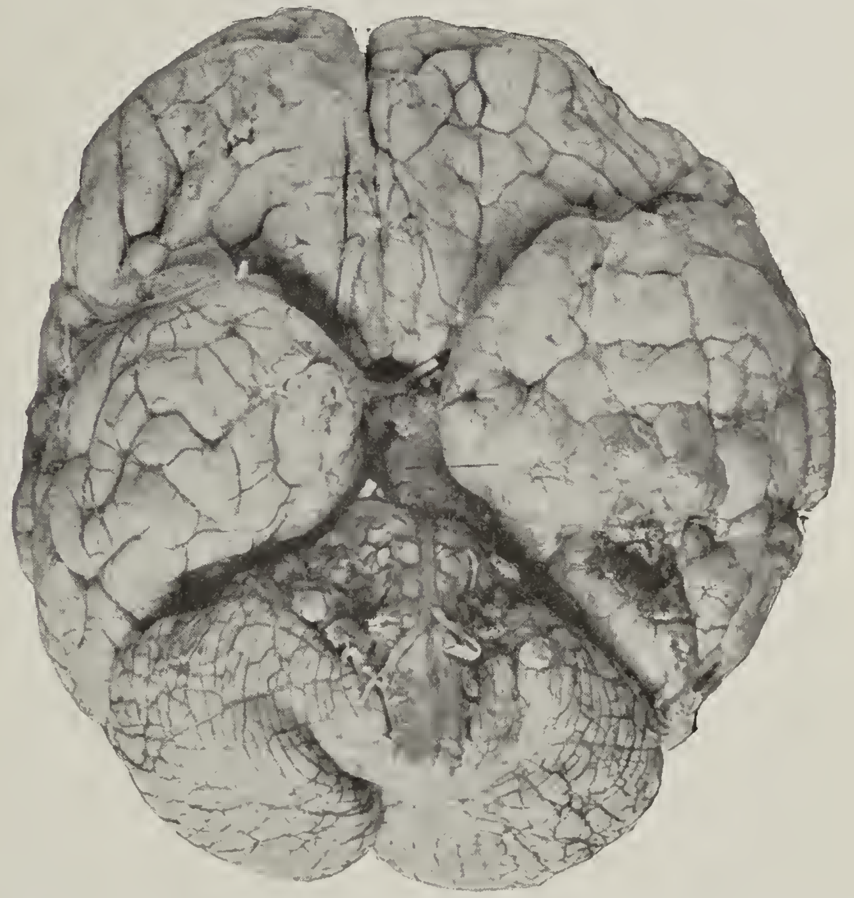

Fig. 3.—A large glioma occupied the greater part of the left temporal lobe and grew as a wedge-shaped process over the left cerebral peduncle (indicated by the line). The left temporal lobe was much enlarged.

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[14] Am. Jour. Med. Sciences, September, 1902.

severe constant headache, worse at night, situated in right parieto-occipital region; of vertigo and excessive vomiting, not dependent on taking food. He had cerebellar gait, usually, but not always, fell toward the right. Slight ataxia in the right arm was present when finger to nose test was attempted, but there was no weakness of cranial or spinal nerves. The reflexes were about normal, except that the patellar reflex was slightly exaggerated on the right side. No Babinski sign was obtained. He had diplopia at times. Nystagmus was seen in both eyes when he looked either to the right or to the left.

Examination.—Ocular examination was made by Dr. Fox Nov. 9, 1907. O. D. optic nerve decidedly red and vessels have pinched appearance as of optic neuritis. O. S., optic neuritis, slight hemorrhage just above optic nerve; slight paresis of left third nerve.

November 16.—Optic neuritis has greatly increased in both eyes. Veins exceedingly tortuous; apex of swelling, 7 D.

Treatment.—Operation by Dr. S. C. Burns Nov. 27, 1907. An opening was made in the occipital region, and the right lobe of the cerebellum was exposed, but nothing abnormal was found. The brain did not bulge unduly into the opening.

November 29.—Examination by Dr. L. Webster Fox. No change in the conditions found at examination on November 16. December 15: O. D., still pronounced swelling of nerve, with slight hemorrhages in striated form, showing through the outer halo of the circle, veins pronounced, arteries almost obliterated. Head of nerve intensely red. Probable change for the better. O. S., nerve still shows pronounced swelling. Hemorrhage of retina, down and out from optic nerve, extending to near equator as a broad band. Up and out on outer margin of optic nerve is a beautiful star-shaped hemorrhage, one-third the size of normal optic nerve.

The question has been put to me several times whether palliative operation might be of benefit when the patient with signs of brain tumor has suddenly fallen into coma. Risien Russell, as already stated, is in favor of trephining when respiration has ceased but the heart continues to beat, even though the chances of saving life may be remote.

Very frequently, in my experience, sudden death has terminated the symptoms of brain tumor, especially when the tumor is in the posterior cranial fossa. The patient may be no worse than he has been for months, and suddenly he becomes cyanosed, unconscious, possibly has convulsive movements and respiration ceases, but the heart continues to beat. It has seemed extremely doubtful to me whether decompression would be advisable under such circumstances. Death is almost certain, and the physician who performs or recommends a palliative operation when the patient is at the point of death is likely to be regarded by the relatives as having hastened the fatal termination. Such operation, done at a more suitable time, I believe may materially lessen the danger of these sudden and usually fatal attacks.

A patient with brain tumor, who had also been under the care of several of my colleagues, recently died in my service at the Philadelphia General Hospital. A very large tumor was found in the posterior cranial fossa. The occipital lobes had been pushed apart and the cerebellum had been displaced almost to a right angle with the brain stem. Undoubtedly decompression in the posterior cranial fossa, by allowing space for the development of this tumor, would have removed much discomfort (Figs. 1 and 2). A case of sudden death, in which the question of palliative operation in the period of coma was considered, is the following:

CASE 6.—*History.*—A man, aged 28 years, was referred to the University Hospital by Dr. J. W. McConnell Jan. 30, 1908. He had been complaining of headache during a year, of vertigo during two months, and of vomiting during one month. He was a brakeman and had been injured frequently. A year before admission he had had attacks of spasmodic movement in the left side of his body. In August, 1907, he had a sudden attack of twitching of the left side of the body, preceded by slight dizziness. He fell and probably was unconscious. He had had syphilis.

Examination.—On admission his gait was unsteady, and the staggering was increased by closing the eyes. The right pupil was larger than the left, and both irides reacted to light and in accommodation. The extraocular muscles were normal. The right nasolabial fold was not so deep as the left. Some ataxia was seen in the finger to nose test, especially on the right side. The right lower limb was stronger than the left. The right patellar reflex was exaggerated, the left slightly so. Ankle clonus was obtained on the right side, but not on the left side. A note made on February 1 is as follows: He has been complaining of severe headache, the face becomes flushed and the pupils dilated. He moans and cries and begs to be put out of his misery, but appears fairly comfortable most of the time.

I saw the patient February 4 about noon. He was suffering intensely from headache, threw himself about in the bed in an agony of pain, and caught hold of the resident when he came near him, begging to be killed and put out of his misery. He was quieted by a hypodermic injection. His suffering was so great that no examination could be made, and, knowing very little of his history, I did not feel justified in requesting an immediate palliative operation. About 3 o'clock in the same afternoon he was found on the floor unconscious, with very difficult breathing. He soon became cyanosed and respiration ceased. The heart action became slow and irregular. Artificial respiration was kept up until about 8:30 p. m., when death occurred. No necropsy was permitted.

I debated whether it would be advisable to have a palliative operation during the collapse, but it did not seem desirable. The chance of benefiting him thereby was very questionable. A similar case of brain tumor of one cerebral hemisphere under the care of Dr. Joseph Sailer was in the University Hospital about a year ago. Cessation of respiration occurred suddenly and artificial respiration was employed for several hours. A decompressive operation was performed by Dr. Edward Martin during the period of collapse without any benefit or any delay to the fatal termination.

Whether pain in itself can cause death or not I think is open to question, and it may be that the intense intracranial pressure with irritation may be the cause of the pain as well as of the sudden death, possibly by paralysis of the important centers of the medulla oblongata. Byrom Bramwell, however, believes that pain alone may kill. Where sudden headache is intense, as described in Case 6, and symptoms of increased intracranial pressure are present, it has seemed to me dangerous to delay decompression, and I regret that in this case it was not done, even though the clinical history was imperfectly known to me. This agonizing headache is sometimes too serious to permit any delay in giving relief by opening the skull.

About four weeks after the experience above related I was asked to see a case in consultation with Dr. Ernest LaPlace, in which symptoms of a focal cerebral lesion were said to have developed gradually within twenty-four hours. The patient, during my examination, had intense headache, and, fearing a fatal termination, I recommended immediate decompression. Trephining with slitting the dura was done and about two ounces of clear fluid escaped, with great temporary relief of the suffering within twelve hours. The opening probably was not sufficiently large.

Decompressive operation is not always beneficial, even when the patient is not in coma, and death may occur within twenty-four hours after a palliative operation, as illustrated by the following case:

CASE 7.—*History.*—A. K., male, aged 25 years, was admitted to the University Hospital, March 4, 1907, complaining of blindness, intense headache and vomiting. His mentality was much impaired. He stated that during the winter of 1906-7 he began to have weakness and soreness about the articulation of his jaw. The soreness afterward spread upward in his head. About two months before admission, he became blind in the right eye, and two weeks later he became blind in the left eye. He vomited frequently. He was unable to walk without support, and could not stand with the feet together, but could stand if they were separated. The head was thrown far backward, and any attempt to move it forward caused much pain. The left pupil was considerably larger than the right, and neither iris reacted to light. Corneal and conjunctival sensation and the lachrymal reflex on the right side were lost, as well as the sensation of the mucous membrane on the right side of the nose. The sensations of touch and pain were completely lost in the entire distribution of the right fifth nerve, provided no pressure was made. The mouth deviated to the right, when opened. The patellar reflexes were lost. Babinski's sign was present on the left side.

Dr. de Schweinitz reported: Palpebral fissure about equal in width. Left eye slightly divergent. Left external rectus movement preserved. Movements of internal superior and inferior recti are markedly limited. No wheel movement obtained. Right eye: Loss of movement of external rectus and marked limitation of movements of superior and inferior recti, with almost lost internal rectus movement. There is extensive double optic neuritis with large retinal hemorrhages on the right side.

The case was believed to be one of tumor or syphilis of the base of the brain involving the right Gasserian ganglion.

Treatment.—A decompression operation was done by Dr. Frazier on each side of the head on April 11, 1907, just above the ear. The brain bulged much on the right side. The patient died the following day. An endothelioma was found at the necropsy, implicating the right Gasserian ganglion. Decompression in this case did not prolong life, and it may be, hastened the fatal termination.

In the following cases decompression was of benefit:

CASE 8.—*History.*—Ida K., a woman, aged about 21, consulted me Nov. 3, 1906. She complained of failure of vision during two months. She had aborted four months previously, and headache began about eight days after abortion. It was ometimes frontal, sometimes occipital, and frequent. She had not had nausea, vomiting or convulsions. Menses returned fter the abortion and had been regular.

Examination.—The lower part of the right side of the face was weak in showing the teeth; the upper part of the face was not affected. She could not draw up the right side of the mouth separately. The tongue deviated slightly to the right. he grasp of the right hand was weaker than that of the left. he right lower limb seemed a little weaker than the left in esisting passive movements. The patellar reflex seemed to be xaggerated on the right side. The patient later came under he care of Dr. Mills.

An examination of the eyes by Dr. de Schweinitz, Nov. 27, 06, revealed double choked disc, no external muscle palsy, nd very contracted fields.

Treatment.—Dr. Frazier performed a palliative operation ov. 28, 1906.

The report of Dr. de Schweinitz, December 9, is as follows: ight Eye—Optic neuritis apparently subsiding, + 5 D. (com-ared with + 7 D. before operation). Both sets of vessels ry small. In both maculæ there is some chorioidal disturb-ance. Left Eye—Optic neuritis + 5 D. Vision (uncorrected), ch eye 4/9.

On December 11, the note was made that the patient did not ve headache as before the operation and did not vomit. The tient was dismissed from the University Hospital and was mitted to the Philadelphia General Hospital, service of Dr. ills, Oct. 17, 1907. An examination was made by Dr. Shum-y October 22. Pupils respond very sluggishly, are well ated. Both nerves show advanced optic atrophy following oked disc. The nerve heads are still swollen to a level of 6 diopters (2 mm.) above the retinal level. The macular regions show no changes. The hernia had increased considerably in size.

Death occurred Dec. 7, 1907. A large glioma was found in the left temporal lobe, growing over the left cerebral peduncle (Fig. 3).

The improvement in the condition seems to have been of a duration of months, but as she was not constantly under observation the exact time is uncertain.

CASE 9.—*History.*—A. B., 42 years of age, consulted me June 28, 1906. He had an enlargement of the skull on the left side above and in front of the ear. He complained of weakness on the right side of the body, slight ataxia, some motor aphasia, left-sided headache, some difficulty in reading, and failure of memory.

Examination.—Dr. de Schweinitz found no evidence of optic neuritis, but there was slight over-fulness of the retinal vessels.

Treatment.—Decompression without opening the dura was performed, July 7, 1906. Almost complete disappearance of symptoms followed for about two months, and possibly the improvement would have lasted longer if the dura had been opened. A later operation revealed an endothelioma, which was removed. A full report of this case has been published.[15]

[THE DISCUSSION ON THE PAPER OF DR. SPILLER AND THE PAPER OF DRS. BORDLEY AND CUSHING WILL BE PUBLISHED IN CONNECTION WITH THE LATTER PAPER NEXT WEEK.]

DISLOCATION OF THE ASTRAGALUS AROUND ITS ANTEROPOSTERIOR AXIS

OPERATION, REDUCTION, RECOVERY, WITHOUT THE REMOVAL OF THE BONE

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NEW YORK

All forms of dislocation of the astragalus are rare, that is, the double or total dislocation of Malgaigne, a mediotarsal and tibiotarsal dislocation, in which the astragalus has been displaced from all its articulations. There are several forms, but dislocation by rotation or version is the least often observed. Krönlein, in 400 dislocations, did not see a single case. Gray says: "This dislocation of the trochlear surface of the astragalus from the tibio-fibular mortise is not of common occurrence, as the ankle joint is a very strong and powerful articulation and great force is required to produce it."

By far the majority of cases reported have been accompanied by a dislocation of some other bone, or a fracture, either of the astragalus or an articulating fellow.

The case that is reported herewith is without a complicating fracture, or if a fracture was present it was of no consequence.

The accompanying radiographs are the first published which show the dislocation by rotation of the astragalus before and after operation.

This, together with the perfect results obtained without astragalectomy, makes the case of unusual interest and justifies description in detail.

Patient.—M. Mc. N., female, aged 32, weight 195 pounds, in perfect health, very muscular, was admitted to my service at the Harlem Hospital, June 24, 1904.

History.—While descending a flight of stairs, the patient tripped at the top and fell nearly to the bottom; she could not exactly describe how the fall commenced, but was conscious of and distinctly remembered that the initial accident at the top of the stairs was a turning in of the left foot, accompanied by severe pains in the left ankle. When near the bottom of the stairs, her left foot was caught between two uprights of the bannister and the ankle joint received, as she continued in her downward flight, a second violent wrenching, with some superficial injury to the overlying skin and integument. I first saw the case on the second day following the injury. Reduction by all possible means and methods, without and with anesthesia, had been unsuccessfully attempted.

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[15] Spiller, W. G.: THE JOURNAL A. M. A., Dec. 21, 1907, p. 2059.

General Examination.—This showed the left foot somewhat inverted, sole pointing inward, slightly downward, and rather fully extended, with some elevation of the heel, which threw the skin and integument over the tendo Achilles, into two or three transverse folds or ridges, with intervening deep crevices. The external malleolus projected prominently, and the overlying skin was tightly stretched. The foot being so much inverted, the internal malleolus was even and smooth with the surrounding surface, and could not be seen as a usual prominence, though it could be distinctly palpated. Anteriorly, a little internal to the median line, between the malleoli, could be seen a slightly diffuse rounded projection, which on palpation could be easily recognized as the head of the astragalus, the rounded smooth surface that articulates with the navicular. By depressing the surrounding integument, the head could be firmly grasped between the thumb and forefinger, but it was absolutely immovable. Reaching from just in front of the internal malleolus, nearly to the median line, anteriorly, was a superficial sloughing skin wound, irregularly quadrangular in shape, about 1½ by 1½ inches in size. This wound was apparently produced by external violence, at the time the foot was caught between the uprights, and was not the result of pressure from within. The wound did not in any way communicate with the joint. There was almost complete loss of active motion, the foot being rather fixedly set and rigid. Passive motion, present only by force, was accompanied by great pain and rather limited. Any marked deformity of the foot was characteristically absent.

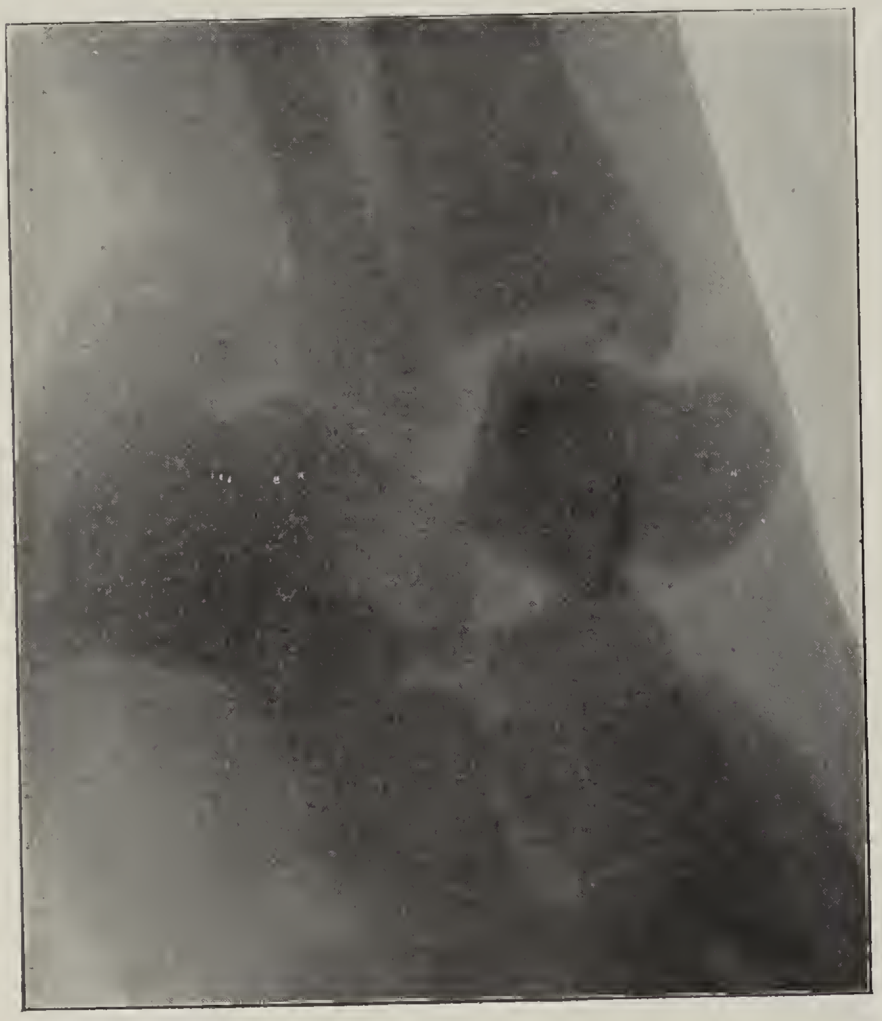

Fig. 1.—Dislocation of astragalus around its anteroposterior axis (left foot), before operation.

Diagnosis.—A diagnosis of dislocation of the astragalus was made, but it was not definitely classed until radiographed.

Radiographic Examination.—Figure 1 shows the left foot radiographed from without, inward before operation; that is, the inner surface of the foot rested on the plate, with the foot forcibly extended, and inversion exaggerated. It will be noted that the contour of the skin, the topography of the foot, is smooth around the ankle joint. When one notes the deformity of the bony parts, he is greatly impressed by the lack of a corresponding deformity of the soft parts. This is characteristic of this form of dislocation and directly opposite to all other forms of dislocation of the astragalus. An outward, inward, forward or backward dislocation will produce a marked deformity. The astragalus appears somewhat too far forward, because of the angle at which the exposure was made. If the tube had been placed posteriorly, or if the leg had been rotated a little forward, so as to bring the fibula directly overriding the tibia, in the same plane at right angle to the plate, as in Figure 2, it would then be shown, as was demonstrated by the fluoroscope, and determined at the operation, that the astragalus was situated more posteriorly, was well within and firmly gripped by the tibio-fibular mortise. The astragalus is rotated outward around its antero-posterior axis, for an angle of slightly more than 90 degrees, so that the upper surface, which articulated with the lower end of the tibia, now points outward and slightly downward. The inner surface, which articulated with the outer surface of the internal malleolus, now points upwards and articulates with the lower end of the tibia. The head of the astragalus overrides the navicular. The external surface, which articulated with the inner surface of the lower end of the fibula, now rests on top of the os calcis. The small shadow in Figure 1, between the angle of the calcaneum and the fibula posteriorly, does not admit of positive description. It was stated above that if a fracture existed it was of no consequence; if this shadow is cast by bone, it is probably only a small rim of the posterior border of the astragalus that was pulled off by the posterior calcaneo-astragaloid ligament, to which it was attached. It could not be palpated before nor during operation, and is not visible in Figure 2, and, if a fracture, was not of sufficient importance to complicate the dislocation. After a careful examination of the foot and a close study of the radiograph, Figure 1, it was apparent that the joint articulations of the astragalus were totally demolished; the ligaments, nutrient vessels and trophic nerves were surely destroyed, and it was decided that an astragalectomy was the only apparent means of saving the foot.

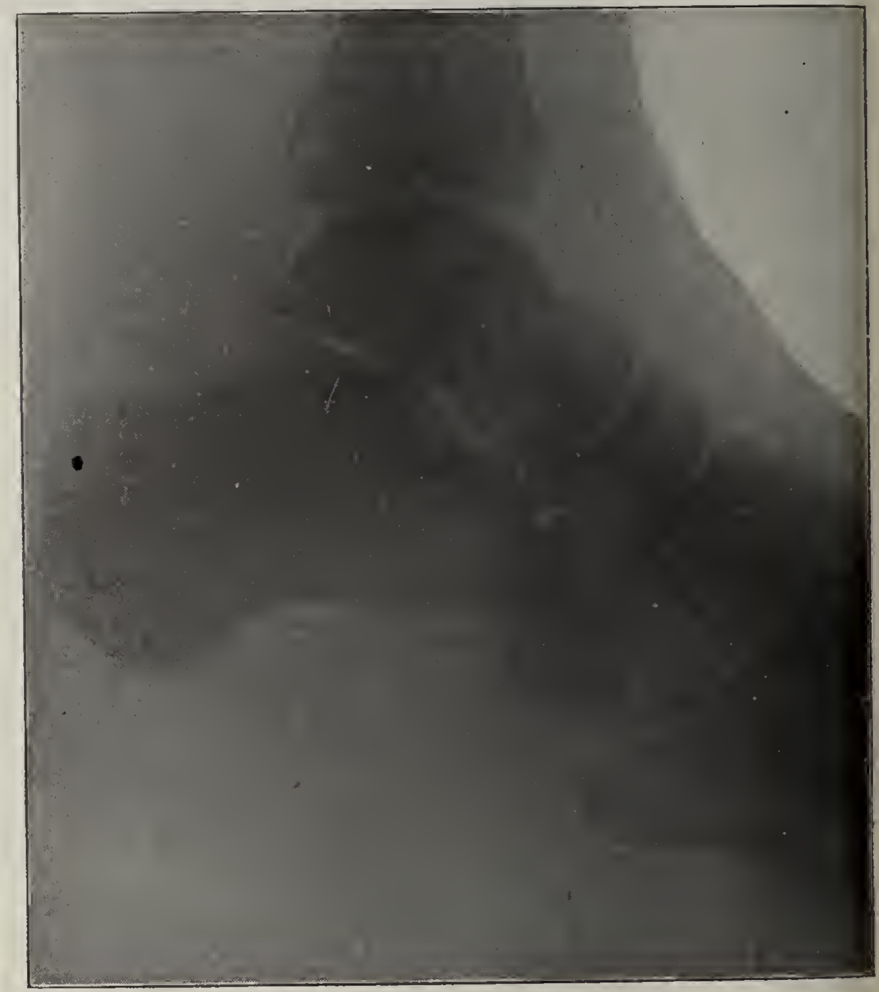

Fig. 2.—Dislocation of astragalus (left foot), after operation.

Operation.—On July 1 the whole foot and leg were thoroughly cleansed, particular attention being given to the sloughing wound over the inner aspect of the foot. This wound was vigorously attacked, with a determination to make it sterile; it was scrubbed with soap and brush, flushed with pure peroxid of hydrogen, swabbed with pure carbolic acid, and flooded with pure alcohol; thoroughly rinsed in bichlorid, and finally run over gently with the actual cautery. All this was done because our line of incision had to be made directly through this region. The head of the astragalus was now exposed through a longitudinal incision and firmly grasped by a heavy pair of bone forceps, but could not be moved. The tendo Achillis was then incised subcutaneously; then the joint became sufficiently relaxed to allow me to withdraw the astragalus partly without the wound. It was lying so loosely within its present position that it could easily have been removed without severing a tendon or ligament or tissue of any kind, and this is what I began to do; but the ease with which the bone could be manipulated, held now by only a small pair of mouse-tooth forceps grasping the head, led me to try to replace the same; so after rotating inward it was easily reinserted in its proper position. The upper half of the wound was sutured, the lower half left open, a small drain inserted, and a wet dressing applied. This was done on account of the sloughing wound and the feeling gained from the recorded experience and teachings of others that the astragalus would yet have to be removed on account of subsequent caries. A right-angled splint was applied to the foot.

Postoperative History.—There was a slight afternoon elevation of temperature for a few days following operation. The first dressing was applied on the third day after the operation. The wound was fairly clean, the eschar from cauterization, chemical and actual, separating cleanly. At the second dressing, applied on the fifth day, the wound was clean and granulating and all swelling disappearing. The drain was omitted. There was slight motion at ankle joint. From now on until July 22, the date of discharge from the hospital, recovery was uneventful. The patient walked from the hospital with the aid of a cane On July 27, the date of the second radiograph, Figure 2, the patient was walking easily without assistance and without a limp. The wound was entirely healed; the joint was freely movable in every direction. There was no pain and recovery was complete.

The mechanism of dislocation of the astragalus by rotation is very complicated. The best explanation offered is probably that a rotating force acts on an already partially dislocated bone; whether this force is transmitted from the tibia above, or from muscular action, or from the resulting action of two opposing forces, is still undetermined.

In the case here reported there is a clear straightforward history of two distinct injuries, the second one of which was positively that of a rotating force. The first one may have partially dislocated, or at least torn the ligaments of the astragalus.

The difficulty met by experimenters of producing the dislocation on the cadaver would suggest the necessity of live muscular action for its production.

For further information concerning the mechanism of the dislocation of the astragalus, read the remarkable, if gruesome, experiments of Rochet.[1]

Malgaigne reports six cases, all but one of which are rejected both by Barwell and Stimson. It appears that he reported one case twice. The case represented in Figure V, Plate XXX, of Malgaigne's "Atlas of Fractures and Dislocations," is taken from Dupuytren's "Museum." It was an old injury and showed ankylosis between the astragalus and os calcis, with rotation of about 45 degrees and some forward dislocation. Malgaigne says: "This piece has come under my hands through former information. The dislocation was rather old, as the ankle has grown (or become attached) to the heel bone. The state of the bones seems to indicate that walking may be accomplished on this foot; but the subject supports itself, only on the outer edge of the foot, while the inner edge is highly elevated, and the toes turned inwardly, as with the inverted club-foot. The picture does not show this disposition, which I have neglected, in order to better demonstrate the conditions of the ankle. Add to this that the fracture of the fibula appears to be of quite recent origin, and certainly is not of the same date as the dislocation.

"What strikes me first is the projection of the ankle head at the same time forwardly and to the outside on the cuboid and scaphoid.

"But an even more curious displacement is that of the ankle body; its pulley, turned outwardly, extends almost entirely to the inner facet of the fibula, and the inner ankle facet is found under the tibial mortise. The turning is not, however, a complete quarter circle, as on the outside may still be seen a portion of the exterior ankle facet, which is hardly in contact with the peroneal malleolus pulley, and is at the same time looking downwardly and outwardly."

To Barwell[2] belongs the credit of having first accurately diagnosed, during life and before operation, a dislocation by rotation of the astragalus. Malgaigne and others had previously described this condition as impossible of diagnosis.

Barwell's very excellent report of the physical examination of a dislocated astragalus shows an extraordinary knowledge of topographical anatomy of the astragalus, recognized by palpation. Such exact knowledge is not often observed in these days, when we are learning to depend so much on the findings of the x-ray. Barwell, however, failing to reduce, did an astragalectomy. He says:

> My view is that in all cases of dislocation of the astragalus, certain and sufficient, but not too persevering, attempts at reduction should be made. If they fail, the bone, unless dislocated backward, should be at once excised. . . . When torsion is complete, the only choice lies between an utterly useless foot, excision of the astragalus and amputation.

Recent literature contains a very few reports of cases of dislocation of the astragalus of any kind, and still fewer by rotation.

C. Lepoutre,[3] interne under Duret, reports a case of astragalectomy; a small pen-and-ink outline of a radiograph by Desplates is shown, in which the astragalus is rotated through lesss than 90 degrees.

Villar[4] reports a case of total rotation; as usual, however, he did an astragalectomy.

Croly[5] says that it is a remarkable fact that if when the astragalus was dislocated forward, forward and inward, or forward and outward, it was not removed, it acted as a foreign body; but if it went backward where it had plenty of room, it did not do any harm whatever. His strong opinion was that immediate removal of the bone with careful dressing of the wound was the proper treatment.

Stimson says:

> Expectation in irreducible compound dislocations of the astragalus has almost always ended in removal of the astragalus, or amputation, or death, and the cases will probably be very few in which primary removal of the astragalus

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[1] Rev. d'orthop., 1890, No. 6.

[2] Med.-Chir. Tr. 1883, lxvi, 39.

[3] Jour. d. sc. méd. de Lille, 1905, ii, 457.

[4] Gaz. hebd. d. sc. méd. de Bordeaux, 1905, xxvi, 153.

[5] Brit. Med. Jour., 1899, i, 536.

will not give the patient the most speedy recovery, the least risk and the most useful limb.

In compound dislocations, reduction is to be sought, unless the astragalus is entirely detached, or the lacerations are so extensive that suppuration is unavoidable. Otherwise, primary removal of the astragalus or amputation is clearly indicated.

A glance at Figure 1 is sufficient to cause one to agree that this joint was totally destroyed, the vessels and nerves torn, the ligaments and articulating bursæ ruptured, and the astragalus looks not only useless, but dangerous to leave within the joint. It was the primary intention, as before mentioned, to perform an astragalectomy. When the joint was opened, however, everythink looked clean and nice, and even the joint fluid was not as bloody as one would expect after a complete rupture of the interosseous ligament; and the ease with which reduction was accomplished after subcutaneous tenotomy of the tendon Achilles, together with an inherent aversion to mutilate a joint, all suggested the plan of letting the bone remain *in situ*.

The extraordinary good results in this case will invite the adoption of the same procedure in similar cases.

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TREATMENT OF SUPPURATION OF RENAL PELVIS AND URETER BY LAVAGE *

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The object of this paper is to record a few personal cases and also to present the literature on the subject of renal lavage, to show the present state of this method of treatment. An endeavor will also be made to give some general conclusions and to indicate what kind of cases are amenable to this form of treatment.

In the list of cases herewith appended, cases occurring in the male have been included. It seemed proper to do this because the method of treatment in the male does not differ essentially from that in the female.

The operation of irrigating the pelvis of the kidney through the renal catheter was first conceived and performed by N. Bozeman,[1] but he performed a deliberate cystotomy before passing the catheter, and this instrument was passed, not through the urethra, but through the cystotomy wound. Bozeman's idea was that the inflammation began in the bladder and travelled to the kidney, and he reasoned that drainage of the bladder was first essential, and that by this free drainage the renal inflammation must be favorably influenced. In order to accelerate the cure he irrigated the renal pelvis. Bozeman never passed a cystoscope and through it a renal catheter for the purpose of irrigating the renal pelvis, and he never advised this method. He did, however (loc. cit., page 555, Fig. 43), do a preliminary cystotomy, pass the catheter through the cystotomy wound, and when the end had reached the renal pelvis drew the other end through the urethra and allowed the instrument to remain *in situ* in the urethra; through this catheter the pelvis of the kidney was subsequently irrigated.

The first published case illustrating the treatment as it is carried on to-day, namely, preliminary passing of the cystoscope, followed by catheterization of the ureter through the cystoscope, was one by H. A. Kelly.[2] The case was that of a female who had a stricture of the lower end of the ureter; there was likewise pyonephrosis and pyoureter. Treatment was carried on for three months, and 117 separate catheterizations were performed. The solutions used were boric acid in saturated solution, nitrate of silver, 1 per cent. and corrosive sublimate 1:250,000. The germ was the gonococcus. At the end of three months there was a complete disappearance of the pus, and coincident with this there was a gain of twenty pounds in weight. The record states that six months later there was still a residual urine of 90 c.c. in the kidney pelvis and ureter; but there was no pus, and the patient was comparatively comfortable.

Casper[3] gives full credit to Kelly as having been the first to pass a catheter through the cystoscope with the deliberate idea of irrigating the renal pelvis. Casper records three cases in which the method was tried.

Pawlik[4] recorded a few cases in which he used the method. One patient had been under observation for a number of years, and had been treated during all that time.

TECHNIC OF RENAL LAVAGE

The technic of renal lavage is very simple, but some skill is required in the use of the examining instruments. For the female a good cystoscope is that invented by Kelly, the simple tube. The patient is put in the knee-chest position and the ureteral orifice exposed in the ordinary way. It is well to mention that unless the position is correct the ureteral opening will not appear. Hunner[5] has particularly called attention to this, and he gives excellent rules which it will be well to follow. "The patient should be placed in the knee-chest, and not a knee-hand or knee-elbow position. She may have a small pillow under the chest. She should be far enough forward so that the entire leg from the knee to the ankle rests on the table. The equilibrium will be a little uncertain when the patient's knees are close together; hence they should be moderately separated. The thighs should slant slightly forward from hip to knee; this will make an acute angle of the thighs and leg. The back should have a downward bow; in other words, the patient should relax. The nurse should be instructed never to leave a tight band of any sort, such as a corset, waist band or abdominal binder about the chest or abdomen. Of course, what is aimed at in this position is to empty the pelvis, not only of the intestines, but of all the pelvic organs, so that the pelvis becomes a potential vacuum to be filled with air when one of its hollow viscera is opened. The vagina is always opened first so that the vesico-vaginal wall balloons downward and carries the ureteral orifice into a position to be found easily when the bladder is opened. It is the non-observance of these little points which makes cystoscopy difficult."

If it is not desired to use the knee-chest position, any of the ordinary water cystoscopes which are in use at the present time may be employed. The best for use in the female is the direct vision cystoscope, and I know of none better than that devised by Dr. F. Tilden Brown, of New York. This instrument may be used in all cases in the female, and in most of those in the male.

An instrument which I have used with satisfaction is one I devised some time ago. It consists of a simple tube with a magnifying glass of slight power at the outer end of (Fig. 1). This glass is attached to a removable cap through which pass the electric light attachment and also the tube through which the ureteral catheter is passed (Fig. 2). The electric light shaft and the ureteral catheter tube are made of flexible metal so that the cystoscope tubes may be of different sizes, and a small or large size may be used at will (Figs. 3 and 4). A small battery furnishes the electricity. It is either a water or an air cystoscope, and according as the operator desires, either medium may be employed. I have given up the air method, because in most of my patients it has proved to be intolerably painful.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Trans. Intern. Med. Congr., Ninth Session, 1887, ii, 545.

[2] Johns Hopkins Hosp. Bull., February, 1895, vi, 19.

[3] Allg. Med. Central. Ztg., September, 1895, lxiv, 913.

[4] Rev. de Gyn. et de Chir. Abd., 1897, i, 801.

[5] Inter. Jour. Surg., 1907, xx, 241.

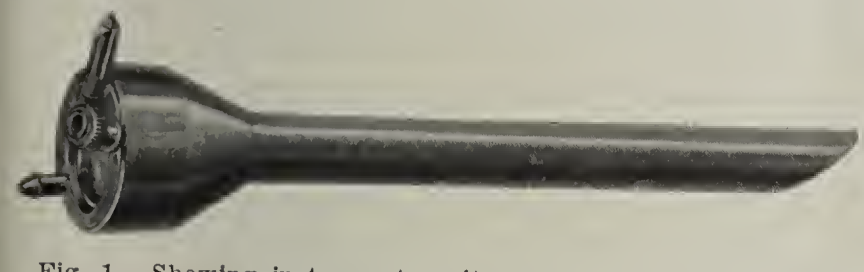

Fig. 1.—Showing instrument as it appears in the bladder. The removable cap, to which is attached the electric light shaft and catheter tube. has been inserted into the outer tube.

Each of the four reproductions is slightly less than natural size.

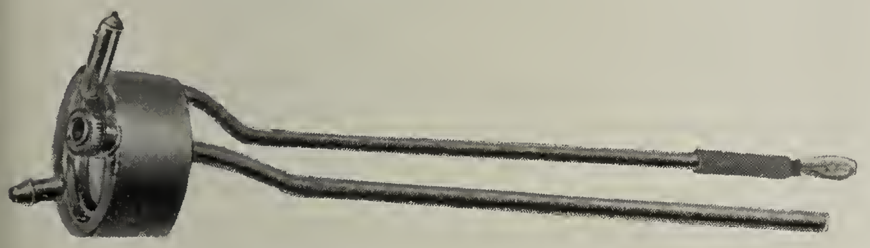

Fig. 2.—Showing the removable cap with lens, also electric light shaft and catheter tube.

The size of the catheter is of some importance. It should be as small as possible, but not too small. There is no advantage in using a large one; on the contrary, large ones are more liable to cause abrasions and so open up areas through which infection may occur. A special advantage in using a small catheter is the fact that the fluid injected through it, after washing out the renal pelvis, flows back along the outer side of the catheter and is collected in the bladder. If a large catheter is used and reflux is not possible the patients are very apt to experience renal colic from overdistention.

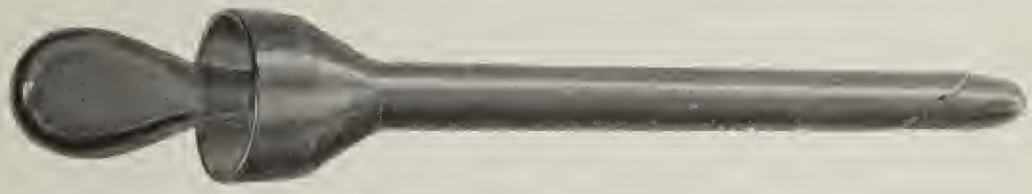

Fig. 3.—Showing outer tube with plunger; ready to be passed through urethra into bladder.

When the catheter is in place the contents of the renal pelvis should be allowed to flow out through the instrument. If the case is one of pyonephrosis and the pus is viscid, some assistance may be afforded by massage of the kidney. Gentle pressure applied to the lower pole will sometimes materially assist in the evacuation of the contents of the sac. Having emptied the pelvis, it is then best to thoroughly wash out the cavity, and the best solution for this purpose is a 2 or 4 per cent. boric acid solution heated to a point a little above that of the body temperature.

The fluid may be injected into the renal catheter either by means of a metal syringe or by means of a funnel attached to a tube; by lowering and elevating the unnel the lavage is easily effected. If a small catheter has been used the fluid may be injected with safety under fair amount of pressure, but care must be taken not to nject too rapidly. With a new case it is best to begin autiously, injecting a little at a time and allowing the uid to return through the catheter itself. If a stric-ure is present, injection under pressure is not allowable; in such a case all the fluid injected must return through the catheter, otherwise there is risk of colic.

The amount of fluid injected in any case must depend on the condition of the pelvis. In cases of stricture the amount of measured residual urine gives the surest indication of the amount of fluid to be injected subsequently. If there is no dilatation of the pelvis, not more than 8 or 10 c.c. should be injected at first. If this amount is well supported, further experimentation will determine the amount and likewise the pressure under which it is allowable to inject. The best guide is the sensation experienced by the patient; when the pelvis is beginning to be full, a peculiar feeling of distention and slight pain is felt in the kidney. When this is felt the injection should stop. As the catheter is withdrawn the injection should be continued in order to leave the antiseptic solution applied to the ureter.

The kind of germ appears to make but very little difference in regard to the choice of the medicated solution. The germ usually found in these cases is the colon bacillus.[6] The gonococcus has also been found in a number of instances, and likewise other germs. The solution which has given most satisfaction in the treatment of cases of pyelitis is a solution of nitrate of silver. This has been used in various strengths. Some prefer the mild solutions of 1:2,000 or 1:3,000, others have used stronger ones. I think it is well to begin with a mild solution of nitrate of silver in the strength of 1:2,000 and gradually increase the strength until much stronger ones are used. I have obtained excellent results with the 2 per cent. and even 2½ per cent. solutions of nitrate of silver. If stronger solutions are used I have found that pain is liable to be caused. Two per cent. solutions have been used by other surgeons. Casper,[7] André and Illyès[8] have all employed these strong solutions, and with benefit. It is well to precede the application of the nitrate of silver by a thorough washing out of the pelvis by a boric acid solution. This is a mild antiseptic in itself, and is very cleansing. In a mild case it is sometimes the solution of choice and may be used alone. It has given excellent results.

Fig. 4.—Showing smaller sized tube.

Bozeman (Case 13), the first to use corrosive sublimate, 1:20,000, got an excellent result. If it is used in strong solution it is very liable to cause pain. Some surgeons have employed it in a 1:5,000 solution.

FREQUENCY OF TREATMENT.

The frequency with which treatment should be given varies with the case. In cases of abundant secretion of pus, every day is not too often, provided the patient supports it. With the first experience of pain or of irritation of any kind, the treatment should be stopped and a rest given. Most surgeons will, in cases in which there is a moderate amount of pus, prefer to give the treatment every three or four days at first, and later, once a week. The latter class of case appears to support the treatment much less easily than the former; at least, this has been my experience.

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[6] Brown: Johns Hopkins Hosp. Rep., 1901, x, 43.
[7] Allg. Med. Central-Ztg., 1895, lxiv, 913.
[8] Deutsche Ztschr. f. Chir., 1905, lxxvi, 40.

Few surgeons will choose to leave a permanent catheter in the ureter with the idea of securing free drainage for a pus sac. If the pus is at all thick, it will not flow through the catheter, and if it does not flow, retention is likely to occur and alarming symptoms may make their appearance. Cases illustrating this danger have been reported (Cases 23, 24 and 26). Nevertheless, so great an authority as Albarran[9] advises, in case of thick pus, to leave the catheter in. Most surgeons, however, will prefer not to adopt this rule. It is especially dangerous in case there are general symptoms of infection.

In my experience renal lavage is not at all dangerous. I have performed this slight operation many times, and I have never seen the slightest ill effect. I have never seen renal colic following the treatment, nor has there ever been any unbearable pain. This result may be attributed to the fact that the greatest care was taken in the sterilization of the instruments which were used, and also to the fact that no attempt was made to inject a large amount of fluid with the idea of thoroughly irrigating the pelvis; as much good may be accomplished by repeated irrigation, using small amounts at a time, and there is less danger by following this rule than if an attempt is made to inject a large amount under great pressure. Albarran (loc. cit., p. 428) has had the same experience, and has never seen any ill effects. Casper[10] is also of the same mind, and in his experience the method has been absolutely without danger. Casper feared that some irritation of the kidney might follow this method of treatment, but he noted particularly that those cases in which there was albumin before the treatment was instituted the albumin promptly disappeared.

Renal colic has been reported in a number of cases, but I think it is perfectly avoidable. Infection, of course, is to be borne in mind, but with a small catheter, and with extreme care and with clean instruments, it is, I believe, possible to avoid it. It certainly has not been more common, if one may believe the recorded cases, than infection following the use of the urethral sound.

In a few rare cases a slight degree of hematuria has been known to follow the introduction of the instrument. This has occurred once in my experience, but the effect was *nil*. Others have likewise mentioned it. Serious results are liable to occur in those cases in which there is pyonephrosis with general systemic infection. But these cases are not amenable to treatment by this method, and a catheter should never be passed in a case of this kind with the idea of emptying pus and curing the disease by irrigation. Desnos (Case 23) had a fatal result in a case of this kind, but he admits that it was an unsuitable case, and that he resorted to the method only because the patient refused a much needed nephrotomy. A slight degree of fever sometimes follows the treatment, and if it does, no attempt should be made to renew the treatment until the patient again has a lowered temperature.

INDICATIONS FOR LAVAGE

This method should not be used indiscriminately; in fact, I believe there are few cases in which it should be tried. Great caution must be urged in the selection of cases. Any ureter, if irritated by a catheter, will shed all kinds of epithelium, caudate, medium sized, and round. Such epithelia, if found in the centrifugalized urine, does not mean that a condition of ureteritis or pyelitis exists; the findings are due to traumatism and nothing else. Bierhoff[11] also calls attention to this point. The best method of making a diagnosis of pyelitis and ureteritis in the female, is to place the patient in the knee-chest position and to collect the urine by means of a cystoscope directly as it drops from the ureteral orifice. If this urine contains the elements usually found in the inflammatory conditions, a diagnosis of pyelitis or ureteritis may be made.

Cases which are the most amenable to treatment are those in which there is a free discharge of pus, which has existed for a long time without showing much sign of diminution in amount. But these cases are exceedingly rare if there has been free drainage, and if there has been no obstruction to the flow of the urine at any part of its course from the pelvis to the bladder. The greatest care should, therefore, be taken in order to determine if any such lesions do exist; stone in the ureter, stricture of the ureter, kinks due to prolapse of the kidney, and inflammatory conditions of the bladder involving the ureteral opening and causing narrowing must all be carefully looked for.

Chronic pyelitis is often unrecognized and untreated for many years. Many cases of pyelitis, in the female, date from the time of pregnancy and immediately afterward. The majority of them get well, but some do not. Special care should, therefore, be taken to follow a case of pyelitis of pregnancy long after the disease has given any marked symptoms. In this disease the infection is an ascending one, and it is fair to presume that the exciting cause is pressure of the child's head on the ureter as it crosses the pelvic brim. It is curious to note that most of these infections are right sided. The bladder, as a rule, suffers very little or not at all, even if there is an abundant discharge of pus from the kidney. After the first few days of vesical irritability, the bladder ceases to give marked symptoms, and at the end of a week or two there is frequently no indication of disease on the part of the bladder, yet at the same time, there may be quite a considerable amount of pus in the urine. I have known such pyuria to exist for many weeks after the first infection of the kidney. It is in cases like these that the treatment is especially advantageous, but at the same time it should not be instituted too early.

I am decidedly of the opinion that acute pyelitis due to any cause should not be treated by this method, and I believe that most surgeons will bear me out in this point. To pass a renal catheter along a recently infected ureter, appears to me to be a very dangerous proceeding, because it may lead to severe general infection. In most acute cases recovery is the rule. I think it will be found that many of the cases in which this treatment is required are those in which there has been some previous affection of the ureter; either stricture or calculous disease, or else conditions in which the drainage from the kidney has been imperfect. A floating kidney is very apt to be associated with recurrent attacks of pyelitis.

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[9] Ass. Franç. d'Urol., Paris, 1898, iii, 429.

[10] Allg. med. Central-Ztg., 1895, lxiv, 916.

[11] Am. Jour. Urol., New York, 1904, i, 34.

The displacement of the kidney produces a twist in the ureter, and engorgement of blood in the kidney is very apt to occur; subsequent infection is easy. The urine can not all escape, retention occurs, and we have conditions favorable for long continuance of the inflammatory process. One hesitates to advise nephropexy in such a condition, for fear that the inflammatory condition of the kidney may affect the healing of the wound and failure result, leaving the patient worse off than before. It is better in such a case to apply a well fitting corset, which will hold the kidney in place, and at the same time to irrigate the renal pelvis in an endeavor to cure the infection. When the infection has been gotten rid of, it will be time to consider a more radical operation.

Stricture of the ureter is very frequently responsible for chronic pyelitis and pyonephrosis. The first step is to dilate the stricture with the idea of establishing freer drainage. At the same time lavage may be carried on. In a long standing case, however, such a course does not offer much hope of a permanent cure, although it can not be denied that much relief may result. Kelly's patient (Case 30) illustrates this point. There was a residual amount of urine of 150 c.c. in the kidney sac when the treatment was first begun. Although the stricture was sedulously dilated, and the kidney sac kept carefully cleansed for a period of many weeks, yet in the end there was a residual urine amounting to 90 c.c. The infection, however, was gotten rid of. In this case there was undoubtedly a chronic flaccid condition of the walls of the ureter and of the pelvis of the kidney which did not allow of contraction to the original size, hence the permanent dilatation. In such a case there will be need of continual treatment, and reinfection is always possible. Ayers[12] calls attention to high attachment of the ureter in the renal pelvis, which forbids the thorough emptying of the pocket below, as the cause of long continued pelvic inflammation. Lavage will, in such instances, diminish the severity of the inflammation, but recurrence may be looked for at any time.

CONTRAINDICATIONS

Unsuitable cases are those in which the drainage is imperfect or can not be carried out. In this class are kidneys which have several pus pockets which do not communicate freely with the pelvis. Here obviously lavage will accomplish but little. Results of treatment must be doubtful when a pyonephrosis exists in conditions in which there is a tolerably large sac filled with pus. Of course, when such a condition is associated with marked systemic disturbances, the only relief is a free ncision, and temporizing is clearly out of the question. In any pyonephrosis without general symptoms it is mpossible to say whether lavage is suitable treatment or not, and the only way to find this out is by trying. If mprovement follows, the treatment may be continued. If not, the treatment should be stopped. Inspissated pus n such a sac is very difficult to get rid of, and it may be a question if all the pus is ever entirely evacuated.

Israel[13] analyzed his personal cases to see in how many of them renal lavage might have been tried when there was pyonephrosis. He had 81 such cases, and in only three of them, or 3.7 per cent., in his opinion, would enal lavage have been proper to consider. In 5 of these 11 cases there was spontaneous cure; in 39 of the remainder there was obstruction of the ureter, which made the passage of the catheter impossible; in the remainder the nature of the disease would have made treatment unsuccessful. Among these there were 11 cases of tuberculosis and one of syphilitic gumma; in 18 there were calculi; in 13 the parenchyma was infiltrated with small abscesses; in 6 there was an obstruction in the first portion of the ureter; in 2 there was a valve formation; in 3 there were adhesions; in 1 there was a kink in the ureter. In all these cases catheterization with renal lavage would have been useless. In 4 of the cases the contents of the pyonephrosis could not have been evacuated because the pus and shreds were firmly adherent to the walls; in 12 cases the septic condition of the patient demanded rapid removal of the organ. In the other 15 cases the most favorable nephrotomy would not have attained a complete cure, because in two of them the pyonephrosis recurred and demanded nephrectomy; in 11 cases there was a urinary fistula which demanded removal of the kidney. Two of the patients died.

It is hardly necessary to mention that tubercular pyelitis is not amenable to this form of treatment. Instrumentation is painful in this condition and does much more harm than good. Casper[10] does not believe that the treatment is worth trying in paralysis of the bladder with ascending infection. Here the cause of the disease is always present, and renewed infection is more than likely.

All are agreed that in pyelonephritis the treatment is harmful. Here we have an inflammation of the kidney substance, and it is difficult to see how irrigation of the pelvis could be expected to do much good.

I have already referred to the difficulty of improving the condition of chronic ureteritis in which there is much thickening of the ureter. Unfortunately, patients affected with this disease suffer intensely and it would be satisfactory to do something for them short of a radical operation. On examination by vagina a thickened ureter is often found; one must be on the lookout, however, not to mistake thickening due to new tissue formation for inflammatory edema. I believe chronic ureteritis in which there are marked tissue changes in the ureter to be incurable, and I do not think that lavage in cases like this is of the slightest avail. The only positive remedy for these patients is nephrectomy.

USE OF OTHER METHODS

If, after having faithfully tried renal lavage in a case in which there is free drainage from the kidney, and if the treatment has failed, the question of other methods comes up. If in such a case there is a severe grade of cystitis, the best method of treatment in the female is a cystotomy and subsequent lavage of the kidney pelvis. It may be well supposed that reinfection of the upper passage may occur in consequence of reflux of urine through the ureteral orifice, which has become dilated in consequence of the inflammatory condition. That such a dilatation of the ureteral orifice does occur can be confirmed by most of those who have had experience in this work, and it can be compared to the dilatation of the cervix uteri always seen in a well marked instance of inflammation of the uterine cavity. That the drainage of both the bladder and of the kidney is infinitely bettered by cystotomy there can be no question, and the only objection to it is the fact that the operation entails so much annoyance and care to the patient.

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12. Intern. Jour. Surg., 1907, xx, 136.
13. Berl. klin. Wchnschr., 1899, xxxvi, 33.

We thus come back to Bozeman's original proposition, which was to do a preliminary cystotomy, in the female, before irrigating the renal pelvis. In two of the elder Bozeman's patients (Cases 13 and 15), and in one of his son's (Case 16), the improvement on the part of the kidney was prompt and marked, and ultimate recovery is recorded in two of these. I do not wish to be understood as recommending this procedure in all cases, for I think it is not necessary, but it is certainly an excellent method of treatment when the inflammation is general and affects the kidney and the bladder to a marked degree.

ANALYSIS OF CASES

In estimating the value of a therapeutic method, we have to rely on the experience of a large number of observers. There is necessarily some difficulty in drawing correct conclusions from published reports because it is not always possible to determine just what was meant by the reporter. Nevertheless, it is only by studying a series of cases that we can arrive at any conclusion whatever.

The first thing that strikes us is the fact that with few exceptions there has been an immediate and marked improvement in the nature of the case as soon as the treatment was instituted. This is unequivocal, and can be maintained with assurance. Furthermore, almost all observers agree that the treatment in properly selected cases, is practically devoid of danger, and that the end results are astonishingly good. In the cases which I have examined I have failed to find mention of the serious sequelæ which have been predicted by men who have really not given the method a fair trial, and it seems to me that if there had been bad results I should have found some mention made of them. This tallies with my own experience. Analysis of the thirty-nine chronic cases herewith presented is as follows:

Reported cured	13
Relieved	20
Result not stated	5
Died	1
	39

By cured is meant complete absence of symptoms and total disappearance of every trace of pus in the urine at the time the report was made. Of course, these figures do not, perhaps, represent the true state of the method, and it is probable that they give only an approximate idea. In some of the cases of cure, however, the result was really remarkable, and there seemed to be no question but that the treatment instituted had everything to do with a favorable effect. The cases in which cures were affected are the following: Nos. 5, 13, 15, 16, 17, 18, 19, 20, 22, 30, 33, 35 and 36. The cases in which relief was obtained are as follows: Nos. 1, 2, 4, 6, 7, 8, 9, 10, 11, 14, 21, 25, 27, 28, 31, 32, 34, 38 and 39. Those in which the final result was not stated are: Nos. 9, 14, 26, 31 and 32. Death followed in Case 23.

It is noticeable that in a large number of cases pyuria sometimes persisted a considerable length of time after treatment had been discontinued. These cases are as follows: Nos. 1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 21, 25, 27, 28, 29, 34, 37 38 and 39. I think that there is a decided tendency for pyuria to reappear even long after the disease has apparently gotten well, and I think also that one must be exceedingly careful in pronouncing the patient cured unless he is perfectly positive that every trace of pus has disappeared, and the only way, in my opinion, to determine this point, in the female at least, is to place the patient in the knee-chest position, pass the oblique cystoscope of Kelly and collect the urine directly as it drops into the end of the instrument. If such urine is absolutely free from pus and germs the patient may be said to be cured.

A word may be said in regard to the unfavorable cases. They are the following: Nos. 3, 12, 23, 24, 26 and 29. In Case 3, a personal case, the patient had been suffering a long time from double pyelitis, and in addition there was chronic interstitial nephritis on both sides. I am inclined to think that this last complication had a good deal to do with the unsuccessful issue. The patient was thin, sallow, had been suffering a long time, and her powers of resistance were decidedly below the normal. I did not expect much from the treatment, and I was not surprised at the unfavorable result. In Case 12 there was a high attachment of the ureter, and the reporter (Ayres) did not expect much relief from the treatment. Case 23 was one in which operation was clearly indicated, but it was refused and the patient died. In Case 24 a permanent catheter was put in and shortly afterward it became blocked. A chill and high fever followed and the instrument was removed. The treatment was again tried and the same result took place. In Case 26 a permanent catheter was allowed to remain in for four days. The ultimate result was not stated, but the maneuver was followed by a severe chill. In Case 29 there was a distinctly unfavorable result in what appeared, at first sight, to be a case favorable for treatment. The disease was gonorrheal cystitis and pyelitis, and catheterization was followed immediately by a chill and high fever.

CONCLUSIONS

1. Renal lavage is but seldom required, and it should not be used indiscriminately. There must be careful deliberation before resorting to this method of treatment, and the patient should have been under observation a considerable length of time before the treatment is proposed.

2. Acute cases are not suitable for this method of treatment.

3. Thorough free drainage of the kidney through the ureter must be secured before permanent relief can be expected.

4. The most suitable cases are those of simple chronic suppurative pyelitis without obstruction, but these cases are very rare, and, unless the germ is a very virulent one, such patients usually get well in the course of time.

5. The method may be used in an endeavor to cure an inflammation in a hydronephrotic sac as a preliminary to nephropexy, but the kidney should be supported meanwhile by an appropriate apparatus.

6. It will at times get rid of the infection in pyonephrosis, but this rarely occurs. It should never be permitted in severe pyonephrosis with general systemic infection.

7. A permanent catheter in the ureter is very dangerous, especially in the presence of acute infection with general symptoms.

8. The treatment does little or no good in a case of ureteritis with marked tissue changes in the ureter leading to sclerosis and thickening.

9. Renal lavage is seldom followed by any serious harmful sequelæ.

10. Enough cases have not yet been reported to give a definite standing to the treatment.

11. Further trial is needed.

REPORT OF PERSONAL CASES

Case 1.—*History.*—The patient, a female, 40 years old, was operated on two years ago for calculus of the lower end of the ureter. The operation was performed through the anterior cul-de-sac, and a large stone was removed. A fistula remained which lasted several weeks and then closed spontaneously. She was quite well for several months, and at the end of that time returned complaining of frequent micturition. The right ureter was catheterized and a considerable amount of pus was found in the urine. The ureter and kidney were then washed out several times with a solution of 1:2,000 alphozone at intervals of a few days. She took urotropin in the meantime. This treatment cleared the urine a good deal, and she experienced much relief. The treatment was discontinued.

A few months later she began to have considerable pain in the right kidney, and this was followed by fever, chills and general prostration, and there soon appeared a swelling under the right ribs. The condition growing worse, nephrotomy was advised and accepted. A large amount of pus was evacuated through an incision in the loin, and a careful search was made for stone, but none was found. An *x*-ray photograph by Dr. Percy Brown made previous to the operation was negative. The nephrotomy wound closed at the end of a few weeks, and she was in much better condition. There still remained a considerable degree of pyuria, and it was proposed to irrigate the kidney at regular intervals. Before doing this, a careful examination of the ureter was made for the purpose of determining the caliber of the canal. A number 15 F. bougie was passed through a cystoscope into the right ureter well beyond the site of impaction of the calculus which had been removed by operation. There was no stricture. It was evident, therefore, that the case was one of long continued pelvic suppuration, not dependent on stricture or stone. A bacteriologic examination of the urine showed the bacillus mucosus capsulatus. The case seemed a good one for trying this method of treatment.

Treatment.—At the time the treatment was begun, which was shortly after the nephrotomy, she was suffering from numbness in the right thigh and arm; there was much pus in the urine, a quarter of an inch on standing; she was urinating eight or ten times a day, and once at night, and her general condition was one of considerable weakness. Irrigation of the pelvis of the kidney and ureter was done every few days at first and later every week. The solutions used were a 2 per cent. boracic acid solution, and later a 2 per cent. and sometimes 2.5 per cent. solution of nitrate of silver. A stronger solution of silver produced so much pain in the kidney that it eemed inadvisable to continue its use. Altogether she had wenty treatments. There was no reaction and there never vas any colic or unusual, unbearable discomfort. The patient lways came to the office and returned home unaided. From he very first relief was experienced.

Result.—The amount of pyuria rapidly diminished, and at he last examination, made a short time ago, the right ureteral rine was almost clear, was acid in reaction, and the sediment ontained only a very small amount of pus, a little blood, and few small cells. It is evident, therefore, that the process is ot at an end, and that the patient must be watched in the uture. Her general condition, however, is much more satisactory. She has gained in weight, the appetite is good, she leeps well, and the bladder does not bother her at all, although here is still a considerable degree of injection of its mucous embrane, and the bladder urine, drawn with a catheter, ontains a considerable amount of pus. It is thought that the ladder inflammation is kept up by the constant discharge of ightly purulent, bacteria-laden urine from the right side.

Case 2.—*History.*—The patient was a woman 52 years old ho had had gonorrhea many years previously. Since the inection she had always been troubled with her bladder. After e first violence of the inflammation had subsided, there reained a constant desire to urinate, which never left her ght or day. The chief symptom was a constant irresistible sire to pass water, especially bothersome at night. The ine was apparently clear, but on careful examination the ght ureteral urine was found to contain microscopic quantities of pus, blood and a few casts. The renal catheter discovered a stricture on the right side about three inches from the ureteral orifice. The stricture allowed a catheter 1½ mm. in diameter to pass.

Treatment.—The stricture was dilated until it admitted a No. 11 F. catheter, then an attempt was made to cure the pyelitis and ureteritis by means of injections of fluids into the renal pelvis. Several treatments were given and it was thought that there was some improvement at first, but the attempt was finally abandoned because the improvement was not marked. The solutions used were a ½ and a 1 per cent. solution of nitrate of silver, a 2 per cent. boracic acid solution and a 5 per cent. ichthyol solution.

Result.—It can not be said that much benefit resulted from the treatment of this case, and it is my impression that in cases similar to this one, in which there has been a long continued inflammation affecting the pelvis, and especially the ureter, in which undoubtedly marked changes have occurred in the ureter, the treatment had better not be tried. It is difficult to see how the injection of a mild solution every few days, when at best only the superficial areas are reached, can favorably affect a long standing disease with deep seated lesions. In my opinion, a case like this had better be treated by palliative means, and if the suffering is intolerable and can not be endured any longer, I believe that it is justifiable to remove the kidney. The latter course, however, will be declined by most patients in view of the severity of the operation.

Case 3.—*History.*—The following case is very similar to Case 2, and had a like result. The patient was a woman, 55 years of age, who had the uterus removed seven years previously. Since that time there had been a good deal of bladder irritation which had resisted all kinds of treatment. On examination there was some tenderness over the right kidney, and there was also tenderness of the left ureter on pressure through the vagina. The separated urines showed pyelitis on both sides, and there was also in addition chronic interstitial nephritis. There was a slight trace of albumin in each urine. The germ present in this case was the colon bacillus. The bladder was markedly inflamed, and there was general redness and an unusual amount of sensitiveness of the mucous membrane of the bladder. It was an extremely irritable cystitis.

Treatment.—On several occasions at intervals of a few days, the ureters were catheterized and the pelvis of the kidney irrigated. After each treatment the patient was made distinctly worse, and the treatment was abandoned. The injection of a specially prepared vaccine made from the germs in her case was likewise unsuccessful. The vaccine was persistently used for a period of six weeks, without appreciable result. There remains nothing else except a cystotomy for the relief of the intolerable suffering which the patient is now enduring. It is proposed to irrigate the renal pelvis after this operation has been performed, with the hope that a cure may be effected. The long duration of the case, however, makes this result somewhat doubtful, especially in view of the fact that there is a well-marked condition of chronic interstitial nephritis, which may prevent reparative processes.

CASES FROM LITERATURE

Case 4.—Albarran:[14] Female, aged 29, for five or six years had pains in both lumbar regions and symptoms of cystitis; pyuria; both kidneys large and sensitive. Lavage of left kidney every second day, for fifteen days with boric acid followed by nitrate of silver, 1:1,000. A month later the same treatment five times. Result: The patient was much improved, the pains were less severe, and the urine was much clearer. (The right kidney seems to have given little trouble.)

Case 5.—Albarran:[15] Female, aged 37. Right floating kidney was anchored in 1896. Two years later pyuria on right. Three treatments by lavage, two in July, 1898, two in April, 1899, with boric acid, followed by nitrate of silver, 1:1,000. (There was dilatation of the pelvis of the kidney in this case. The pelvis held 12 c.c.) Six months after the last treatment patient was reported well.

Case 6.—Albarran:[16] Female, aged 74, had pains in left lumbar region. Cystitis. Lavage of left kidney, every two days, five times, with boric acid, followed by nitrate of silver, 1:1,000. The patient is much better and insists on interrupting the treatment to go to work.

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[14] Ass. Franç. d'Urol., Paris, 1898, iii, 421.
[15] Id., 422.
[16] Id., 423.

Case 7.—Albarran :[3] Female, aged, 68, had pains in left lumbar region. Catheterization shows slight pyuria on the left, but a good deal to the right. One lavage with boric acid, followed by nitrate of silver, 1 : 1,000. This patient did not return for several months, having felt better in the meantime. Catheterization then showed some pyuria on the right.

Case 8.—Albarran :[17] Female, aged 26, had severe pain on right side for a year. Abundant pyuria at times, and a good deal of fever. The right kidney can be felt three inches below the ribs. There was retention in the kidney of 15 c.c. Lavage of right kidney four times in two months with boric acid. The right kidney is much less painful, but is still quite large. The patient is able to work.

Case 9.—Albarran :[18] Female, aged 30, had pains in left lumbar region for two years. Lavage of left kidney seven times in one month with boric acid. The patient is very much better; can eat with good appetite, has no fever and sleeps well. Final result not stated.

Case 10.—Albarran :[19] Female, aged 52, in May, 1896, was operated on for calculus of left kidney; four stones were removed. The wound healed and the urine became clear. Six months later she returned with abundant pyuria. Left kidney somewhat large. The catheter evacuated thick pus from the left kidney. Number of treatments not stated, but it is said that she was treated twice a week for some time. The pus was thick, and great difficulty was experienced in evacuating all of it. Solutions: boric acid, followed by nitrate of silver, 1 : 1,000. The urine is much clearer, and the patient states that she is very much better.

Case 11.—Ayres :[20] Female, aged 72, had renal calculi in left kidney for 15 years. Nephrectomy by Dr. Bremmerman. One month later pain in the right side with pyuria. Four lavages; solution not stated. Nearly normal urine, but there was a return of the calculus disease on the right at a later time.

Case 12.—Ayres :[21] Female, aged 46, had postpuerperal pyelitis 16 years previously. Pyuria and hematuria. Had been suffering pain in the left side for a year when seen by physician. Pyuria both sides, especially left. Lavage, left side, number of times not stated, with nitrate of silver in weak solution. Result, not stated. The author diagnosed high attachment of ureter on the left in this case from absence of floating kidney and from presence of residual urine in the kidney. Result unfavorable. Nephrectomy advised but refused.

Case 13.—Bozeman, N :[22] Female, aged 34, had pain in left lumbar region before delivery. Vesico-vaginal fistulæ. Ill 4 months. The left ureter washed out daily through the fistula for six weeks, and at less frequent intervals for six months, with bichlorid of mercury, 1 : 20,000. At the end of six weeks the urine contained only a trace of pus; at the end of six months pyuria had disappeared. At the end of the year the fistula was closed and the patient had no further symptoms.

Case 14.—Bozeman, N. :[23] Female, aged 32, had suffered for six years with symptoms of cystitis. Cystotomy had been performed by another surgeon five years previously. The drainage was insufficient. A history of pains in the right lumbar region for a long time, followed by pains in the left lumbar region. The left ureter was catheterized through the cystotomy wound, and the kidney washed out on three occasions with corrosive sublimate, 1 : 20,000. End result not given.

Case 15.—Bozeman, N. :[24] Female, aged 34, had pains in right kidney for three years with symptoms of cystitis; gradually lost weight; abundant pyuria. Cystotomy was performed, and the right ureteral orifice was exposed. Later, when the edges had healed, a catheter was passed into the right ureter. Daily lavage for three weeks with corrosive sublimate, 1 :20,000. At the end of three weeks the urine was clear. At the end of nine months the fistula was closed and the patient was well. She had gained twenty-five pounds in weight.

Case 16.—Bozeman, N. G. :[25] Female, aged 26. Great prostration, fever, chills and abundant pyuria, with pains in right kidney region. A cystotomy was performed, and later the right ureter and pelvis were washed out several times in three weeks with corrosive sublimate, 1 :20,000. "Immediate improvement," but no other details given. Nine months later the patient was well and the fistula was closed.

Case 17.—Bremmerman :[26] Male, aged 29, had gonorrhea 8 years previously. Recurrent attacks of pyuria. Catheter showed pyelitis on both sides. Seventeen lavages with nitrate of silver, 1 : 5,000. Cured. Examined one month later and cure persisted.

Case 18.—Casper, L. :[27] Male, aged 34, pyonephrosis on right side, held 300 c.c. Evacuation aided by massage. Treatment repeated two days later and catheter allowed to remain permanently. Six treatments in all. Urine clear but microscopically contained a few leucocytes. Solution, nitrate of silver, 1 :1,000. Patient was kept under observation and was reported well, with clear, normal urine.

Case 19.—Casper, L. :[28] Female, aged 28, pyonephrosis following childbirth. Right kidney affected. Right ureter catheterized. Kidney sac held 150 c.c. Later the pelvis was irrigated. Three days later a diminution in volume of the tumor. Pelvis irrigated for six weeks at intervals of a few days. The urine from the right kidney was then clear. Kidney was somewhat prolapsed, but not enlarged. Solution, nitrate of silver, 1 : 1,000. Patient followed for nine months, and continued well. Urine was clear and free from pus.

Case 20.—Casper, L. :[29] Male, aged 28, left chronic gonorrheal pyelitis. Kidney pelvis with 60 c.c. Lavage every two days for twenty treatments, with nitrate of silver, 1 : 1,000. After the second treatment a marked improvement was noticed. Less pus and less albumin. By the sixth treatment the urine was entirely clear and was free from cells with the exception of some epithelium from the ureter. The subjective symptoms also improved. At the end of four months the patient was discharged as completely cured. Free from all symptoms and urine clear. No pus and no albumin.

Case 21.—Casper, L. :[30] Male, aged 34, subacute gonorrheal pyelitis, severe case. Patient had been treated by a permanent catheter in the ureter, but no benefit resulted. A large amount of pus was evacuated. Lavage every day. During withdrawal of the catheter from the kidney fluid injected along entire ureteral canal. Much pain and tenesmus following the treatment. At the end of the second treatment the patient was much better. The urine was more nearly normal than for four months past. After this there was rapid improvement. One and two per cent. solutions of nitrate of silver were used. One month after treatment the urine was examined and was found to be nearly normal. There were only a few pus corpuscles in the sediment. Six weeks later an examination was again made, and the same findings were noted. The patient reported himself perfectly comfortable and apparently well.

Case 22.—Casper, L. :[31] Male, aged 28, gonorrhea one year previously. Severe cystitis; left pyelitis. Lavage of renal pelvis six times with boric acid, followed by nitrate of silver, 1 :1,000 and 1 :500. Cured.

Case 23.—Desnos :[32] Female, aged 28, cystitis and left pyelonephritis. Large tumor. Nephrotomy was refused, although clearly indicated. A catheter was introduced into the kidney and allowed to remain. A severe chill followed, with alarming symptoms. No attempt to wash out the kidney. Death on the fourth day.

Case 24.—Desnos :[33] Female, aged 48, one year's cystitis and right pyonephrosis. A permanent catheter was placed in the ureter, and this was followed immediately by a chill and high fever. While the catheter was in place the pus in urine suddenly ceased to flow. The instrument was left in for twenty-four hours. Six days later the operation was repeated, and again a chill and high temperature followed within three hours. No attempt at irrigation. Result, not stated.

Case 25.—Desnos :[33] Adult, pyelitis (sex and side not stated). Lavage four times, at intervals of eight or ten days. After each introduction a rise in temperature. Solution not stated. There was an improvement, but the pyuria returned as soon as treatment was discontinued.

Case 26.—Desnos :[34] Male, aged 45, stricture, cystitis, right pyelitis. No general symptoms. A catheter was introduced into the ureter, and this was followed by a severe chill. The catheter was left in for four days. No lavage attempted. Result not stated.

Case 27.—Furniss :[35] Female, aged 41; 23 years previously postpuerperal cystitis and pyelitis on the left side. Suffering was severe during the last five years. The catheter was passed into the left kidney, and a large amount of pus and urine evacuated from it. Seven treatments were given with boric acid, followed by nitrate of silver, 1 : 5,000. Great improvement followed, but no cure is recorded.

Case 28.—Illyes :[36] Male, aged 24, ectopia of bladder, bilateral pyelitis. Catheter inserted into the right ureter, pelvis irrigated with one liter sterile water, and afterward nitrate of silver injected. This was done for four successive days. There was great improvement, and six further treatments were given. The left ureter was similarly treated for ten days, and the urine then became clear on both sides. Solution, nitrate of silver, 1 and 2 per cent. Three months later urine again became cloudy. End result not stated.

Case 29.—Israel :[37] Adult, sex not stated, right gonorrheal cystitis and pyelitis. Ureter was catheterized, and this was followed by a chill and high fever, which lasted two or three weeks. There was no attempt at lavage. The urine became more cloudy, and for the next two or three years the patient was subject to chills and fever.

Case 30.—Kelly :[38] Female, aged 31, symptoms of cystitis for some time. Abundant pyuria. On examination stricture of lower end of ureter was found. The patient was treated for a period of three months, during which time 117 separate lavages were given. The capacity of the kidney sac was 150 c.c. The inflammation was gonorrheal. Solution, boric acid, nitrate of silver 1 per cent., and bichlorid of mercury 1 :150,000. There was a complete disappearance of the pus in the urine, and coincident with this the patient was greatly improved in her general health. She gained twenty pounds in weight, and felt better and stronger than she had for many months previously. She was seen si months later, and there was then a residual urine in the kidney sac of 90 c.c., but the urine was clear and contained no pus. The symptoms were insignificant.

Case 31.—Kelly :[39] Female, aged 52, left nephrectomy; right pyelitis; colon bacillus infection. Cystotomy followed by irrigation o right kidney. Number of treatments not stated. Solution, nitrate o silver (strength not stated). Vigorous treatment almost caused bacilli to disappear, but not quite. The patient was much relieved however, and was able to work. Final result not stated.

Case 32.—Kelly :[39]Female, adult, large right kidney with pyuria A catheter was passed. This was followed by a chill. Later th attempt was resumed, and the kidney was washed out later a short intervals for three weeks. There was a good deal of pu in this kidney. Solution not stated. There was a gradual improvement, and patient finally went home. A year and a half later sh was reported as well.

Case 33.—Kelly :[40] Female, adult, colon bacillus infection, cyst tis and left pyelitis of four years' standing. Cystotomy: drainag The bladder was curetted. (No treatment appears to have bee

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17. Id., 424.
18. Id., 425.
19. Id., 426.
20. Intern. Jour. Surg., 1907, xx, 138.
21. Id., 134.
22. Trans. Inter. Med. Congr. Ninth Session, 1887, ii, 545.
23. Med. Rec., New York, 1888, xxxiv, 117.
24. Am. Jour. Med. Sci., 1888, clv, 257.
25. Am. Gyn. and Obstet. Jour., 1897, ii, 35.
26. Am. Med., 1905, x, 997.
27. Berliner klin. Wchnschr., 1899, xxxvi, 28.
28. Berliner klin. Wchnschr., 1899, xxxvi, 28.
29. Allg. Med. Central Ztg., 1895, lxiv, 915.
30. Allg. Med. Central Ztg., September, 1895, lxiv, 913.
31. Wien. med. Presse, 1895, xxxvi, 1463.
32. Ass. Fr. d'Urol., 1898, iii, 434.
33. Id., 433.
34. Id., 432.
35. Post-Graduate, New York, 1906, xxi, 337.
36. Deutsch. Ztschr. f. Chir., 1905, lxxvi, 40.
37. Berliner klin. Wchnschr., 1899, xxxvi, 34.
38. Johns Hopkins Hosp. Bull., February, 1895, vi, 19.
39. Med. Rec., 1905, lxvii, 523.
40. Id., 522.

given to the left kidney.) The fistula was finally closed, and after its closure the right kidney was treated seventeen times in all by lavage. Solution, nitrate of silver, 1 : 1,000. Cured and has remained well.

Case 34.—Kelly:[40] Female, adult, left kidney inactive. Right kidney was secreting 2,250 to 2,400 c.c. in twenty-four hours. There was pyelitis besides. This patient was treated persistently for two years by lavage of the kidney. Solution, not stated. Great benefit resulted from this method of treatment, and the patient felt very much better. She died suddenly, presumably as a result of complications.

Case 35.—Kelly:[41] Sex not stated, adult. Patient had typhoid 30 years previously, and following this disease there was pyelitis, which had existed during thirty years. The patient was treated by lavage of the kidney (side not stated). The infecting organism was the bacillus typhosus. Solution not stated. Cured.

Case 36.—Lewis:[42] Male, aged 28, gonorrhea two years previously. No local signs or symptoms on the part of kidneys, but on catheterizing it was found there was a slight pyuria on the left side. The left kidney was treated by lavage. Five treatments in all were given at short intervals with hot boric acid. Examined two months after the treatment, the patient was found to be well.

Case 37.—Pawlik:[43] Female, aged 43, first seen in 1895, had been ill fourteen weeks, suffering from double pyelitis. The kidney was treated by lavage three times. She then disappeared for several months. Death took place a few months later. Solution, nitrate of silver, 1 : 1,000 and 1 : 5,000. Improvement followed the treatment, and the urine became clearer on the right, but not on the left side. The left kidney was the one most affected, and there was a severe pyonephrosis, which undoubtedly caused death.

Case 38.—Pawlik:[44] Female, aged 47, had pains in right kidney, vomiting, general weakness, symptoms of cystitis. The right kidney was treated by lavage thirty-three times during seven months. During the first four months there was an improvement, and at the end of this time there was only slight pyuria. The treatment was then partially discontinued, and there was a relapse. The germ was the streptococcus. The general condition was good. Solution, corrosive sublimate, 1 :20,000 to 1 :40,000, boric acid, 2 per cent., and nitrate of silver, 1 :3,000 and 1 :1,000. On the whole, the patient was much improved, and was in fairly good condition while under treatment. She was seen 3 years after the treatment had been discontinued, and she was then in the same state. The urine when examined, always contained pus. Her general health is very good.

Case 39.—Wose:[45] Male, aged 28, gonorrhea 5 years before. Three years ago had a fall from a house. This was followed by tubercular spine, with ischio-rectal abscess. There was left pyelitis, with a heavy deposit of pus in the urine. The kidney was treated by lavage (number of treatments not stated); solution, boric acid. Result, "Did well."

THE EXPECTANT TREATMENT OF URETERAL CALCULUS

ITS INDICATIONS AND RESULTS *

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The Roentgen-ray method of diagnosis has fully demonstrated its accuracy and advantages in urinary lithiasis, so that the best surgical opinion holds that no operative procedure is complete or should be undertaken, even in obvious cases of stone, without the complete data which it affords.

In this paper the value of Roentgen-ray diagnosis in operative cases will not be discussed, and only those cases considered in which it renders non-operative treatment feasible and rational. Since the demonstration of a calculus in the kidney is an indication for immediate operation, only those cases of ureteral lithiasis uncomplicated by a renal calculus will be considered.

Can the indications for and against operation in ureteral lithiasis be determined with sufficient accuracy by known methods of diagnosis to justify non-operative, *i. e.*, expectant treatment in a well-defined group of cases?

The accurate determination of the size, position and number of all urinary calculi by the Roentgen method made this seem possible. In a paper read before the Section on Surgery and Anatomy in 1901,[1] I pointed out the concomitant symptoms derived from other methods of diagnosis, which, when taken in conjunction with an accurate Roentgen-ray examination, formed the basis for rational expectant treatment.

In that paper I said:

> It is the Roentgen method of diagnosis that has shown the greater frequency of ureteral calculi. Their detection does not, however, constitute an indication for operation. The increased ratio of ureteral to renal calculi is due to their detection and recognition. They must have existed in the same relative proportion previously. The absence of symptoms, that would lead to their recognition, shows how tolerant the ureters must be. It shows that these calculi may be allowed to remain in the ureter, under certain conditions without grave danger. It therefore sanctions a conservative method of treatment, when that method is rendered safe by accurate knowledge of the condition that is present. The accuracy and detail afforded by the Roentgen method of diagnosis from this safeguard, and the rational basis for a differentiation between the cases demanding immediate operation, and those in which an expectant conservatism, under strict supervision, will often result in the passage of a calculus and complete recovery. It makes it rational to leave to natural methods, what has been recognized as possible for nature to accomplish without injuring the kidney.

The soundness of this procedure and its value in treatment has been demonstrated by the passage of thirty-one calculi in cases in which it was suggested and employed, as compared with fifteen cases in which operation was employed for ureteral stone.

By expectant treatment, as employed in these cases, is meant the careful medical supervision of the patient, with frequent examinations of the urine and estimations of the amount of urea passed.

The indications on which this course of treatment was based were the Roentgen-ray examination and the symptoms and signs as derived from other clinical methods. Without the accurate data furnished by the Roentgen-ray diagnosis such a course of treatment would not only be irrational but dangerous. There is little difference in symptomatology between the quiescent calculus in the kidney or ureter and that of an impacted calculus producing a unilateral anuria. The onset of symptoms is the same, and yet the anuria will result in the destruction of the kidney if unrelieved, for the symptoms subside and only clear urine flows from the sound kidney. Operation under such circumstances is imperative, but the exclusion of detection of a calculus in the ureter and the persistence of a bilateral urinary flow relieves the situation. The determination of a bilateral urinary flow by the cystoscope excludes anuria, but does not tell whether a calculus is present or not, and, if present, its position and size. Without such definite knowledge explanatory operation was necessary. On the other hand, the detection of a small ureteral calculus is not an indication for operation unless urgent symptoms are present, since its size makes it possible and probable that Nature will expel it. Without such definite knowledge, it is preferable to permit Nature to accomplish the expulsion, rather than to submit the patient to the risks of operation. The symptoms are in no way proportionate to the size of a calculus, nor can it be accurately located by them, or by palpation.

The Roentgen-ray method by itself does not furnish data on which a rational course of treatment can be based, unless it shows a calculus in the kidney or one too large to be readily passed in the ureter, when operation is indicated. It is only when the knowledge it affords is taken in conjunction with the clinical his-

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41. Id., 521.
42. Ann. Surg., 1903, xxxvii, 24.
43. Rev. de Gyn. et de Chir. Abd., 1897, i, 805.
44. Id., 787.
45. Inter. Jour. Surg., 1906, xix, 229.

* Read in the Section on Obstetrics and Diseases of Women of he American Medical Association, at the Fifty-ninth Annual Ses-ion, held at Chicago, June, 1908.

[1] The Indications for Operation in Calculous Nephritis and Ure-eritis," The Journal, Nov. 30, 1901, p. 145.

tory, symptom-complex and microscopic and chemical analysis of the urine that a rational course of treatment can be instituted.

The results of expectant treatment, based on these combined data, show that Roentgen-ray diagnosis adds the knowledge which makes successful a course of expectant treatment in 60 per cent. of the cases of ureteral calculus. If Nature is capable of expelling these calculi in so many cases, why should these patients incur the grave risks of operation on the ureter? No injury can result from this treatment carried out under careful medical supervision, while if urgent symptoms arise the exact localization renders operation precise and effective.

The indications on which rational expectant treatment can be based, after Roentgen-ray examination has determined the position and size of a small ureteral calculus, are derived from a careful clinical history, direct physical examination and chemical and microscopic analyses of the urine.

The detection of more than one ureteral calculus is not a contraindication to this method of treatment, since in a number of cases multiple calculi have been passed.

The importance of a complete and carefully taken clinical history can not be overestimated. From it can be deduced the amount of power present to expel the calculus and the chances of its final accomplishment. In favorable cases, the history shows a succession of attacks of acute ureteral colic increasing in frequency. They mark the steps in the progress of the calculus down the ureter. The pain is most acute during the attacks, and is localized at the seat of the calculus. Between the attacks there is a constant lumbar ache, as the urine is banked up in the pelvis of the kidney, increasing in intensity just before the acute attack of colic. These symptoms show that there is sufficient vitality in the kidney and a *vis a tergo* essential to the final expulsion of the calculus. Other symptoms noted in my previous paper before this Section are of value in estimating the progress of the calculus and in corroborating the Roentgen-ray findings.

The symptoms that contraindicate the use of expectant treatment are the presence of fever, indicating an acute pyonephrosis or an absence of bilateral urinary flow with the subsidence of acute symptoms. These conditions point to immediate operation, as does the presence of an ureteral calculus too large to readily pass.

Palpation may disclose a hydronephrosis and hydroureter, but in the absence of fever and the presence of acute pain these only indicate the presence of the natural forces which finally expel the calculus. A calculus at the uretero-iliac junction may be palpated, and gentle massage may assist in its passage beyond this point of constriction, but must only be employed with the greatest care.

Chemical and microscopic analyses of the urine, repeated at frequent intervals, are absolutely essential to justifiable expectant treatment. The presence of pus or blood is not an indication for operation, if the calculus is small and no hyperpyrexia is present. Albumin is the most constant sign in urinary lithiasis, and is not an important factor when present in a moderate amount. The estimation of the total amount of urea excreted determines the functional efficiency of the kidneys, and so long as it remains normal it shows that no undue strain is placed on them.

The indications for expectant treatment in cases in which a small calculus has been treated by the Roentgen-ray method are a history of repeated attacks of colic, increasing in frequency, with a constant lumbar ache, a urine free from any excess of morphologic elements and having a normal amount of urea and these combined with an absence of febrile symptoms.

The contraindications are a calculus in the kidney or one in the ureter that is too large to pass, a marked amount of pus in the urine with high fever, or a persistent unilateral anuria without symptoms.

The adjuvant treatment employed is to relieve pain, to relax spasm, to prevent the formation of more crystalline débris and to hasten the expulsion of the calculus.

The relief of pain in the acute attacks of colic must sometimes be accomplished by large doses of morphin, or even general anesthesia to the point of relaxation. Atropin should always be given in conjunction, as its effect in relaxing the spasm of the involuntary muscular fibers is of great value, not only in relieving pain, but also in facilitating the passage of the calculus. The application of moist heat externally is effective often in severe attacks, and the avoidance of morphin is desirable, as it in a measure hinders the onward progress of the calculus. In ureteral colic of the left side moist heat can be effectively employed by high enemas of water as hot as can be borne.

The flushing action of large quantities of water is an effective agent in the progress of the calculus and is probably the chief value of the mineral waters frequently advocated. There seems little reason to believe that any solvent action is obtained from the remedies often advanced for this purpose.

In some cases they have a decided influence in preventing the formation of crystalline débris, but it is difficult to say how much of this is the result of their diluent properties. It is hardly reasonable to expect that agents which do not dissolve a calculus when they are concentrated in a test-tube will produce such an action in the dilute form in which they must of necessity pass through the kidney.

The formation of fresh precipitates apparently can be prevented by largely diluting the urine and changing its reaction. For this reason, the natural alkaline waters are valuable when the fresh urine has an acid reaction. When phosphatic salts predominate the best diluent is buttermilk, which contains lactic acid. Although its administration has never been shown to dissolve even a small calculus, its employment has prevented the formation of vesical calculi in cases in which repeated lithotrites had failed. Diluents seem valuable in proportion to the amount absorbed rather than to any chemical constituent. Urotropin (hexamethylenamin) is valuable as a urinary antiseptic in cases of mild infection, but should not be depended on to replace operation when grave infection and hyperpyrexia are present.

In calculus in the juxtavesical portion of the ureter the passage of the stone can be facilitated by gentle rectal or vaginal massage, while calculi impacted in the vesical orifice of the ureter can frequently be removed by manipulations through the cystoscope.

Instrumental intraureteral interventions in ureteral calculus are, however, not unaccompanied by danger, since the ureter is frequently weakened by the presence of the calculus and has been perforated in some cases. Unless the calculus is large and has become impacted in the wall of the bladder, it is much safer to allow it to pass by natural methods. In the female calculi can readily be reached through the vault of the vagina, but the discussion of operative procedures is foreign to the purpose of this paper.

CONCLUSIONS

The value and applicability of the expectant method of treatment in small ureteral calculi have been demonstrated by the passage and recovery of calculi in thirty-one cases, as compared with fifteen in which operation has been deemed necessary.

By expectant treatment is meant the employment of known medical measures under careful medical supervision, with frequent analyses of the urine.

Such treatment is based on the data derived from a careful Roentgen-ray examination with a study of the symptoms and signs as shown by other methods of clinical examination.

The results obtained by this course of treatment show that in 50 per cent. of the cases of urinary lithiasis presenting marked symptoms natural forces are capable of expelling the calculus.

With the accurate knowledge obtainable by known clinical methods of diagnosis this procedure is not only rational and justified, but should be employed rather than resort to the dangers of ureterolithotomy.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. LEONARD AND GARCEAU

Dr. H. H. Young, Baltimore: I think that Dr. Leonard is entirely correct in taking a conservative view in regard to certain small calculi of the ureter. During the course of such conservative treatment I advise careful observation and the use of the cystoscope to note the action of the kidneys in order to be sure that the outflow of urine had not become blocked. It is also necessary to compare the size of the ureteral orifice with that of the calculus shown by the *x*-ray, and if it is manifest that the size of the orifice is too small for the passage of the calculus, the patient should not be subjected to the unnecessary delay entailed by Dr. Leonard's procedure. In preference to a long wait I suggest an attempt at some intravesical cystoscopic operation. Casper and others have caused the passage of a calculus by injecting glycerin or olive oil above it. I have tried that successfully in one case. It may be possible to dilate the ureter by the passage of catheters of increasing size. I have had two cases in which this has been done successfully. Calculi fastened at the lower end of the ureter may be teased out with a ureteral catheter. In one of my cases a calculus impacted in the lower end of the ureter was dislodged and emptied into the bladder with a little manipulation of a ureteral catheter. I have now under observation a case in which a very small calculus, located only half an inch above the orifice of the ureter, has been present for a long time and the passage of ureteral catheters even of a large size has not secured the passage of the calculus. In order to facilitate the passage of this calculus I have devised a little ureteral dilator, constructed much like a urethral dilaor, with an external attachment, whereby it is possible to enlarge it after introducing it into the ureter. Having been passed above the site of the calculus it is gradually withdrawn, its dilated portion stretching the ureter. The spring of the instrument is strong and firm. I used it only a day or two ago and can not say whether the procedure has been uccessful. It would seem to be applicable in cases in which he lower orifice of the ureter is too small to allow the passage of calculus. I do not recommend a long persistence in this on-operative treatment. I have had six cases of calculi emoved from the pelvic portion of the ureter in men by the xtraperitoneal iliac operation without a single death and in all cases there has been primary union of the ureter and o leakage of urine through the wound. I have two cases in which the calculi have been removed through the bladder by means of incision of the lower orifice and extraction through the bladder. It would seem, therefore, that the rational treatment is not to wait too long, especially if the patient is suffering. We must also keep in mind the possibility of injury to the structure of the kidney on the affected side. The intraureteral operation, if feasible, would seem to be a desirable thing to try. I have tried intrapelvic irrigations in several cases of pyelitis, but with very unsatisfactory results. In cases of hematuria I have found the intrapelvic injection of adrenalin of great value, and have now had three cases of persistent hematuria, one of ten years' duration, cured by the intrapelvic injection of adrenalin.

Dr. C. S. Leonard, Philadelphia: I purposely did not take up the operative side of ureteral calculus. I simply wanted to show the result of the expectant treatment in certain cases in contrast to certain other cases necessitating operation. I spoke of intraureteral operation being dangerous on account of the softness of the ureter. I have had the misfortune to see three cases in which an attempt to pass the ureteral catheter caused perforation into the peritoneum. In another case in which the stone had been forced to the wall of the bladder it finally ulcerated through the wall and escaped in that way. The measurement of the stone as compared with the orifice of the ureter as seen with the cystoscope seems to me rather a delicate matter, because we can not tell from the *x*-ray exactly what the size of the calculus is, nor can we see in the refracting cystoscope and through its magnifying lenses the exact size of the ureter. I think that Nature can dilate the orifice of the ureter with as little danger to the patient as the surgeon can with any instrument; and, although this instrument may be serviceable in many cases in which the stone becomes impacted I think it is safer to leave the matter to Nature when that is possible.

Dr. Edgar Garceau, Boston: I take the view that it is unwise to wait too long in cases of impacted calculus. There are so many things that may happen if a stone is left in the ureter that it seems to me unwise to court danger by waiting. Hydronephrosis may develop, infection may ensue, and a very serious condition result in the kidney above. Just how long one should wait is, of course, a question to be decided by the sizes and symptoms in each individual case.

THE ACUTE FORMS OF ABDOMINAL TUBERCULOSIS *

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There has been a general impression for many years in the minds of the profession that tuberculosis of the various abdominal structures was a disease which almost invariably began in a slow insidious manner.

The fact that the lesions caused by the tubercle bacillus are often accompanied by such acute symptoms as to simulate in every detail the well-recognized acute forms of disease of the various abdominal viscera is not as well known as it deserves to be.

The two structures which are most apt to be thus involved are the appendix and the peritoneum, and the present paper will be limited to these two. Mayo,[1] however, has called attention to such an acute onset in cases of tuberculosis of the Fallopian tube, and in a previous paper[2] I have emphasized the relative frequency with which a mixed gonococcus and tuberculous infection of the epididymis will be accompanied by very acute symptoms. My interest in the subject was reawakened by an experience during the summer of 1907.

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* Read at the International Congress for Tuberculosis (Surgical Section), Washington, Oct. 2, 1908.

[1] Mayo, W. J.: Tuberculosis in the Abdomen, The Journal A. M. A., April 15, 1905.

[2] Eisendrath: Chicago Med. Recorder, 1903.

KOCHER'S CASE

Patient.—A boy of 14, while traveling abroad and apparently enjoying the best of health, was taken suddenly ill.

Present Illness.—He began to have vague abdominal pains accompanied by persistently high temperature (to 105 F.) of a continuous type, with symptoms of marked prostration. On the third day there was tenderness over the right iliac region and a distinct mass to be palpated.

Diagnosis.—The diagnosis of acute appendicitis was made by the local physician and confirmed by Prof. Theodore Kocher of Berne, to whom I wish to express my thanks for permission to include the case in the present paper.

Operation.—The abdomen was opened by Professor Kocher on the fifth day of the illness and a large mass exposed in the ileocecal angle, which was at first thought to be an acutely inflamed appendix wrapped in omentum. Further examination showed, however, that this mass was composed of four or five greatly enlarged ileocecal lymph nodes, each about the size of a hazelnut. One of these nodes was excised and showed on section all the evidences of an acute inflammation, but contained, in addition, a number of recent caseous foci. The remainder of the larger nodes were excised and the appendix carefully examined. It showed only acute catarrhal changes, but was removed. Microscopic examination of the lymph nodes and appendix confirmed the diagnosis of tuberculosis. The appendix showed several typical submucous tubercles and the nodes showed all the characteristic evidences of tuberculous infection.

Postoperative History.—The boy made a slow recovery, the most marked symptoms of the convalescence being great weakness, emaciation and anemia. During the past year the boy has gained greatly in weight and strength and seems to have made a complete recovery.

Professor Kocher expressed the opinion that the appendix has unquestionably been the atrium of infection and that the case had been one of tuberculous appendicitis due to the ingestion of butter containing tubercle bacilli. This patient had not taken milk in any form for several years, so that infection from this source could be excluded.

After reflecting on this case and looking over my own records and the literature of the subject for similar cases, I have thought it desirable to direct attention to these cases of acute onset of tuberculous appendicitis and peritonitis.

There are but few statistics available as to the frequency of primary tuberculous infection of the appendix. Fenwick and Dodwell[3] found that the appendix was the only portion of the alimentary tract involved in seventeen of 2,000 autopsies on phthisical patients. Leseur,[3] in 144 examples of tuberculous appendicitis observed at autopsies of phthisical patients, found no other lesion than that of the appendix in twelve. The opinion is rapidly gaining ground that primary tuberculous infection of the alimentary tract is not as infrequent a condition as was formerly thought.

The chief sources of infection are the ingestion of milk, butter and cheese from tuberculous cows. The danger from the meat of cattle and hogs is much less than that from milk and its products. That milk can act as a carrier of infection is a fact so generally accepted that it will be unnecessary to dwell on it here. It is, however, a matter of the greatest importance to be awake to the fact that butter is as potent a mode of conveying tubercle bacilli from animals to man. This has recently been the subject of an investigation by the United States Department of Agriculture. The position of those who hold for infection by ingestion seems much fortified by the findings of E. C. Schroeder and W. E. Cotton of the experiment station service in Washington.[4] These authors consider that "a very large amount of butter infected with tubercle bacilli is daily consumed by our people," and that this food is an ideal environment for the preservation of this bacterium. After ninety days these germs show only a doubtful reduction of pathogenic virulence. They tend to separate themselves from the milk by rising with the cream or precipitating with the sediment. Consequently these are the parts of milk which are most intensely infected. Butter probably contains them in discernible numbers, "thirteen times for every ten times they are sufficiently numerous in milk to be detected." These workers further declare that from 15 per cent. to 30 per cent. of the cows from which our cities draw their milk supply are affected by tuberculosis; that about one-fourth of the samples of sediment taken from the cream separators of public creameries throughout the country show tubercle bacilli; and that the frequency with which these bacilli occur in the sediment from milk is a fair measure of their frequency in cream, from which butter is made. "Measure for measure, infected butter is a greater tubercular danger than infected milk." Furthermore, because of the shield offered by butter against the germicidal action of sunlight, it tends ideally for their preservation, and tests show that in the ordinary salted butter of commerce the Koch bacillus "may live and retain virulence practically four and a half months or longer."

In the majority of text-books brief reference is made to the fact that tuberculosis of the appendix and peritoneum may begin acutely. The case just described and the following ones to be reported certainly show that such an acute onset is a factor to be considered in the future when we are called on to diagnose the nature of an acute abdominal affection.

The French surgical journals have recently contained reports of some extremely instructive cases, of which I will first give a synopsis:

A. DEMOULIN'S CASE

The patient, a woman, aged 38, had her first attack of acute pain in the right iliac region in July, 1904. A second but more severe attack occurred in November, 1905. She was seen by Demoulin[5] in January, 1906, during her third attack. There was great tenderness over McBurney's point and a hard mass to be felt. After subsidence of the acute symptoms operation on Feb. 15, 1906, revealed a mass of lymph nodes the size of a hen's egg in the ileocecal angle. Some of these were hard, others caseous. These nodes and the appendix were removed. The examination of the appendix was negative. The patient was well fourteen months after the operation.

The first French surgeon to call attention to the fact that a pericecal tuberculous adenitis can give rise to symptoms of acute appendicitis was Gerard-Marchant.[6] He also emphasized the fact that a tuberculous appendicitis could exist without either microscopic or macroscopic evidence of its specific nature, the only evidence being the tuberculous ileocecal lymph nodes. This view of Gerard-Marchant has since been endorsed by other European surgeons, especially in France, and is in accordance with the experimental evidence furnished by Dobroklonsky[7] in 1890. The latter showed conclusively that tubercle bacilli could pass through the healthy intestinal wall without any trace of their migration. This is analogous to what is observed in the tonsil.

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[3] Brunner: Deutsch. Chir., xlvi.

[4] Tubercle Bacilli in Butter, Rep. 127, Bureau of Animal Industry, Dept. Agric.

[5] Bull. et mém. Soc. de chir. de Paris, May 15, 1907.

[6] Bull. et mém. Soc. de chir. de Paris, Jan. 24, 1900

[7] Arch. de méd. exper. et d'anat. path., 1890, No. 2.

GERARD-MARCHANT'S CASE

A young Cuban had two classical attacks of what was diagnosed as acute appendicitis, with pain in the right iliac region, fever, vomiting and tympany. The fever and a tumor in the right iliac region persisted. At operation two caseous ileocecal nodes were found and these and the appendix were removed. The appendix showed no changes either to the naked eye or on microscopic examination.

LECENE'S CASE

In a case of Lecène (quoted by Petit[8]) there was a similar history, and three tuberculous nodes were found in the mesoappendix. The appendix showed submucous tubercles microscopically.

In all these cases the lymph nodes may be the principal lesion, although the appendix is the atrium of infection.

ROUTIER'S CASE

Routier[9] reports a case in which the appendix was large, red and adherent and the nodes were large and tuberculous.

SIREDEY'S CASE

In Siredey's[10] case a girl of 14 who had a tuberculous father had always enjoyed good health. She had frequent attacks of colicky pain in the right iliac region, the diagnosis of chronic appendicitis being made by Jalaguier. At operation a straw-colored fluid escaped. There were many miliary tubercles scattered over the peritoneum. The appendix was removed, but showed only the changes characteristic of a chronic appendicitis. A large lymph node removed from the mesoappendix contained caseous foci.

Tuffier[11] has recently reported a case of Guibal and one of his own which are quite typical:

GUIBAL'S CASE

In Guibal's case a previously healthy child of 6 began suddenly to have severe abdominal pain accompanied by marked right-sided rigidity and tenderness, fever to 103 F. and vomiting. Appendicectomy was performed four weeks later during the interval. Ileocecal nodes, the size of a large nut, showing many caseous foci, were found and removed. The peritoneum and cecum were negative. The appendix showed no tuberculous changes.

TUFFIER'S CASE

In Tuffier's own case, a girl of 12 was operated on two months after a typical attack of acute appendicitis. The appendix showed a tuberculous folliculitis and there were several caseous ileocecal nodes, which were also removed.

A case similar to those just quoted occurred during the past summer in the Michael Reese Hospital service of my colleague, Dr. Louis A. Greensfelder, to whom I am indebted for permission to publish it:

GREENSFELDER'S CASE

Patient.—L. T., girl, aged 5, was admitted to the service of Dr. Greensfelder June 2, 1908. Her parents are both living and in good health. The patient is the only child; she is well nourished and had been apparently in the best of health prior to the onset of the present illness. She was taken ill suddenly the day preceding her admission with pains in the abdomen and left side of chest.

Examination.—This, on admission, showed a small area of consolidation in the upper lobe of the left lung. The abdomen was somewhat tympanitic, quite rigid and there was general tenderness on pressure, but this was more marked in the right iliac region.

Operation.—When the abdomen was opened a free straw-colored fluid escaped. The glands in the mesoappendix were greatly enlarged and caseous. The appendix was injected and thickened. Appendicectomy was performed and removal of glands. No microscopic examination of the appendix was made. The patient recovered and was discharged from the hospital July 19, 1908.

The following cases of acute tuberculous peritonitis occurred in my service:

EISENDRATH'S CASES

CASE 1.—Encapsulated (subphrenic) tuberculous peritonitis with very acute onset simulating ordinary subphrenic abscess.

Patient.—V. de S., male, aged 48, was admitted on Aug. 24, 1906, to the medical service of Dr. J. L. Miller in the Cook County Hospital with the diagnosis of pneumonia. On account of the patient's inability to speak English well, the only history obtainable was that he had been perfectly well up to nine days before admission, when he began to have pain in the abdomen which varied greatly in intensity and was most marked around the umbilicus.

First Examination and Diagnosis.—The leucocyte count was 8,600, the abdomen distended and the temperature ranged between 100 F. and 104 F. The condition remained unchanged for ten days. Owing to the fact that the rigidity and tenderness was most marked in the right hypochondrium, a diagnosis of acute cholecystitis was made, and the patient was transferred to the surgical service of Dr. Charles Heywood.

First Operation.—The latter opened the abdomen and found the appendix and gall bladder normal. There were, however, many dense adhesions between the coils of intestine and the omentum was adherent to the abdominal wall. After this operation the temperature rose still higher (to 104.4 F.) and there was accompanying stupor, delirium and rapid respirations (to 44).

Second Examination.—In the absence of Dr. Heywood, I saw the patient on Sept. 6, 1906. There was marked stupor. Dullness extended upward from the liver to the fourth rib in the mammary line to the fifth rib in the midaxillary line and seventh rib in the scapular line. There was an absence of respiratory sounds over this area. When an exploring needle was inserted through the eighth interspace a foul flaky fluid was obtained.

Second Operation.—I resected the eighth right rib in the scapular line and found the pleural cavity empty. The diaphragm was sutured to the parietal wound and about twelve ounces of a slightly turbid fluid evacuated from the subphrenic space.

Postoperative History.—The patient made a slow recovery, the subphrenic wound continuing to discharge for several weeks. About eight weeks later evidence of marked ascites appeared, and the patient died about six months later.

Autopsy.—This showed a typical tuberculous peritonitis with effusion. The subphrenic region showed firm adhesions over the previously involved area.

CASE 2.—*Patient.*—A. L. W., aged 26, clerk, had always enjoyed good health. Family history negative.

Present Illness.—This began suddenly in February, 1904, with pain in right iliac region, but no fever. A physician who saw him at the time made a diagnosis of appendicitis. When I first saw the patient in June, 1904, there were evidences of an encapsulated collection of fluid in the right iliac region.

Operation.—Laparotomy revealed a walled-off collection of thin yellowish pus occupying the right half of the abdomen. The posterior wall of this abscess cavity was formed by agglutinated coils of intestines covered with tubercles and granulation tissue which showed evidences of tuberculosis microscopically. The patient recovered completely.

CASE 3.—Acute onset of tuberculous peritonitis with high continuous fever resembling typhoid.

Patient.—A woman, aged 35, had been ill five weeks when I first saw her. The illness had begun suddenly with mild abdominal pains and other vague symptoms like a typhoid. Her fever had been of the continuous type and ranged between 101 and 104 F. She had been given the routine typhoid treatment.

Examination.—This showed evidences of fluid, and laparotomy revealed a very advanced ulcerative caseous peritonitis. The patient died a few months later.

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[8] Dissertation de Paris, 1905.
[9] Bull. et mém. Soc. de chir. de Paris, July 5, 1905.
[10] Bull. et mém. Soc. de chir. de Paris, May 15, 1907.
[11] Bull. et mém. Soc. de chir. de Paris, May 29, 1908.

An example of such an acute onset is shown in the recent report of a case by A. K. Stone:[12]

Stone's Case

Patient.—A woman, aged 22, whose mother had died of phthisis, was admitted to the Massachusetts General Hospital in February, 1907. Her illness had begun suddenly three days before admission with severe abdominal pain and vomiting. On the patient's admission the abdomen was found to contain free fluid, accompanied by rigidity and tenderness. The evidences of fluid disappeared under medical treatment.

Stone states that sudden onset is common in tuberculous peritonitis, being found in about one-quarter of all cases. The fluid both accumulates and disappears rapidly.

Osler refers briefly to the fact that tuberculous peritonitis may begin suddenly and be accompanied by continuous fever resembling that of typhoid fever. At present the absence of the Widal reaction, the leucopenia, and not infrequently the evidences of the presence of free fluid will serve to distinguish the process as a tuberculous one.

A case is reported by Michaux[13] resembling my own of an acute onset of tuberculous peritonitis with symptoms pointing to a subphrenic abscess:

Michaux's Case

The onset was very sudden with great dyspnea, clinically resembling a pneumothorax. There was high temperature and edema over the right side of the abdomen and chest wall. An incision along the costal arch evacuated pus containing gas. There was temporary improvement as in my first case, but death occurred one month later. The autopsy showed a dry tuberculous peritonitis.

The most complete statistics on tuberculous appendicitis are those of Brunner[3] based on fifty-one cases collected from the literature. It includes all published cases in which appendicectomy had been performed. To this number I can now add seven. Of these fifty-eight patients over one-fourth, that is, *sixteen, had symptoms which in every detail resembled an attack of acute appendicitis.* The direct operative mortality in this series of fifty-eight cases has been very small. It is almost impossible to state what the final results have been because so few of the cases have been followed for a sufficient length of time to speak of a complete recovery, and in many of the reports the patients suffered from tuberculous lesions elsewhere which ultimately resulted fatally.

If, however, in such cases as those of the French surgeons just quoted and Kocher's and Greensfelder's, the lesion is operated on early enough and the appendix and glands removed, the prognosis should be very favorable. That the appendix in many of the cases showed no tuberculous changes does not militate against such a specific infection. As stated above, the tubercle bacilli can pass through the walls of the appendix without leaving any trace of their passage. The bacilli can then infect the ileocecal lymph nodes or be the starting point of a tuberculous peritonitis.

CONCLUSIONS

My conclusions are the following:

1. A primary tuberculous appendicitis is not as rare an affection as was formerly thought.

2. Such an infection can be followed by secondary involvement of the ileocecal lymph nodes which is out of all proportion to the pathologic changes in the case.

3. In the majority of cases there are evidences of tuberculous foci in the appendix, but secondary lymph caseous nodes may be found without visible macroscopic or microscopic tuberculous changes.

4. Butter, milk and cheese from tuberculous cows are the chief sources of infection in primary intestinal tuberculosis.

5. In a fair proportion (27 per cent.) of the twenty-nine published cases of tuberculous appendicitis the clinical picture resembled an acute non-tuberculous appendicitis. No statistics are available to estimate the proportion of cases of tuberculous peritonitis which begin acutely, but it is larger than is usually thought.

6. Through early diagnosis and radical removal of the tuberculous appendix and infected lymph nodes (as far as practicable) complete and permanent recovery can occur. Some of the cases of ileocecal tuberculosis and of tuberculous peritonitis may thus be avoided through removal of the probable starting point.

103 State Street.

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[12] Boston Med. and Surg. Jour., May 16, 1908.

[13] Bull. et mém. Soc. de chir. de Paris, 1897.

A METHOD FOR INCREASING THE DIAGNOSTIC VALUE OF SPUTUM REPORTS *

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The methods usually employed in recording the examination of a specimen of sputum give somewhat meager information regarding the character of the specimen submitted.

A more careful selection of the terms used in the description of the macroscopic appearance of the specimen and of the various elements found on microscopic examination would in many cases give valuable hints as to the character and source of the sputum examined.

Most text-books, under the heading "Macroscopic Appearance," follow Biermer's[1] classification of sputum as "mucoid, mucopurulent, purulent, and bloody." They usually describe also the subvarieties which he clearly distinguished but without giving them the definite names which he employed. For instance, many authors call attention to the fact that there are two types of mucopurulent sputum—one of which is homogeneous and the other not. Biermer reserves the name "mucopurulent" especially for the first type. It is homogeneous, tenacious, more or less opaque and usually yellow. It differs from strictly purulent sputum, which is liquid, in being tenacious. The second type, which he designates as "purulo-mucoid." is not homogeneous. The yellowish or whitish purulent matter forms lumps or flakes imbedded in more or less transparent, tenacious mucoid material. Klopstock and Kowarsky[2] use the same terms in describing these varieties.

Heyman[3] has divided the moist droplets disseminated by coughing consumptives into three classes in accordance with their microscopic appearance: 1, Droplets of a type containing a central kernel of fibrin and leucocytes surrounded by epithelium and mucus; 2, containing a kernel rich in leucocytes with a scanty mucoid layer; 3, containing only epithelium and mucus.

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* From the laboratory of the Adirondack Cottage Sanitarium, Trudeau, N. Y.

[1] Biermer: Die Lehre von Auswurfs, Würzburg, 1855.

[2] Klopstock and Kowarsky: A Manual of Clinical Chemistry, Microscopy and Bacteriology, translated by T. Wright, New York, The Rebman Company, 1905. See also Lawrason Brown: Sputum Examination in Pulmonary Tuberculosis, Montreal Med. Jour., October, 1901.

[3] Heyman: Ztsch. f. Hyg. u. Infektionskr., 1899, xxx, 139; xxxviii, 2. Ziesche: Ztschr. f. Hyg. u. Infektionskr., 1907, lvi, 57.

Droplets of Types 1 and 3, "mouth droplets," are usually free from tubercle bacilli but often contain large numbers of secondary organisms. Droplets of Type 2, "bronchial droplets," often contain large numbers of tubercle bacilli. They are practically free from secondary organisms and contain no mouth epithelium.

Using suggestions derived from the sources just mentioned, I make the following notes in recording the examination of a specimen of sputum for tubercle bacilli:

Under "macroscopic appearance" the specimen is described as watery, mucoid, muco-purulent, purulomucoid, purulent or bloody. If one of the other varieties is simply blood-streaked the fact is noted but the specimen is not called bloody unless it consists of pure blood.

In the microscopic examination the presence or absence of tubercle bacilli is noted. Their number is estimated according to the Gaffky schema and their arrangement is recorded if desired.

Under the heading "cells" particular attention is given to squamous epithelial cells and to pus cells (polynuclears). If the former are present in large numbers so that they are prominent elements in the picture they are given precedence in the statement of cells present. On the other hand, if the pus cells are numerous they are recorded first. The presence of small round cells, alveolar cells, and, in appropriately stained specimens, of eosinophiles, may also be mentioned. Mononuclear cells rarely form the majority of the elements present.

In regard to secondary organisms, a note is first made stating whether they are few or many. More details as to the varieties present may then be added.

The table shows that in a series of 541 cases at the Adirondack Cottage Sanitarium, Trudeau, N. Y., where I was formerly assistant physician, there was a natural grouping into four main classes.

It will be noted that tubercle bacilli were found but rarely in specimens of Types 1 and 2 (2.1 per cent. and 8.8 per cent.), more frequently in specimens of Type 3 (59.3 per cent.), and especially often in specimens of Type 4 (76.3 per cent.). If specimens of Type 4 can be obtained they are, therefore, of much more diagnostic value than those of Types 1 or 2, many of which are merely mouth specimens. It is, however, worth while to examine the latter, if no others can be obtained, as tubercle bacilli are occasionally found in them.

A negative result from a series of specimens of Type 4 would be of more value in excluding the presence of tuberculosis than the same report from a much larger series of Types 1 or 2.

Great numbers of secondary organisms are always found in sputum of Types 1 and 2. They may be streptococci, diplococci, staphylococci or other mouth organisms. Many of them are harmless saprophytes and their presence should not be considered as suggesting secondary or mixed infection even if the individual is undoubtedly tuberculous. Mixed infection can not be diagnosed from the examination of a stained specimen of sputum alone. This is true even of specimens of Type 4, which in many cases are undoubtedly derived from the lungs. These are, however, the specimens that should be selected if it is desired to obtain evidence regarding the presence of mixed infection by means of cultures from washed sputum. The cultivation of tubercle bacilli in pure culture from washed sputum is also more likely to be successful if specimens of this type are selected.

A certain proportion of the specimens received did not belong to any of the types mentioned but were mixed specimens. Sputum from the lungs may readily become contaminated with that from the upper air passages on its way out; but in the majority of cases it is possible, as in the case of the droplets, to determine whether the specimen is primarily of the "bronchial" type or derived from the throat and mouth. Caseous masses containing enormous numbers of tubercle bacilli, while occasionally seen, are certainly not frequent.

Mucopurulent, homogeneous, tenacious sputum derived from the throat or nose may exactly resemble sputum of the "bronchial" type (Type 4) macroscopically, but under the microscope the presence of many squamous epithelial cells and numerous micro-organisms would suggest an origin from the upper air passages. Squamous epithelial cells, covered with micro-organisms as they are in many cases, are not hard to distinguish from alveolar cells.

Sputum of Type 4 is probably replaced by Type 3 as the patient's health improves and the character of the bronchitis changes, a point which might be determined by the examination of a series of specimens.

The patient often can tell whether a specimen is coughed up from deep down in the lungs or is simply secured by efforts at clearing the throat. A note regarding this point added to the data already mentioned would further increase the value of the report.

Table Showing Character of Specimens of Sputum in a Series of Five Hundred and Forty-one Cases *

Type.	Macroscopic appearance.	Cells predominating.	Secondary organisms.	T. B.+	T. B.—	Total.	%+	%—
1	Watery or mucoid	Squamous epithelial cells	Many	2	92	94	2.1	97.9
2	Purulomucoid	Squamous epithelial cells	Many	13	134	147	8.8	91.2
3	Purulomucoid	Pus cells	Few	54	37	91	59.3	40.7
4	Mucopurulent	Pus cells	Few	110	34	144	76.3	23.7
		Other combinations		32	33	65	49.2	50.8
Totals				211	330	541	39	61

* The headings, "T. B.+," "T. B.—," "%+," "%—," indicate, respectively, the presence and absence of tubercle bacilli.

CONCLUSIONS

1. When a record is made of the macroscopic appearance of a specimen of sputum, together with notes as to the predominating cells seen on microscopic examination, and a statement is made whether secondary organisms are few or many, it is possible to determine, from the report, with some degree of probability, whether a specimen was derived mainly from the lungs or from the upper respiratory tract.

2. A certain type of specimen, the "bronchial type" (Type 4), should be secured if possible when it is desired to determine the presence of tubercle bacilli or of organisms causing mixed infection. The selection of this same type for use in securing pure cultures of secondary organisms or of tubercle bacilli will save time and trouble.

3. Tubercle bacilli are occasionally found in specimens of the "mouth droplet" type (Types 1 and 2),

and these should be examined if no other can be obtained. Such specimens are usually in large part derived from the mouth or throat. No inferences as to the presence of mixed infection should be drawn from the examination of such specimens.

4. The patient should state whether the specimen was obtained by coughing or by clearing the throat.

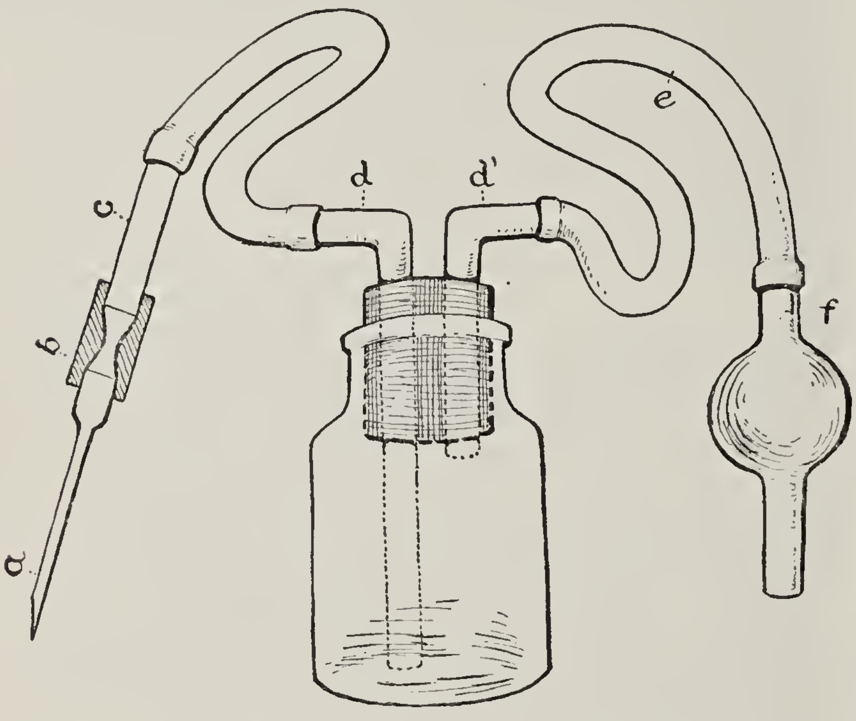
588 Madison Avenue.

Clinical Notes

A NEW AND SIMPLE DEVICE FOR EXPLORATORY ASPIRATION

HENRY SEWALL, Ph.D., M.D.
DENVER

There are few practitioners who have not been annoyed at times with the inefficiency of the apparatus employed in exploratory aspiration of fluid accumulations. The needle is not of the desired size, or the piston does not fit the syringe tightly, or the glass barrel itself may break at the critical moment.



An improved device for exploratory aspiration.

The simple device here figured suggested itself to me while witnessing an episode of instrumental treason; it seems to answer its purpose perfectly and relieves us of the tyranny of the exploratory syringe.[1] In its use the muscles of the operator's mouth serve as the piston and the tip of his tongue as the valve of the syringe.

The construction of the apparatus should at once be clear from the diagram. The hollow needle *a* may be of any desired size. It is inserted in the piece of rubber tubing *b*. This tubing should have a narrow lumen and be thick-walled and extensible; an excellent material is the heavy piece of tubing provided for needle connection by certain antitoxin purveyors. The piece of glass tubing *c* allows of early recognition of the fluid aspirated. The bent tubes *d, d'* may be of glass, but are preferably made of metal, nickel-plated. They have a diameter of about 3 mm. and enter a bottle having a capacity of about one ounce through a perforated rubber stopper. A rather stiff rubber tube *e* continues the system and has inserted in its free end a glass tube *f*, in which is blown a small bulb. The free portion of the glass tube should be cut off about one-half inch from the bulb; it is then easy to stuff the latter with cotton, inserting it through the tube with a knitting needle, and the cotton may be again picked out with fine forceps. The cotton serves as a stopper for germs in one direction and saliva in the other. In my own instrument the length *d'* to *f* is about twenty inches and *b* to *d* six inches.

The apparatus is sterilized in the ordinary way, preferably after removing the glass piece *f*. When the needle has been inserted in the cavity to be explored the open end of *f* is held between the lips of the operator and suction is made, the tip of the tongue closing the opening of the tube between the efforts of aspiration. The apparatus possesses the following advantages:

1. It is extremely simple. It may be constructed by any one possessing the necessary materials and moderate skill;[1] the glass bulb in *f* is a luxury.
2. It is easy to estimate the degree of suction force; this may be increased to any safe limit.
3. While with an ordinary syringe the needle must be removed from the barrel in case a single withdrawal of the piston has given a negative result and it is desired to try again; in the instrument here described any number of aspirations may be made with or without change in the position of the needle.
4. A needle of practically any size may be fitted to the tube *b*.
5. The bottle may be stoppered and its fluid contents transported for examination.
6. The needle can be held more steadily during aspiration by this method than when it is rigidly connected with a syringe.

In conclusion, it may be mentioned that when in attempting to aspirate a large quantity of fluid, with the apparatus usually employed for that purpose, the syringe proves defective, the air may be exhausted from the bottle by similar mouth suction, though when the glass reservoir is large its depletion is begun by inhaling its air into the lungs, the simple mouth suction being brought into play when the resistance is already considerable.

1360 Vine Street.

A SUGGESTION FOR THE TREATMENT OF OPHTHALMIA NEONATORUM

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In treating ophthalmia neonatorum it frequently happens that the physician himself can not see the patient oftener than once a day, and must rely on the mother to wash out the eyes, and between his visits to instill whatever drops can be entrusted to her. In cases in which both eyes are infected we often find that one eye does well but the other becomes ulcerous.

The chief cause of this condition is that one eye is well washed out and the other is not. At each treatment of the baby it is easy to open the first eye approached, but after the child is hurt and starts to cry, it strongly shuts both eyes and rolls in the lids. Then even the physician finds it difficult to open the lids of the second eye wide enough to make the applications efficiently.

By habit a physician is likely to begin on the right eye every time, and that eye, for the reason given above, may get more thorough treatment than the left eye, even from him. In a room a baby is always left lying in its crib in the same position, picked up in the same manner, and the mother or nurse is likely to begin always with the same eye in the treatment, to the detriment of the other eye.

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[1] The apparatus can be obtained from the Durbin Surgical Instrument Co., Denver.

The remedy is, obviously, to instruct the woman to begin carefully with the right eye, for instance, at one treatment and the left eye at the next treatment. When an ulcer is present on one eye she should favor that eye by beginning with it.

In opening a baby's eyes a woman is likely to place the end of her finger too far from the lid margin, or to try to open the lids while they are wet and slippery externally; or a second woman attempts to help, and stretches the lids more tightly shut by keeping too far from the edge.

What is said here of ophthalmia neonatorum holds true also, of course, for infectious ophthalmias in all children up to an age when the two eyes can readily be opened equally.

2228 South Broad Street.

A SIMPLE METHOD FOR REMARKING THE SQUARES IN THE COUNTING-CHAMBER OF A ZEISS HEMATOCYTOMETER.

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CAPE COLONY, SOUTH AFRICA

The inexperienced blood counter sometimes has difficulty in cleaning the slide and counting-chamber of the Zeiss hematocytometer and often resorts to the use of alcohol and ether with disastrous results. These agents remove the color from the demarcating lines of the various squares and the instrument is rendered useless. Some laboratory authorities have not been able to suggest anything better than rubbing the cell with a soft lead pencil and polishing with a soft linen cloth, or they advise the return of the slide to the maker for the purpose of remarking. Having noticed that the glass beads in the mixing-chamber had a strong affinity for Toison's fluid,[1] I determined to rub a piece of gauze moistened in this solution gently over the counting-chamber. The result was excellent, the boundaries of the squares being clearly defined, and, moreover, they retain the stain far better than that given by the application of the lead pencil.

A SIMPLE METHOD OF BLOOD TRANSFUSION WITHOUT CANULA

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The operation of direct transfusion of blood has, through the work of Carrel, Crile and others, assumed the importance of a valuable therapeutic agent during recent years. Its general applicability has, however, been considerably restricted owing to its difficult technic. The suture of the vessels requires a marked degree of skill, and even in the hands of men more or less experienced in doing it often fails to give a free flow of blood. The use of the canula, while not quite so difficult, is still an operation that will frequently fail in the hands of any surgeon who has not had an extensive experience in using it in animals. It has the further disadvantage of very materially lessening the caliber of the vessel where it is cuffed back over the canula. The procedure described below is almost as simple as a saline intravenous infusion and delivers into the vein a full flow of blood, which, however, can be easily controlled if it be too great.

The artery and vein are dissected out, temporarily clamped and divided in the usual manner and with the usual care in securing the small branches. The adventitia is removed from each, but a small coil of it is left curled up on the outside of the artery about one and a half inches from the cut proximal end. Three guiding sutures of fine silk are then passed by means of a fine needle—an ordinary intestinal needle and zero silk are sufficiently fine—at intervals of 120 degrees in the circumference of the cut end of the vein. The end of the artery is greased with melted, sterilized petrolatum. The mouth of the vein is drawn open with the sutures and the artery passed directly into it for a distance of one inch. One of the guiding sutures is then passed through the rolled-up adventitia on the artery to hold the two vessels in contact, and the greater or less amount of surplus circumference of the vein is clamped or sutured so as simply to approximate the artery but not to constrict it. The obstructing clamps are removed and the blood current allowed to flow. This procedure has been tried with entire success on dogs in the Cornell Physiological Laboratory, and there is no tendency whatever to clotting of the blood. It has been used but once on the human subject (in a case of severe anemia which I saw with Dr. Freeman of Orange, N. J.), and was in that case equally successful. In this instance a small tributary vein was dissected up for an inch and left attached to the receiving vein about one inch from the anastomosis in order to determine the actual flow through the latter. When the vein proximal to this tributary was compressed and the small clamp removed from the latter a full-sized flow of blood would be thrown through it in arterial pulsations for a distance of two or three feet. Digital pressure on the artery controlled accurately the rapidity of the flow. In this way it was possible to continue the flow for fifty minutes before the donor began to show sufficient loss of blood to indicate the necessity of stopping it. No diminution of the stream took place at the end of that time except such as was incident to the following blood pressure. There was no back leakage around the artery. After about fifteen minutes the two vessels had become thoroughly glued together, so that even the removal of the vein-constricting clamp was possible without back leakage.

There is no difficulty experienced in inserting the artery into the vein, because the wall of the former is sufficiently rigid to make it easily enter for an inch or more without kinking. For ease of manipulation, three or four inches of each vessel are needed. Whether the flow of blood could be stopped completely by pressure on the artery for a considerable time, without clotting at the end of the inserted artery, it is impossible to say with our present experience. With care, however, complete stoppage is at no time necessary, as the flow can be thoroughly controlled, if indications arise, without actually stopping it. In case, however, for any reason a clot should form it is only the work of a minute or two to separate the vessels, remove the clot and make a re-anastomosis, and this is done without sacrificing any of the vessel length. The danger of a clot washing away in the blood stream to form an embolus is neither greater nor less than in any other method. If the cut end is coated with petrolatum no fibrin threads seem to form about it. A further improvement may be possible by simply placing the artery end in a lateral slit in the vein wall, after tying the vein distally, but no opportunity of doing this has yet been offered on the human subject. On dogs it is easy of performance, and in these animals the artery is far more flexible than in man.

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[1] Toison's mixture, a solution for diluting the blood in counting the red corpuscles, consists of 8 gm. of sodium sulphate, 1 gm. of sodium chlorid, 30 c.c. of glycerin, 0.025 Gm. of methyl-violet, and 160 c.c. of distilled water.

Note: All the dogs used in the experiment were fully anesthetized with ether.

50 East Fifty-Third Street.

Therapeutics

COLDS

(Continued from page 213)

While we now so frequently and constantly inveigh against the use of coal-tar products because they have been too much used by the profession in prolonged acute disease, and by the laity in repetitions of acute pain, it should not be forgotten that two or three doses of a coal-tar product in a condition like an acute cold is of great advantage, not only in reducing the temperature, relieving the tensity of the circulation, dilating the peripheral blood vessels, and causing sweating, but also as an analgesic. A combination such as either of the following is efficient in shortening the first stage of acute cold and perhaps aiding in preventing its continuance.

℞.	gm.		
Acetphenetidini	1|		
Phenylis salicylatis	1|	or	āā, gr. xv
Caffeinæ citratæ	|15		gr. iiss

M. et fac chartulas, 3.
Sig.: One powder every three hours.

Or:

℞.	gm.		
Morphinæ sulphatis	|01		gr. 1/6
Acetphenetidini	|50	or	
Phenylis salicylatis	|50		āā, gr. viiss

M. et fac chartulam, 1.
Sig.: Take at once.

As Dover's powder often causes some nausea, any combination of the desired dose of morphin with an acetanilid combination as the compound acetanilid powder, in dose deemed efficient, will effect the object desired as well as will Dover's powder.

The action of the nitrites in dilating the peripheral blood vessels and promoting sweating, when other methods are also used to cause that condition, is satisfactory. How well the sweet spirit of niter acts as a diaphoretic depends on how warm the patient is kept and how much hot water he drinks.

While we advise the drinking of hot water to promote perspiration after hot baths, etc., it is not advisable to have the patient drink much water if sweating is not to be promoted, as it fills up the blood vessels and increases the local congestions. Hence, if it is deemed best to dilate the blood vessels and relieve congestion with aconite or by purging and not use any method to cause sweating, the amount of liquids ingested should be kept low during this stage of the cold.

The administration of aconite in small doses frequently repeated is still used by some physicians as the best treatment in the first stage of a cold, but not nearly so frequently as it used to be used, at least not alone. In the combination of a "rhinitis" tablet, which generally contains several ingredients, aconite or aconitin is often administered by the profession, and often taken by the laity without such advice. The activity of the rhinitis tablet is due to its aconite and to its atropin, and, perhaps, slightly to the small amount of morphin that it contains. A patient who is put thoroughly under the influence of aconite to abort his cold will subsequently have more prostration than with any of the above advised methods of treatment.

In any congestion of the upper air tract, throat, or nose it is certainly advisable to unload the alimentary canal, and with the method that will produce the least general discomfort and act the quickest. The cathartic selected should depend upon the time of day at which the patient is first seen. If during the daytime, a saline cathartic should ordinarily be selected; if at night, calomel is best in the dose deemed sufficient, generally perhaps best combined with bicarbonate of soda, as:

℞.	gm.		
Hydrargyri chloridi mitis	|20	or	gr. iii
Sodii bicarbonatis	|50		gr. viiss

M. et fac chartulam, 1.
Sig.: To be taken at once.

Or one or two grains of calomel may be given with an aloin, strychnin and belladonna tablet at bedtime. If the patient has a tendency to constipation it is advisable to give a saline, as a seidlitz powder or citrate of magnesium, or some cathartic water, in the morning.

It is often advised to give calomel in small doses, as perhaps 1/10 of a grain, every half hour until one grain has been taken, aiming perhaps at the old antiphlogistic (prevention of inflammation) theory. This seems hardly advisable except as it may keep the patient interested and busy, as what is needed is a calomel movement and depletion, and not a troublesome diarrhea, which often occurs when calomel is thus administered. Also, patients susceptible to calomel may be salivated by small doses when they are not affected by a single large dose.

The abortive treatment of colds with so-called rhinitis tablets, while perhaps the best treatment when the patient must be exposed to further chilling or more dust and must keep at his occupation, seems theoretically inadvisable in the first stage of nose and throat inflammation. The main action of these tablets is the atropin action, unless the patient is somewhat prostrated by the aconite or aconitin that they contain, hence the drying up of the mucous secretions of the congested nose and throat by atropin should theoretically tend to prolong the first stage and perhaps thus prolong the second stage, as the free exudate from the inflamed mucous membrane is Nature's best method of depletion of these congested areas. Therefore, a patient housed and willing to give from ten to fifteen hours to the best abortive treatment of an acute cold should not receive rhinitis tablets, while a patient who must attend to his business may take these tablets, but ordinarily not for more than from twenty-four to forty-eight hours. A good rhinitis combination is as follows:

℞.

	gm.		
Aconitinæ	00003		gr. 1/2000
Atropinæ sulphatis	00015	or	gr. 1/400
Strychninæ sulphatis	0006		gr. 1/100
Morphinæ sulphatis	002		gr. 1/30

M. et fac tabletam, I.

The best method of administration of the above tablet is one every hour for three doses, and then one every three hours. From ten to fifteen tablets may be given a patient for such use.

If aconite is to do any good in aborting an acute cold it must do it in from twenty-four to thirty-six hours; consequently it is inadvisable to cause any depressing aconite effect after that length of time.

The local abortive treatment of colds is by sprays, inhalants and gargles. The action of atropin or morphin (taken internally) on the mucous membranes of the nostrils and throat has already been referred to. Suprarenal extract in various dilutions has been used for the object of contracting the mucous membrane of the nostrils and throat. Very weak solutions may be so used, but any intense action is followed by a subsequent congestion. However, in the intense congestion of the mucous membrane of the nostrils, with obstruction, that occurs so frequently in hay fever, suprarenal extract used locally gives great relief. The most lasting relief, however, probably comes from a suprarenal ointment, of which a small portion is placed in the nostril. Watery sprays should not be used in the nostrils and the patient then subjected to dust or outdoor air, unless the weather is mild. Protection can be given to nostrils which have been cleansed with watery sprays by oil sprays, or the nostrils may be plugged, temporarily, with cotton.

During this stage menthol inhalants in various combinations are often of value in primarily shrinking the membrane of the nostrils and relieving the obstruction, and, secondarily, in perhaps stimulating a secretion which relieves the deeper congestion. A good solution for such inhalation is as follows:

℞.

	gm. or c.c.		
Mentholis	15		
Camphoræ	15		āā, ℥ss
Eucalyptolis	15	or	
Olei pini silvestris	15		āā, fl.℥ss

M. et sig.: For use in a nasal inhaler.

The above solution should not be used in an atomizer.

SECOND STAGE

If a cold is not aborted by any of the above methods, the mucous drippings or secretions from the nostrils become less, a purulent secretion begins, then more or less mucopus, and finally the usual catarrh of the nasal passages and nasopharynx occurs. If bronchitis is present its second stage partakes of the same characteristics as the coryza.

It is certainly good judgment, at least twice, and perhaps better three times a day, for the patient to cleanse his nostrils with watery salines or alkaline solutions. He should also use these solutions so as to cleanse the nasopharynx either by snuffing the liquid back through the nostrils or by any manner of gargling as will cleanse this cavity. Mild oil sprays may be used ubsequently to prevent the membrane from becoming rritated after these washings. Careless nasal douching hould not be done lest liquid or infection be forced n the Eustachian tubes, but properly done such cleansngs tend to prevent frontal sinus suppurations, pluging and blocking of the Eustachian tubes and consequent rarefaction in the middle ear and subsequent congestion, and also tend to prevent the catarrh becoming more or less chronic. Neglected catarrhs of the nose and throat tend to hypersecretion of the glandular tissues in these regions and hypertrophied mucous membrane, both of which cause abnormal secretions which will not inhibit the growth of the bacteria. In other words, such catarrhal patients are more prone to recurrence of colds and to the development of tuberculosis and pneumonia.

This second stage of nasal or throat cold is just as much benefited by the action of ammonium chlorid as is the second stage of bronchitis. For this purpose it may be administered as follows:

℞.

	gm. or c.c.		
Ammonii chloridi	5		ʒiss
Syrupi ipecacuanhæ	5	or	fl.ʒiss
Syrupi acidi citrici	25		fl.℥i
Aquæ, ad	100		ad, fl.℥iv

M. et sig.: A teaspoonful, in water, every two hours.

This prescription presupposes there is no cough. If there is a troublesome cough, a cough frequent, without the necessity of expectoration, i. e., a non-productive cough, codeinæ sulphas should be added to the prescription to the amount of 0.20 gram (3 grains), i. e., 0.01 gram (1/6 grain) at a dose.

SUBACUTE STAGE

An ordinary cold should tend rapidly to recovery whatever the treatment. Purulent discharges in a few days should become mucopurulent and then mucous. The object of the above treatments is either to prevent the purulent discharge from developing at all, or to shorten it and hasten recovery. If in spite of treatment or from lack of treatment a mucopurulent discharge persists for some little time from either the nostrils, throat, or from a bronchitis, the treatment should be tonic in every respect; outdoor air if the patient has been housed; the bowels must move daily; the food should be nutritious, even if small in amount, if there is loss of appetite; and such tonics as seem to best suit the patient. Generally a good one is as follows:

℞.

	gm.		
Strychninæ sulphatis	04		
Arsenii trioxidi	04	or	āā, gr. 2 3
Ferri reducti	1		gr. xv
Quininæ sulphatis	3		gr. xlv

M. et fac capsulas siccas, 20.
Sig.: One capsule three times a day, after meals.

If a nasal and nasopharyngeal catarrh does not tend to heal, but remains chronic, the patient should be sent to a nose and throat specialist to determine whether or not there is any local reason for the persistence of the condition. If such causes are found and can be removed the removal should be immediate, as a nasopharyngeal catarrh which has long persisted is hard to cure unless the patient removes to a more suitable climate.

A child who has frequent recurrences of colds should be carefully examined for adenoids, and if such are found they should be removed, and the general hygiene and life should be so aimed and directed as to prevent the development of a tendency to tuberculosis.

Angina Pectoris.—A. G. Brown, Richmond, in the *Bulletin of the University College of Medicine*, states that while postmortem findings in angina pectoris have been unsatisfactory, in many cases there are coincident structural changes, such as valvular lesions, myocardial degeneration, aortitis, adherent pericarditis and arteriosclerosis of the coronary arteries.

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[*For other information see second page following reading matter*]

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BACTERIOLOGIC METHODS IN OTITIS AND COMPLICATIONS

Until recently, results of systematic bacteriologic examinations of the blood in infections of otitic origin had not been recorded. The details given by Libman[1] of the results of his blood cultures in fifty-five cases of this kind consequently should be of general interest. Positive results were obtained in twenty-two of the fifty-five cases, and of these twenty-two patients, sixteen died and only six recovered. The cases giving growths in the cultures of the blood were almost wholly cases of sinus thrombosis and meningitis. In all the instances of sinus thrombosis that gave positive blood cultures it concerned streptococci, and in the cases of meningitis the streptococcus mucosus was concerned. This result, especially as to sinus thrombosis, is in accord with the observations in the literature which fail to mention any instances of pneumococcus sinus thrombosis that can stand criticism on basis of the modern criteria for distinguishing between streptococci and pneumococci.

Recent examinations of ear discharges as well as of the exudate in the complicating infections of the neighborhood show conclusively that the streptococcus plays the most important rôle, as it occurs in pure form in almost one-half of the cases. Pneumococci occur in pure form in only about 8 per cent.

Now if sinus thrombosis secondary to otitis actually is not caused by the pneumococcus it becomes more than ever of decided importance to know the exact flora of the ear discharge in complicated forms of otitis. Further investigations by means of the most approved modern technic are needed in order to settle this question of the bacteriology of sinus thrombosis as well as for other reasons. As the matter now stands the cultivation of streptococci from the blood in otitic infection points strongly to the existence of sinus thrombosis. Again, if streptococci are found in the blood after the sinus has been operated on, it most often means that the local focus requires further treatment, and ligation of the jugular vein may be indicated if not already made because experience from the cases studied by Libman points to the occurrence of endocarditis and continued multiplication of the cocci in the blood as rather rare events in these cases. If pneumococci are found in the blood and streptococci are the predominating microorganism in the ear discharge, an intercurrent pneumonia may be suspected.

It goes without saying that when the problem of whether the patient is suffering from complications of otitis media or from typhoid fever the growth of typhoid bacilli in the blood cultures would establish the diagnosis of typhoid fever. Libman also very properly emphasizes the value of negative results of blood cultures. Here again the interpretation is not always easy, as there are several distinct possibilities. In the first place, if there has been a sinus thrombosis with bacteriemia and the jugular vein has been tied, sterile cultures would indicate that the infection had stopped. Again, if the mastoid has been exposed and there is no involvement of the sinus or of the brain, sterile cultures speak against a general infection being the cause of the continuation of the symptoms and one should look for intercurrent diseases. Enough has been said to show that careful bacteriologic studies of the local discharge and of the blood must be of great value in otitis and its complications, and especially, of course, in the obscure cases. The findings, however, will require judicious interpretation on the basis of all the available facts.

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[1] Arch. Otol., 1908, xxxvii, 22.

DIAGNOSTIC IMPORTANCE OF ELECTRIC VARIATIONS IN THE HEART

The graphic studies on the venous and carotid pulse, the apex beat and the pulsations within the esophagus which have been applied clinically by Friedreich, Marey, François-Franck, Riegel, and in later years by James Mackenzie, Wenckebach, William His, Jr., G. A. and A. G. Gibson, D. Gerhardt, H. E. Hering, Hay and Rihl in Europe, and in America by Morrow, Erlanger, Hirschfelder, Schmoll, Hewlett, Cushny and Grosch, Cooper, Norris, Robinson, Thayer, Piersol and Bachman, have done much to enhance our knowledge of the disturbance of function in cardiac disease.

A still further advance has been made by W. Einthoven of Leyden[1] in placing the methods of electrophysiology at the disposal of the clinician. Einthoven has devised a galvanometer much more delicate than the capillary electrometer or any other form heretofore available. The movement of the fine quartz or platinum filament which occurs with changes of electric potential is magnified and photographed on a rapidly moving film and in this way the changes of potential during the cardiac cycle are recorded (electrocardiogram). This is a somewhat complicated procedure and of course, requires expensive apparatus and a dark room specially fitted for the purpose. But, the appliances once installed, the manipulations are easier, quicker and more certain than those for obtaining tracings from the venous pulse.

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[1] Le télécardiogramme, Arch. internat. de physiol., 1906, iv, 132; Weiteres über das Elektrocardiogramm, Arch. f. d. ges. Physiol., 1908, cxxii, 517.

So far as the patient is concerned, the method is extremely simple. He is seated in a comfortable chair with the right hand and left foot placed in tubs which contain dilute salt solution and which are connected with the two poles of the galvanometer. Professor Einthoven has even laid wires from his laboratory to the wards of the Leyden Hospital, a mile and a half away, so that he can study the case at a distance, without moving the patient, by means of the "telecardiogram."

The interpretation of the curves is not unusually difficult. The small waves due to contraction of the atrium and the larger diphasic variations due to ventricular systole are readily observed and photographed. It is easy to distinguish disturbances of rhythm, heart block and extrasystoles on the records. Kraus and Nicolai of Berlin[2] have also demonstrated that it is possible to distinguish extrasystoles arising in the left side of the heart from those arising in the right. H. E. Hering[3] has recently demonstrated that the so-called absolute irregularity, which is the most common form of permanent arrhythmia, is due to both extrasystoles and neurogenic irregularity occurring together in hearts whose auricles are paralyzed. Kraus and Nicolai have also added some evidence of occasional disturbances in the coordination of the ventricles.

Further studies along these lines are certain to lead to interesting results which will be of undoubted value for the understanding of the nature of the myocardial and functional diseases; it seems probable that they will enable us to adopt in each case that mode of treatment which is suited physiologically to correct the individual disturbance of function.

THE CLASSIFICATION OF BACTERIA

It is one of the most remarkable lapses in modern biologic science that the classification of the bacteria has been left so long in uncertainty and confusion. The circumstance is hardly creditable to workers in this field. There are many groups of living organisms in which nomenclature and classificatory arrangement, whatever may be their biologic importance, have little or no influence on the course of investigation or on matters of direct practical concern. But just the reverse is true of bacterial classification. The difficulties that surround the sure identification of a newly found micro-organism are familiar to everyone who has had occasion to consult the meager descriptions and unhelpful systematic arrangements now available for the student. Chester's well-known compilation, although based on a reasonable principle, has not proved so useful as was hoped, because of its numerous technical inaccuracies. The practical importance of determining group limitations and variations has presented itself to many active workers in bacteriology. In more than one infectious disease questions as to origin, mode of treatment and methods of prevention have hinged on the identity and relationships of particular "cultures" or "strains."

Isolated observers have dealt with this perplexing feature of classification and relationship sometimes in a perfunctory, sometimes in a thoroughgoing way, but any determined attack on the underlying problem itself has not, as a rule, been hazarded. It is with special welcome, therefore, that we find in a recent book[1] a discussion of the principles of bacterial classification which ought to have a far-reaching influence.

In this monograph we find a well conceived and thoughtful attempt, based on a large amount of painstaking original work, to establish a rational scheme of classification of the spherical bacteria. The criteria of differentiation are similar to those which modern research has come to emphasize in other fields of taxonomic work. As these authors express it: "The biometrical methods, which have proved so useful in the study of the races of man, promise to be of even greater value in the systematic analysis of types among the bacteria, where so many factors combine to preserve varietal differences on so wide a scale. If individual strains only are considered, an infinite series of differences appear. If the same strains are considered statistically, that is, if the frequency of a given character be taken into account, it is apparent that certain combinations of characters are much more common than others. Measurement of almost any character by quantitative methods shows that the bacteria examined group themselves on a simple or complex curve of frequency. The modes of this curve indicate centers of variation about which the individuals fluctuate, and these centers of variation are the real systematic units of the group. The recognition of such centers, as specific types, offers the natural and satisfactory compromise between systematic multiplicity and vague generalization."

It is evident that whatever degree of immediate acceptance the Winslows' classification of the *Coccaceæ* may meet with, or whatever may be the ultimate fate of the new subdivisions and nomenclature which they have devised, the principles of classification which they advocate can receive only the heartiest commendation and support. The general rules of procedure laid down in this book are not particularly novel, but they need to be followed and insisted on if bacterial classification is ever to be put on a firm footing: "In the first place, it must be admitted, before any progress is possible, that physiologic characters are as important as morphologic characters in this group, and that they alone, if of sufficient degree, may serve for specific and generic definition." "Secondly, an absolute requisite in regard to bacterial characters, morphologic or physiologic, is that they should be definite, and capable of so clear a description that they can be identified without difficulty by other observers." "Finally, if our view is correct, bacterial types should never be described on the strength of an examination of single individual strains; but only after a comparative study of the numerical frequency of each particular character in a considerable series of cultures."

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[2] Ueber das Elektrokardiogramm unter normalen und pathologischen Verhältnissen. Berl. klin. Wchnschr., 1907, xliv, 765, 811.

[3] Das Elektrokardiogramm des Pulsus irregularis perpetuus, Deutsch. Arch. f. klin. Med., 1908, xciv, 205

[1] The Systematic Relationships of the Coccaceæ, by C. E. A. Winslow and Anne Rogers Winslow, New York. John Wiley and Sons.

Let us hope that all obsolete and slovenly descriptions of the spherical bacteria henceforth will be treated as they deserve and that this book will mark the beginning of a new period in bacterial classification.

ANOTHER AUTOMOBILE NUMBER

As the doctor's gig gave way to the four-wheeled buggy, so the latter is being replaced by the motor-car. In spite of the many and varied annoyances connected with the automobile, each year more and more physicians are discarding the horse-drawn rig for one propelled by electricity or gasoline. For, in spite of the annoyances, and the apparent—and often real—extra expense of original cost and up-keep, the automobile has advantages for physicians which are compelling its more general use. This is especially true of the busy man in general practice whose time is valuable. To him it is becoming a necessity rather than a luxury. The automobile question, therefore, is a very practical one for physicians—one that affects their professional work, their finances and their comfort.

Three years ago,[1] with considerable trepidation, we decided to issue an automobile number, and some thirty-six pages were devoted to the subject. With less misgiving last year[2] we repeated the experiment. The enthusiastic reception accorded the two previous issues makes it certain that another number devoted to the subject will be appreciated. The third automobile number of The Journal is therefore planned for March 6.

This year we expect to have several contributions from experts on the various phases of the subject, such as the relative value of several types of motors, high wheels versus low wheels, the ever important question of tires, methods of transmission, etc., but the greater portion of the matter we hope to have contributed by our readers, whom we ask to submit for publication brief, pointed accounts of their experiences and their deductions from the latter. Suitable illustrations are desired.

Those who are willing to contribute are requested to notify us at once, stating the particular points of the subject they will cover. Manuscripts should reach us by February 15 and be limited to 700 words.

We are anxious to make this number of practical value, but can succeed only with the cooperation of those who have had experience. The machine is no longer a toy and, while it has not yet reached perfection, it has become of very practical use. It is therefore appropriate that every possible ray of light be shed on this as on other questions, in order that the physician's equipment may be as helpful as possible for his important work in life.

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[1] April 21, 1906.

[2] March 7, 1908.

THE LEPROSY PROBLEM IN HAWAII

In his report on the status of leprosy in the Hawaiian Islands Dr. Brinckerhoff,[1] director of the Leprosy Investigation Station at Molokai, gives some interesting data which indicate the necessity for thorough study of this disease, especially the means by which it is transmitted. While the cause of leprosy, the *Bacillus lepræ*, was discovered years ago by Hansen, almost nothing is known about its mode of transmission and other problems important in effecting control of the disease. The statistics indicate that in spite of the system of segregation which has been in operation for over forty years, the disease is steadily making progress, not only among the native population but also among the other races on the islands. The statistics available show that in 1876 1.35 per cent. of the entire native population were lepers; in 1900,[2] 2.5 per cent. were thus afflicted. This increase may be partially explained by the fact that more rigid segregation is now practiced, but according to Dr. Brinckerhoff there can be no doubt but that the increase is real. Heretofore the segregation has been practically voluntary. While it is the duty of all officers of the law to report suspected cases, there are no officials whose duty it is to seek out lepers. The result is that the lepers are hidden away by their friends until they are so marked by the disease that it is no longer possible to conceal them; the unfortunate individuals then surrender voluntarily to the health officers. This is demonstrated by the fact that the duration of the disease before apprehension averages a little less than four years. The statistics also show that the disease occurs more frequently in the centers of population and is not common in the remote districts; for instance, it is far more prevalent in Honolulu than in any other part of the territory. While it is true that natives in the country may occasionally come to the cities for treatment or for concealment, the chief reason for the prevalence of the disease in cities appears to be that the conditions of life there furnish better opportunities for transmission. The report also indicates that leprosy is increasing not only among the native population, but also among European and Asiatic immigrants. The increasing number of non-Hawaiian lepers, shown among the Japanese and Portuguese particularly, is probably due as much to importation as to infection acquired in the territory. It is concluded from this fact that leprosy will persist unless some effective means is devised to check its spread, and the urgent problem at present is how to obtain segregation early in the disease. Much has been done in recent years to improve conditions of living at the leper colonies, and it is hoped that as this becomes more generally known among the natives they will report more promptly for examination and that there will be less concealment by their friends.

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[1] Brinckerhoff, Walter R.: The Present Status of the Leprosy Problem in the United States. Treasury Dept., P. H and M.-H. S., Washington, 1908.

[2] Statistics not available since 1900.

THE "OPTOMETRY" FAD

With the assembling of the state legislatures it becomes evident that the concerted movement for the adoption of "optometry" laws in the various states has not yet subsided; references to these efforts have been made in The Journal from time to time. The new year opens auspiciously for the "optometrists" in view of the fact that the governor of Vermont has just signed the optometry bill. The enactment of this law was mainly due to the constant lobbying and political activity of the few persons interested in securing the passage of the bill, which met with practically no opposition. As usual, the little opposition presented was from a few far-sighted physicians who struggled in vain to prevent its passage. As in other states, the "optometrists" endeavored to secure at least the nominal support of the medical profession by circulating petitions among physicians prior to the introduction of the bill; they thus obtained the signatures of unthinking and unsuspicious physicians. This apparent endorsement was used before the legislature. These laws are not only entirely unnecessary but are actually legalizing that which is detrimental to public health and are proposed and pushed for selfish and mercenary reasons. Their adoption should be vigorously opposed in all states in which they are introduced and careful preparation for their defeat should be made at once by all state associations, committees on medical legislation and boards of health. Immediate steps should be taken to present to each member of the legislature in any state in which these bills are introduced such convincing reasons for their defeat as can not be overlooked or contradicted.

THE FOOD VALUE OF MEAT EXTRACTS AND MEAT JUICES

The government report on "Meat Extracts and Similar Preparations," which we abstract on another page,[1] gives occasion for reflection. As physicians we assume a great responsibility in ordering foods, especially in those critical cases in which difficulty is experienced in their retention. We do not always sufficiently realize that by giving preparations having little food value, under the impression that they are nutritious, we may actually starve patients. Reports such as the one under consideration, and from such a source, need to be pondered on seriously by those who have previously used such preparations. The facts set down in this report not only show that the claims regarding the food value of "meat extracts" and "meat juices" are ridiculous, but they make plain the therapeutic limitations of such products. Now that this report is available, there is no excuse for employing such preparations except on the understanding that what is being given is, essentially, not a food. Specious arguments are often built on the observation that patients sometimes appear to improve after the use of such preparations. The very names, meat juice, beef juice, and the like, have, however, always been words to conjure with, and let us remember that there is a large psychic element in many diseases, and especially in most cases in which there is an inability to take food. Let us use psychotherapy, if we will, but let it not displace food. Let us particularly in the case of unfortunate sick children—who are usually free from psychic disturbance of this character — not feed them psychotherapeutically. It is also often said that such preparations stimulate appetite and the nervous system. They frequently do stimulate appetite, but their effects on the nervous system are much more open to question. Granting these things, however, what do they mean? When we order foods, we want foods, not simply stomachics or nerve stimulants. Let us be grateful that the Bureau of Chemistry has furnished us with exact knowledge as to the nutritive value of a class of preparations than which none has had more claimed for it with less basis of fact.

Medical News

ARIZONA

Work on Hospital Begins.—Work has been begun on the hospital building to be erected in connection with the Territorial Asylum for the Insane, Phoenix. The building will be constructed of cement, and will be of fireproof and sanitary construction.

License Revoked.—The Territorial Board of Medical Examiners, on December 11, is said to have revoked the license of R. A. Aiton, medical advisor to a medical company of Phoenix. Notice has been filed that Dr. Aiton will move for a writ of certiorari to review the proceedings of the board.

Personal.—Dr. Edward S. Godfrey, Jr., Tucson, has been appointed secretary of the Territorial Board of Health, and territorial health officer.——A committee consisting of Drs. James M. Swetnam, John W. Thomas and W. C. Ellis has been appointed by the Maricopa County Medical Society to draft a bill requiring the collection of vital statistics in the territory.

Hospital Burned.—The Whitwell Hospital, Tucson, completed less than a year ago at a cost of $75,000, by Mrs. Whitwell of Brooklyn, N. Y., in memory of her husband, was totally destroyed by fire December 26. The loss is said to be about $60,000. The patients, about forty in number, were removed without casualty. The hospital will be rebuilt immediately.

DISTRICT OF COLUMBIA

Personal.—Dr. J. J. Kinyoun has been appointed pathologist and Dr. Truman Abbe, radiologist on the staff of the Tuberculosis Hospital, Washington.——Dr. Nathaniel P. Butler of the Pension Office was seriously burned Christmas Day while throwing a burning Christmas tree out of the window, but is making a rapid recovery.

Society Meeting.—The annual meeting of the Medical Society of the District of Columbia was held January 4, when the following officers were elected: Dr. Edward A. Balloch, president; Drs. John Van Rensselaer and George T. Vaughan, vice-presidents; Dr. Henry C. Macatee, recording secretary, and Dr. Charles W. Franzoni, treasurer, all of Washington.

FLORIDA

Society Meetings.—At the annual meeting of the Hillsborough County Medical Association, held in Tampa, the following officers were elected: President, Dr. Leslie W. Weedon; vice-president, Dr. Charles W. Bartlett; secretary-treasurer,

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[1] Pharmacology Department, page 311.

Dr. J. C. Vinson; and delegate to the state medical association, Dr. Rollin Jefferson, all of Tampa.——Escambia County Medical Society, at its annual meeting, held in Pensacola, December 22, elected the following officers: President, Dr. Clinton W. D'Alemberte; vice-president, Dr. Marion E. Quina; secretary, Dr. Clarence Hutchinson, and treasurer, Dr. William A. J. Pollock.

Personal.—Dr. J. Harrison Hodges, Gainesville, has been appointed physician-in-charge of the National Odd Fellows Sanatorium, vice Dr. Charles F. Marsh, Pensacola, deceased. ——The case of the city of De Funiak against Dr. McKinnon for practicing medicine without a city license has been decided in favor of the defendant on the ruling that the city has no constitutional or legal right to impose such license fees.——Dr. Claude Joyner, Jacksonville, has been re-elected physician-in-charge of the Duval County Hospital.——Dr. Edmund Warren, Palatka, has been appointed a member of the State Board of Medical Examiners.——Dr. Clinton W. D'Alemberte, Pensacola, has been elected physician of Escambia County.

GEORGIA

Hospital Trustees Would Elect Entire Staff.—The trustees of Grady Hospital, Atlanta, requested the city council to amend the rules so as to permit the trustees to select the medical staff from the city at large and not from the two colleges as at present.

Personal.—Dr. James H. McDuffie, Columbus, has been appointed a member of the State Board of Health.——Dr. Lamartine G. Hardman, Commerce, has been re-elected a member of the board of trustees of the State Agricultural College.——Dr. Arthur A. Morrison, Savannah, has been appointed assistant surgeon general of the United Sons of Confederate Veterans.——Dr. Sidney Walker, Dublin, has been appointed physician of Laurens County.

Tuberculosis Sanatorium Organized.—Pine Mountain Tuberculosis Sanatorium was organized at Shiloh, December 10. Dr. Jesse M. Anderson, Columbus, was elected president; Dr. N. P. Walker, Milledgeville, vice-president, and Dr. Charles A. Dexter, Columbus, secretary-treasurer. It is contemplated to erect on top of Pine Mountain one large pine log building to be used as an administrative building, and other pine log cabins so arranged that they may be closed and used as dressing rooms, or thrown open for sleeping porches. The organization is capitalized at $25,000.

Society Meetings.—At the annual meeting of the Muscogee County Medical Society, held in Columbus, Dr. Martin Crook was elected president; Dr. Isaac C. Evans, vice-president; Dr. W. L. Cooke, secretary; Dr. Thomas E. Mitchell, treasurer; Dr. James H. McDuffie, delegate to the state medical society; and Dr. T. Neal Kitchens, censor.——At the annual meeting of Fulton County Medical Society, held in Atlanta, December 18, the following officers were elected: President, Dr. Cyrus W. Strickler; vice-president, Dr. J. Ross Simpson; secretary, Dr. Edgar G. Ballenger; treasurer, Dr. Arnold H. Lindorme, and censor, Dr. Michael Hoke.

ILLINOIS

Civil Service Examination.—The Illinois Civil Service Commission announces the following examinations: May 6, for first assistant physician (promotional); assistant physician in hospitals for the insane; physicians and medical internes, and for the Eye and Ear Infirmary, Chicago—eye surgeon, assistant eye surgeon, alternate assistant eye surgeon; ear surgeon, assistant ear surgeon, alternate assistant ear surgeon; pathologist, assistant pathologist, and six internes. Requests for applications and information should be addressed to the Illinois Civil Service Commission, Springfield.

Annual Health Board Meeting.—The annual meeting of the State Board of Health was held in Springfield January 15. Dr. George W. Webster, Chicago, was re-elected president, and Dr. James A. Egan, Springfield, secretary and executive officer. The board decided to recommend to the governor the creation of a state sanatorium for consumptives, provided cities and villages do not take advantage of the power conferred on them of erecting municipal hospitals, and further recommended the provision for a state colony for epileptics. The board also determined to continue the crusade against consumption and to make a thorough investigation into the milk supply of the state to determine whether milk contains the germs of tuberculosis and other communicable diseases.

Society Meetings.—Aurora physicians met December 17, organized the Aurora Medical Society, and elected the following officers: President, Dr. Herman Milbacher; vice-president, Dr. Robert A. Windett; secretary-treasurer, Dr. William H. Schwingel, and executive committee, Drs. Edward W. Banker, Herman A. Brennecke and William P. Sherman.——At the annual meeting of Champaign County Medical Society, the following officers were elected: President, Dr. William E. Schowengerdt, Champaign; vice-president, Dr. Fred H. Powers, Champaign; secretary-treasurer, Dr. Cyrus F. Newcomb, Champaign; censors, Drs. Albert S. Wall, Champaign; Thomas J. McKinney, Gifford, and William L. Gray, Champaign; delegate to the state society, Dr. James S. Mason, Urbana; and alternate, Dr. Thomas J. McKinney, Gifford.

Chicago

Defendant Wins Suit.—A jury in Judge Gibbons' court, on January 6, returned a verdict in favor of Dr. Henry Schmitz, who was sued for $20,000 by Dr. George Zoeller for the loss of his foot, due to a gunshot wound accidentally inflicted while hunting.

Unlicensed Practitioner Fined.—E. A. Kamin, an optician, is said to have been fined $100 January 14 for practicing medicine without a license. An inspector of the State Board of Health testified that he had gone to the office of this individual, complaining of a sore throat, and had been given a prescription, for which he was charged twenty-five cents.

Ophthalmologists Meet.—The annual meeting and dinner of the Chicago Ophthalmological Society was held January 11. Dr. Thomas A. Woodruff, president, acted as toastmaster. The following officers were elected: President, Dr. Frank Allport; vice-president, Dr. William A. Mann; secretary, Dr. Willis O. Nance; councilor, Dr. Paul Guilford, and councilor to the Chicago Medical Society, Dr. Thomas Faith.

Vital Statistics.—The deaths for the week ended January 16 were 145 more than for the preceding week, the chief increase being from pneumonia, the mortality from which was 150. Cases of diphtheria, scarlet fever, measles, chickenpox and pneumonia have increased, while cases of whooping cough and typhoid fever are fewer in number. At the hospital for contagious diseases there were 37 cases of diphtheria under treatment.

INDIANA

Society Meeting.—The Æsculapian Medical Society, at its annual meeting in Indianapolis, elected Dr. Calvin R. Atkins, president; Dr. C. R. Cottey, vice-president; Dr. A. J. King, secretary; and Dr. Henry L. Humons, treasurer.

Personal.—Dr. John H. McCutchan, Evansville, who returned a few days ago from Europe, is reported to be critically ill at his home.——Dr. Richard W. Sipe, Orange, fell on a slippery pavement at Rushville, January 8, and injured his leg.——Drs. Carl G. Winter and Thomas J. Dugan, Indianapolis, have been appointed physicians of the coroner of Marion county.

Medical Board Election.—The State Board of Medical Registration and Examination, at its annual meeting held in Indianapolis, January 12, reorganized with the following officers: President, Dr. William A. Spurgeon, Muncie; vice-president, Dr. John C. Webster, Lafayette; secretary, Dr. William T. Gott, Crawfordsville (re-elected); and treasurer, Dr. Moses S. Canfield, Frankfort (re-elected).

LOUISIANA

Antituberculosis League Appointments.—The clinical staff of the Louisiana Antituberculosis League is as follows: Drs. E. L. McGehee, J. H. Levin, Percival B. McCutcheon, George S. Brown, M. Thomas Lanaux, Sarah T. Mayo, Edith Loeber, J. George Dempsey, Frank J. Hartley and Adolph O. Hoefeld. The following consulting staff was appointed: Medical, Drs. George S. Bell, J. W. Durel, R. Chilton and A. L. Levin; throat, Drs. Otto Joachim and A. I. Weil; genitourinary, Dr. Albert B. Brown; stomach, Drs. Jacob A. Storck and Sidney K. Simon; eye, Dr. C. Bahn; skin, Dr. Joseph N. Roussell; nerves, Dr. E. M. Hummel; orthopedic, Drs. Erasmus D. Fenner, John F. Oechsner and Edward S. Hatch; and surgical, Drs. Joseph A. Danna and D. Urban Maes.

MARYLAND

New Society.—The physicians of Cumberland have organized a city branch of the Alleghany County Medical Society, with the following officers: President, Dr. Thomas W. Koon; vice-president, Dr. Henry S. Wailes, and secretary-treasurer, Dr. Charles L. Owens.

Personal.—Dr. J. Harry Stonestreet is reported to be seriously ill with pneumonia at his home in Barnesville.——Dr.

Harry Friedenwald, Baltimore, has been elected president of the Hebrew Educational Society of the United Hebrew Charities.——Dr. Harry Adler has been re-elected president of the Hebrew Hospital, Baltimore.

Dissemination of Health Information.—The Maryland Society of Social Hygiene has been organized, and will engage in a strenuous campaign for education on the subject of health. A number of lectures for both sexes is planned to be delivered before clubs and social organizations. Dr. Emil Novak, Baltimore, is secretary of the society.

Writers of Maryland.—In THE JOURNAL, January 9, an item was published giving the names of certain medical authors of Maryland. This does not represent a complete list, but was taken from a single issue of the Baltimore *Sun*. A series of "Authors Living and Working in Maryland" has been appearing in that paper for a number of weeks.

Society Election.—At the annual meeting of Caroline County Medical Society, held in Denton, the following officers were elected: President, Dr. Jacob L. Noble, Preston; vice-president, Dr. Stephen S. Stone, Ridgely; secretary-treasurer, Dr. James R. Downes, Preston; and delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Jacob C. Madara, Ridgely.

Jewish Charities.—During the past year the Hebrew Hospital treated 1,000 patients, and 521 major operations were performed. Receipts from private patients were $10,202. In the dispensary 12,155 patients were treated and 17,177 prescriptions filled. There was a deficit for the year of $2,643.39. ——During the six months ended January 10, the Jewish Home for Consumptives reports that it has had in its care 36 patients, and that several have been benefited so much that they have been able to resume outdoor employment.

State Board Meeting.—At the annual meeting of the Maryland State Board of Health, January 13, resolutions were passed protesting against the meager pay allowed county health officers, and urging the establishment of a satisfactory statutory rate of compensation on the basis of population. The board also urges the county commissioners to allow the expenses of county health officers, in addition to their salaries. The election of officers resulted as follows: President, Dr. William H. Welch, Baltimore; executive committee, Drs. James Bosley, Baltimore, and Howard Bratton, Elkton, and Mr. Douglas H. Thomas; medical assistant, Dr. Caleb W. G. Rohrer; bacteriologist, Dr. William R. Stokes, and assistant bacteriologist, Dr. Harry W. Stoner.

MASSACHUSETTS

Bequests.—By the will of Caleb Chase, Brookline, the Boston Floating Hospital will receive $10,000, the Woman's Charity Club Hospital $5,000, and the West End Nursery and Infant's Hospital, $5,000.——The trust funds left by the late Gardner S. Burbank, Fitchburg, to become available for a free hospital for the city, have been placed in the custody of the trustees. The value of the funds has increased by careful investment since the donor's death from $438,000 to $510,000. ——By the will of Lavinia E. Hunting, Malden, $3,000 is devised to the Manhattan Eye and Ear Infirmary, New York City, and $3,000 to the Cullen Consumptives Home, Boston.

NEBRASKA

Hospital Report.—In the biennial report of the superintendent of the Norfolk State Hospital for the Insane, he recommends the establishment of a central pathologic laboratory, whose head shall guide the medical work of the different hospitals and act in cooperation with their respective superinendents. During the last biennium there was expended 141,932.64, leaving a balance remaining of the appropriation f $87,067.36. The estimated expenditure of the coming biennium is $292,600, and of this amount $116,000 is for permanent improvements.

NEW JERSEY

Tuberculosis Hospital.—The Hudson County Board of Freeolders is erecting a tuberculosis hospital at Laurel Hill, which is nearing completion. The following have been named as oard of managers: Drs. George W. King, Secaucus and Joseph . X. Stack, Hoboken, for three years; Drs. Edwin J. G. Valntine, Jersey City, and George E. McLaughlin, Jersey City, or two years, and Drs. Frank W. Mallalieu, Jersey City, and Frederick Sternkopf, for one year.

Society Meetings.—The Newark Medical League held its annual meeting December 28, when the following officers were ected: President, Dr. Herbert W. Long; vice-president, Dr. athaniel G. Price; treasurer, Dr. Edwin Steiner; recording and corresponding secretary, Dr. Philip G. Hood; financial secretary, Dr. Louis Weiss, and reporter, Dr. Julius Levy. At the adjournment of the meeting a banquet was served to the members, over which Dr. David A. Kraker, former president of the league, presided as toastmaster.——The Orange Mountain Medical Society celebrated its twenty-fifth anniversary December 18, by a dinner at the Essex County Club. The president, Dr. Harry E. Matthews, Orange, acted as toastmaster. At the annual meeting of this society, which was held at Orange January 15, the members were entertained at dinner by the retiring president, Dr. Harry E. Matthews, the subject of whose address was "Fads and Fancies of Doctors and Their Patients." The following officers were elected: President, Dr. Mefford Runyon, South Orange; vice-president, Dr. Richard P. Francis, Montclair; secretary, Dr. Richard D. Freeman, South Orange; treasurer, Dr. James M. Maghee, West Orange, and reporter, Dr. Wiliam H. Lawrence, Jr., Summit.——The Passaic Medical Society, at its annual meeting January 15, elected Dr. John N. Ryan, president; Dr. Hiram Williams, vice-president (re-elected); Dr. Leo H. Joyce, secretary; and Dr. Frederick F. C. Demarest, treasurer.——At the annual meeting of the Atlantic County Medical Society, the following officers were elected: President, Dr. Clyde M. Fish, Pleasantville; vice-president, Dr. Thomas G. Dunlap; secretary and treasurer, Dr. W. Price Davis; reporter, Dr. Theodore Senseman; censor, Dr. Walter Reynolds; delegates, Drs. Arthur E. Ewens and Edward S. Sharpe, all of Atlantic City.

NEW YORK

Typhoid Fever Epidemic.—Cooperstown is reported to have an epidemic of typhoid fever. On January 18, there were thirty cases in the town, which has a population of about 3,000.

Bill Affecting "Patent Medicines."—A bill, known as the Gluck bill, has been introduced into the legislature, which requires the disclosure of the ingredients of "patent medicines" to the State Health Commissioner and that the formula shall appear on the label.

County Medical Society Meeting.—At the eighty-seventh annual meeting of the Medical Society of the County of Erie, held December 21, in Buffalo, the following officers were elected: President, Dr. Charles A. Wall; vice-presidents, Drs. Grover W. Wende and Bernard Cohen; secretary, Dr. Franklin C. Gram; treasurer, Dr. Albert T. Lytle, and censors, Drs. John H. Grant, DeLancey Rochester, Francis E. Fronczak, Walter D. Greene, and George L. Brown.

Vital Statistics.—The State Department of Health reports that during November there were 1,101 deaths in the state from tuberculosis, an increase of 29 over the corresponding month of 1907. There were 10,306 deaths recorded in November, giving an annual death rate of 14.5 per 1,000 population. For the corresponding month of last year the death rate was 15.6 per 1,000. The total number of births reported was 16,075, making an annual birth rate of 22.6 per 1,000.

To Study Imprisonment of Insane.—Dr. Albert Ferris, president of the State Commission in Lunacy, intends to make a tour of the jails and prisons of the state with the view of putting an end to the alleged unlawful incarceration of insane persons in penal institutions. The officials in charge of such institutions will unite with the Lunacy Commission in the efforts which are being made to improve the present condition of affairs. A special committee of the superintendents of the state hospitals has made a report on the care of insane pending commitment, which takes up the matter of temporary incarceration in jails and will distribute it throughout the state.

New York City

For Beth Israel Hospital.—At a meeting recently held for the purpose of organizing a general committee, it was announced that additional subscriptions to the amount of $100,000 had been obtained for the proposed new building for this hospital. The amount in hand to date is $160,000.

Hospital Alumni Organize.—On January 12 the alumni of the Lying-in Hospital of the City of New York were organized and the following officers were elected: President, Dr. Asa B. Davis; vice-president, Dr. William P. Macleod; secretary, Dr. Joseph E. Lumbard; treasurer, Dr. John H. Telfair, and editor, Dr. C. F. Jellinghouse.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended January 9, 507 cases of pulmonary tuberculosis, with 162 deaths; 394 cases of diphtheria, with 42 deaths; 538 cases of measles, with 12 deaths; 305 cases of scarlet fever, with 15 deaths; 46 cases of typhoid fever, with 6 deaths; 30 cases of whooping cough, with 5 deaths; 8 cases of cerebrospinal meningitis, with 8 deaths, and 260 cases of varicella—making a total of 2,088 cases and 250 deaths.

Hebrew Charities Endowed.—By the will of Louis A. Heinsheimer, the deceased treasurer of the United Hebrew Charities, $1,000,000 is bequeathed to Hebrew benevolent institutions, provided that within a year from the time the will is probated a corporation shall have been formed representing a consolidation of Mount Sinai Hospital, the Hebrew Benevolent Orphan Society, the Montefiore Home for Chronic Invalids, the Educational Alliance, the Home for Aged and Infirm Hebrews and the United Hebrew Charities and any other institutions similar in character which these institutions shall deem it advisable to admit into the corporation. The will also provides that if these institutions shall decide not to form such a corporation, but shall within the specified time create a body which shall have for its purpose the financial or other aid of these six institutions and any other charitable Jewish institutions in this city, then the $1,000,000 shall go to such a body. In case such a body is not formed the United Hebrew Charities will receive $100,000, the Montefiore Home $25,000 and the remainder will fall into the residuary estate.

Maximum Mortality from Pulmonary Tuberculosis by Sex and Age Groups.—Dr. William H. Guilfoy, Registrar of Records, Department of Health, gives the following interesting figures:

MALES

Age groups.	1868. Deaths.	Age groups.	1907. Deaths.
25-34 years...........	500	35-44 years...........	1,087
35-44 years...........	369	25-34 years...........	1,056
15-24 years...........	301	45-24 years...........	764
45-54 years...........	267	15-24 years...........	500
55-64 years...........	159	55-64 years...........	305

FEMALES

Age groups.	1868. Deaths.	Age groups.	1907. Deaths.
25-34 years...........	434	25-34 years...........	243
15-24 years...........	344	15-24 years...........	483
35-44 years...........	332	35-44 years...........	461
45-54 years...........	173	45-54 years...........	210
55-64 years...........	119	55-64 years...........	96

BOTH SEXES

Age groups.	1868. Deaths.	1907. Deaths.
25-34 years..............	934	1,691
35-44 years..............	701	1,548
15-24 years..............	645	983
45-54 years..............	440	974
55-64 years..............	278	401

NORTH CAROLINA

Annual Meeting.—At the thirteenth annual meeting and banquet of the Buncombe County Medical Society, held in Asheville, December 23, the governor, Hon. P. D. Murphy, Dr. J. Howell Way, Waynesville, of the State Board of Health, and others, responded to toasts. Dr. Way made a strong appeal for the influence of the society in helping to secure at the next session of the legislature an appropriation for the enlargement and extension of the work of the State Board of Health, and for the enactment of a vital statistics bill. The following officers were elected: President, Dr. Martin L. Stevens, Asheville; vice-president, Dr. Clyde E. Cotton, Black Mountain; secretary, Dr. Gaillard S. Tennent, Asheville; treasurer, Dr. Thomas E. W. Brown, Asheville, and delegates to the state society, Drs. Arthur W. Calloway and John H. Williams, Asheville.——At the annual meeting of Forsyth County Medical Society held in Winston-Salem, December 8, the following officers were elected: President, Dr. Robert D. Jewett; vice-president, Dr. John Bynum; secretary-treasurer, Dr. Eugene P. Gray; delegate to the state society, Dr. John F. Shaffner, and alternate, Dr. Aaron Y. Linville, all of Winston-Salem.——At the annual meeting of Wayne County Medical Society, held in Goldsboro, the following officers were elected: President, Dr. Richard E. Lee, Goldsboro: vice-president, Dr. Theodore L. Ginn, Goldsboro; secretary-treasurer, Dr. J. Rainey Parker, Goldsboro; delegate to the state society, Dr. Marius E. Robinson, Goldsboro; alternate, Dr. Edgar C. Person, Mount Olive; and censors, Drs. Marius E. Robinson and William H. Cobb, Goldsboro, and Dr. James W. Kornegay, Mount Olive.——At the annual meeting of New Hanover County Medical Society, held in Wilmington, December 7, the following officers were elected: President, Dr. John T. Schonwald; vice-president, Dr. John B. Cranmer; secretary-treasurer, Dr. Morris M. Caldwell; censor, Dr. John C. Wessell, and delegate to the state society, Dr. Edward J. Wood, all of Wilmington.

OHIO

Society Meetings.—At the sixty-fourth annual meeting of the Northwestern Ohio Medical Association, held in Findlay, December 10 and 11, the following officers were elected: President, Dr. Thomas Hubbard, Toledo; vice-presidents, Drs. Charles W. Moots, Toledo, and Ora L. Norris, Deshler; secretary, Dr. Edwin A. Murbach, Archibald (re-elected), and assistant secretary and treasurer, Dr. Stuart T. Drombold, Elmore (re-elected).——The Columbus Pathologic Society has been organized with the following officers: President, Prof. E. F. McCampbell, Ohio State University; vice-president, Dr. John D. Dunham; secretary, Dr. Frank Winders and censors, Prof. F. L. Landacre and Dr. Ernest Scott.——At the annual meeting of the Academy of Medicine of Toledo and Lucas County, January 8, Dr. James A. Duncan was elected president; Dr. Walter W. Brand, vice-president, and Dr. Charles F. Tenney, secretary.

PENNSYLVANIA

Instruction for Health Employés.—The school of sanitary instruction for employés of the Bureau of Health, Pittsburg, opened January 14, when a lecture was delivered by Dr. James F. Edwards, superintendent of the Bureau of Health.

Sanitary Instruction.—The Allegheny County Medical Society has adopted a new by-law creating a board of public instruction, consisting of seven members, whose duty it is to offer instruction to laymen and organizations of laymen in Pittsburg and vicinity. Dr. William H. M. Cameron is chairman of the committee.

Entrance Requirements Increased.—The Medical Department of the University of Pennsylvania has announced that for the session of 1909-10 candidates for admission must present certificates showing that they have completed the freshmen work in a college of liberal arts, or pass an equivalent examination. Instead of 32 units, therefore, the entrance requirements will be 35 units.

Anti-Cocain Bill.—In an effort to prevent the unauthorized sale of morphin, cocain and other harmful drugs, Representative Samuel W. Salus, of Philadelphia, will present a bill before the legislature, making the sale of such drugs unlawful except on a physician's prescription. At the same time Mr. Salus will offer an amendment to the cocain act increasing the imprisonment penalty for the illicit sale of that drug from 6 months to 2 years.

Officers Elected.—At the November meeting of the Bucks County Medical Society, the following officers were elected: President, Dr. Charles B. Smith, Newton; vice-presidents, Drs. Walter H. Brown, Richlandtown and William C. LeCompte, Bristol; secretary, treasurer and reporter, Dr. Anthony F. Myers, Blooming Glen; and censors, Drs. George M. Grim, Ottsville; William R. Cooper, Point Pleasant, and Alfred E. Fretz, Sellersville.——Blair County Medical Society, at its annual meeting, December 22, elected the following officers: President, Dr. Eugene C. Fetter; vice-presidents, Drs. Clair E. Robinson and Samuel L. McCarthy; secretary, Dr. Charles F. McBurney; treasurer, Dr. William S. Ross; reporter and corresponding secretary, Dr. Fred H. Bloomhardt; and censors, Dr. James E. Smith, Charles Long, all of Altoona, and Dr. Henry H. Brotherlin, Hallidaysburg. At the same meeting it was decided to divide the county into three sections and appoint men to preside at these meetings and to take up the postgraduate work as recommended by The Journal.——At the annual meeting of the Delaware County Medical Society the following officers were elected: President, Dr. Maurice A. Neufeld, Chester; vice-president, Dr. Charles H. Schoff, Media; secretary, Dr. Charles I. Stiteler, Chester; treasurer, Dr. Daniel W. Jefferies; and librarian, Dr. Samuel Trimble, Newtown Square.——At the annual meeting of the York County Medical Society, the following officers were elected: President, Dr. J. Ferdinand Klinedinst; vice-president, Drs. Lawton M. Hartman and Lewis H. Fackler; recording secretary, Dr. Laura J. Dice; corresponding secretary, Dr. A. B. Shatto; librarian, Dr. Israel H. Betz; treasurer, Dr. Francis X. Weil; censors, Drs. Isaac C. Gable, Alfred A. Long, York, and Nathan C. Wallace, Dover, and trustee, Dr. Matthew J. McKinnon.

Philadelphia

Hospital Secures Property.—The Medico-Chirurgical Hospital has purchased for $35,000 the property at 1719 Arch street and 1720 Cherry street, 20x288 feet, which is to be used for the erection of additions to the institution.

Personal.—Dr. Henry R. M. Landis has been appointed chief of the out-patient department of the Jefferson Medical College Hospital.——Dr. Joseph A. Moore has been appointed pathologist to St. Mary's Hospital.——Dr. Charles K. Mills and De Forrest Willard have been elected to the Council of the Department of Medicine of the University of Pennsylvania.——Dr. Robert G. LeConte has been elected a member of the Board of Managers of the Children's Hospital.——Dr. Henry C. Chapman, for thirty-two years professor of medical jurisprudence and physiology in Jefferson Medical College, has resigned, to take effect in June next.

Homecoming Week at the University.—Arrangements are being made by the Medical Department of the University of Pennsylvania for holding the first annual "Home-coming or Progressive Medicine Week" during the Easter vacation. A program is being prepared with the intention of having the head of each department in the medical school show by lectures and clinics the world's recent progress in medicine. Alumni of the school will be asked to cooperate by giving lectures and demonstrations on special subjects. Part of the time is to be taken up by the sessions of the Undergraduate Medical Association. Arrangements are being made to hold the annual banquet at that time and efforts are also being put forth to induce the various medical classes to hold their reunions during the home-coming week.

Charitable Bequests.—The will of the late Dr. William J. Earhart devises $5,000 each to the medical, surgical and maternity departments of the Women's Homeopathic Hospital; $5,000 to the Children's Homeopathic Hospital for the endowment of a free bed to be known as the Dr. Jacob R. Earhart memorial bed; $5,000 to the Hahnemann Hospital; $5,000 to the Southern Homeopathic Hospital for free beds, and the latter institution also receives an additional $5,000 for the maintenance fund. The will also contains a bequest of $5,000 to St. Luke's Hospital for the support of a free bed.——The will of the late Sarah E. Kolb contains a bequest of $5,000 to the German Hospital for the support of a free bed and of $5,000 to the Philadelphia Home for Incurables to be used for a similar purpose. The will also bequeathes $1,000 to the German Home for the Aged.——The will of the late Sarah D. Shur contains a bequest of $1,000 to the Methodist Hospital.——By the Portrait Ball held in the Academy of Music, December 31, $8,000 was realized for the Hospital of the University of Pennsylvania.

Meetings and Elections.—The annual meeting and banquet of the Association of Ex-Resident and Resident Physicians of the Hospital of the University of Pennsylvania, was held December 12. There were 55 members present and the meeting was presided over by Dr. John H. Jopson.——At the annual meeting of the West Philadelphia Medical Association, the following officers were elected: President, Dr. F. Mortimer Cleveland; vice-president, Dr. Sherman F. Gilpin; secretary, Dr. George M. Boyd; financial secretary, Dr. Walter M. Miller; and treasurer, Dr. Edmund L. Graf.——At the annual meeting of the Academy of Natural Sciences, December 18, the following officers were elected: President, Dr. Samuel G. Dixon; vice-presidents, Drs. A. E. Brown and E. G. Conklin; recording secretary and librarian, Dr. Edward J. Nolan; coresponding secretary, Dr. J. P. Moore; treasurer, George Vaux; curators, Drs. A. E. Brown, Samuel G. Dixon, H. A. Pillsbury and Mr. Witmer Stone; and councilors, Drs. Henry Tucker, Charles B. Penrose and Spencer Trotter and Mr. Charles Morris.——At the annual meeting of the Medical Club of Philadelphia, January 15, the following officers were elected: President, Dr. Wharton Sinkler; vice-presidents, Drs. James B. Walker and Dr. Alexander Marcy, Jr., Riverton, N. J.; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Lewis H. Adler, Jr.; governor, Dr. L. Webster Fox; and additional directors for one year, Drs. Judson Daland, S. Lewis Ziegler, Walter L. Pyle, George A. Knowles and Wendell Reber.——The West Branch of the Philadelphia County Medical Society has elected Dr. William S. Newcomet chairman and Dr. Charles A. E. Codman secretary.——The Post-Graduate Academy of Medicine of Northeastern Philadelphia has elected the following officers: President, Dr. Elmer E. Keiser; secretary, Dr. Albert C. Buckley; and treasurer, Dr. George C. Hanna.——The College of Physicians has elected the following officers: President, Dr. James Tyson; vice-president, Dr. George E. de Schweinitz; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; and censors, Drs. S. Weir Mitchell, Richard A. Cleeman, Louis Starr, and Arthur V. Meigs.

SOUTH DAKOTA

Smallpox Epidemic.—An epidemic of smallpox is said to prevail in Aberdeen, where 18 patients have been taken to the detention hospital. Rigid quarantine is being maintained and every precaution is being taken to stamp out the disease.

Society Meetings.—The annual meeting of the Fourth District Medical Society was held in Huron December 16. Dr. Edward B. Taylor, Huron, was elected president; Dr. Isaac M. Burnside, Highmore, vice-president; Dr. Samuel R. Wallis, Miller, treasurer, and Dr. Charles M. Hollister, Pierre, censor.——At the annual meeting of the Seventh District Medical Society, held in Sioux Falls, December 13, Dr. Thomas J. Billion, Sioux Falls, was elected president; Dr. Ervind Klaveness, Sioux Falls, vice-president; Dr. D. Willard Craig, Sioux Falls, secretary-treasurer; Dr. Earl E. Page, Montrose, delegate to the state society, and Dr. George W. Bliss, Valley Springs, censor.——The Eighth District Medical Society, at its annual meeting held in Yankton, elected Dr. Silas M. Hoaf, Yankton, president; Dr. James L. Stewart, Irene, vice-president, and Dr. Leon F. Beall, Irene, secretary-treasurer.——Mitchell District Medical Society, at its annual session held in Mitchell, elected Dr. E. N. Wager, Bijou Hills, president; Dr. Bert Menser, Bridgewater, vice-president; Dr. William R. Ball, Mitchell, secretary; Dr. Byron A. Bobb, Mitchell, treasurer, and Dr. E. W. Jones, Mount Vernon, censor.——At the annual meeting of Watertown District Medical Society, held in Watertown, December 10, Dr. Horace W. Sherwood, Doland, was elected president; Dr. Stanley B. Dickinson, Watertown, vice-president; Dr. James B. Vaughn, Castlewood, secretary-treasurer, and Dr. William J. Benner, Willow Lakes, censor.

TENNESSEE

Physicians Exonerated.—In the case of Dr. W. H. Holbrook, Chattanooga, charged by the local board of health with not reporting a case of smallpox, the prosecutors failed to prove that the case was one of smallpox, and the accused was discharged.——In the case of Dr. Gideon H. Morgan, Knoxville, charged with a grave offense, the case was thrown out of court without indictments having been drawn.

Tuberculosis Commission Named.—The governor has announced a temporary tuberculosis commission, consisting of the members of the State Board of Health and the superintendent of public instruction, *ex officio*, Drs. William Krauss, Memphis, William D. Sumpter, Nashville, and James L. McKenzie, Graysville; J. W. Scheibler, D.V.S., and Major E. C. Lewis, Nashville, and Messrs. Milton B. Ochs, Chattanooga, and Tom W. Neil, Dyersburg.

Personal.—Dr. J. Clyde Butler, Mountain City, has been made chief surgeon to the National Soldiers' Home, Johnson City.——In an affray at Benton between Drs. Joseph E. Hutchins and Spencer B. McCleary, January 10, both were seriously injured.——Dr. William E. Ragsdale has been elected president, Dr. C. M. Beck, secretary, and Dr. Walter R. Wallace, treasurer, of the newly formed Alumni Association of the College of Physicians and Surgeons, Memphis.——Miss Natilee Braine, Knoxville, has returned after three and one-half years of medical study in Europe.——Dr. John A. Witherspoon, Nashville, fractured a rib in a fall down stairs January 14.——Dr. William K. Vance, Bristol, has been appointed chief surgeon of the Virginia and Southwestern Railway.

Society Meetings.—At the annual meeting of the Memphis and Shelby County Medical Society, held December 15, Dr. Gustavus B. Thornton was elected president; Dr. Ernest C. Blackburn, vice-president, and Dr. J. Wesley Brice was reelected secretary-treasurer, all of Memphis. At the annual banquet Dr. B. F. Turner presided as toastmaster.——At the annual meeting of the Chattanooga and Hamilton County Medical Society, held December 11, Dr. Samuel I. Yarnell was elected president; Dr. William A. Duncan, vice-president; Dr. Hiller P. Larimore, secretary-treasurer, and Dr. Buchanan S. Wert, censor, all of Chattanooga.——Knox County Medical Society, at its annual meeting held December 17, elected the following officers: President, Dr. Samuel D. Acuff; vice-president, Dr. John P. Tillery; secretary, Dr. Samuel H. Hodges; treasurer, Dr. Charles W. Rain; custodian Dr. Thomas ap. R. Jones; member of the judicial council, Dr. Herbert H. McCampbell, and delegates to the state association, Drs. Edward R. Zemp and Chalmers Deaderick, all of Knoxville.

TEXAS

Will Build Memorial Hospital.—The city council, Port Arthur, has donated to John W. Gates a site on which he will erect, in memory of his mother, a hospital to cost $20,000.

Quarantine Lifted.—The quarantine which was declared against San Augustine County on account of smallpox, January 5, was declared off by direction of the state health officer, January 9.

Personal.—Dr. Hatch W. Cummings, Hearne, president of the Texas State Medical Association, has appointed the following committee on public instruction to give popular lectures in the state before the laity and others: Drs. David R. Fly, Amarillo, Bacon Saunders, Fort Worth, and Albert Woldert, Tyler.——Dr. John Preston, superintendent of the Epileptic Colony, Abilene, has been appointed superintendent of the State Insane Hospital, Austin, vice Dr. Benjamin M. Worsham, resigned.——Dr. Albert Woldert, Tyler, has been elected chairman of the Smith County Tuberculosis Commission.

Elections.—At the fifty-eighth semi-annual meeting of the North Texas Medical Society, held in Dallas, December 8, 9 and 10, Dr. Joseph W. Largent, McKinney, was elected president; Dr. Joseph A. Gracey, Fort Worth, vice-president; Dr. H. Leslie Moore, Dallas, secretary, and Dr. F. Marion Teas, Denison, treasurer. Greenville was selected as the next meeting place.——At the semi-annual session of the South Texas District Medical Society, held in Beaumont December 10 and 11, Dr. J. Mark O'Farrell, Richmond, was elected president; Dr. Oscar L. Norsworthy, Houston, vice-president, and Dr. Edward F. Cooke, Houston, secretary-treasurer (re-elected). Houston was selected as the next meeting place.——At the annual meeting of Austin District Medical Society, held in Austin December 17, the following officers were elected: President, Dr. Matthew A. Taylor, Austin; secretary, Dr. L. B. Bibb, Austin, and censors, Drs. S. E. Hudson, Washington A. Harper and Howard B. Granberry, all of Austin, James C. Anderson, Granger, and Edward M. Thomas, Georgetown.——At a meeting of physicians of Parker and Palo Pinto counties held in Weatherford December 15, the two county societies were merged into one, to be known as the Parker-Palo Pinto County Medical Society. The following officers were elected: President, Dr. Charles B. Williams, Mineral Wells; vice-presidents, Drs. Alexander S. Garrett, Springtown, and James H. McCorkle, Gordon; secretary-treasurer, Dr. James H. Eastlund, Mineral Wells, and censors, Drs. Alfred Irby and Alexander R. Kuykendall, Weatherford, and Berry L. Jenkins, Lyra.

WISCONSIN

Health Board Fined.—The members of the Health Board of Arland are reported to have been fined $25 for violation of regulations prescribed by the State Board of Health in regard to communicable diseases.

Personal.—Dr. William J. Griffin, physician at the La Pointe Reservation, has resigned and will take up postgraduate work abroad.——A. U. Jorris, LaCrosse, the osteopathic member of the State Board of Medical Examiners, has decided to resign, but will serve until the vacancy is filled.——The residence of Dr. Herbert B. Tanner, Kaukauna, was damaged by fire to the amount of $1,000 New Years Day.

Tuberculosis Suggestions.—The Antituberculosis Committee of the Associated Charities, Eau Claire, has issued a card for free distribution for the guidance of the Visiting Nurse's Association and the general public, compiled and recommended by the Eau Claire Medical Society, entitled "Suggestions and Rules Regarding Tuberculosis." It deals with the care of the sputum, the care of rooms, and personal hygiene, including diet.

Illegal Practices.—In the case of W. C. Bullard, Milwaukee, charged with immoral, dishonest, and unprofessional conduct, the defendant is said to have been convicted in the circuit court at Portage. Unless a motion for a new trial is granted, his license to practice medicine in the state will be revoked.——In the case of Dr. D. F. O'Brien, La Crosse, who is said to have pleaded guilty of administering drugs and using instruments in violation of the law, the defendant is said to have been fined $500 and costs in the circuit court at Viroqua.

Society Meetings.—At the annual meeting of Douglas County Medical Society, Dr. John Baird was elected president; Dr. Lewis Moody, vice-president; Dr. Thomas J. O'Leary, secretary-treasurer, and Dr. Lyman B. Sheehan, censor, all of Superior.——Dr. George F. Adams has been elected president; Dr. John H. Cleary, vice-president, and Dr. Palle P. M. Jorgenson has been re-elected secretary-treasurer of the Kenosha County Medical Society, all of Kenosha.——At the annual meeting of the Milwaukee County Medical Society, December 11, Dr. William H. Washburn was elected president; Dr. L. F. Germain, vice-president; Dr. Alfred W. Gray, secretary, and Dr. Joseph Kahn, treasurer, all of Milwaukee.——The Rock County Medical Society, at its annual meeting, elected Dr. John F. Pember, Janesville, president and alternate delegate to the state medical society; Dr. Arthur C. Helm, Beloit, vice-president; Dr. Edward B. Brown, Beloit, secretary-treasurer; Dr. Guy C. Wanfle, Janesville, censor, and Dr. Lewis F. Bennett, Beloit, delegate to the state medical society.

GENERAL NEWS AND COMMENT

Tour to the International Medical Congress.—A Cook tour to the International Medical Congress, Budapest, next August, is being arranged by Dr. Charles Wood Fassett, St. Joseph, Mo., from whom full information may be obtained on application.

Coming Meeting.—The spring meeting of the Medical Society of the Missouri Valley will be held in St. Joseph March 18 and 19, under the presidency of Dr. C. B. Hardin, Kansas City. Dr. Nathan S. Davis, Chicago, will deliver the address in medicine, and Dr. Herman J. Boldt, New York City, the address in surgery.

Data on the Stone Age.—Mr. Warren K. Moorhead, curator of the Department of Archeology of Phillips Academy, Andover, Mass., requests that physicians send him descriptions of abnormal crania from mounds and other prehistoric burial places, to be used in his forthcoming work on "The Stone Age," which will be an encyclopedia of the implements, ornaments, weapons, etc., of the prehistoric tribes of the United States, together with a bibliography of the subject.

Cholera in the Philippines.—During the week ended October 31, 642 cases of cholera were reported in the Philippine Islands, with 365 deaths. The deaths and number of cases were about 25 per cent. less than the preceding week. A recrudescence of the disease was noted in Laguna, where 37 cases were reported; the disease has made its appearance in Leyte, has gradually spread up the west coast of Luzon, and has appeared in Ilicos Norte, where 73 cases were reported during the week.

Society Meetings.—The New England Alumni Association of New York Medical College held its annual meeting and banquet at Young's Hotel, Boston, December 29, and the following officers were elected: President, Dr. Frank A. Hubbard, Taunton, Mass.; vice-presidents, Drs. Herbert McIntosh, Boston; Elgin W. Jones, Lynn, Mass.; and Ira J. Prouty, Keene, N. H.; secretary, Dr. Roy D. Young, Arlington, Mass., and treasurer, Dr. James H. Stuart, Boston.——At the annual meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, held in Indianapolis, November 10 and 11, the following officers were elected: President, Dr. William F. Drewry, Petersburg, Pa.; vice-presidents, Hon. William C. Graves, Springfield, secretary of the Illinois State Board of Charities, and Thomas C. Fitzimmons, Carbondale, Pa., and secretary-treasurer, Dr. J. F. Monson, Sonyea, N. Y.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 29, 1908.

The Medical Treatment of London School Children

The London County Council has appointed to inquire into the medical treatment of London school children, a committee consisting of the following educationalists and representatives of medical institutions: Mr. N. G. Bennett (British Dental Association), Sir Victor Horsley (British Medical Association), Dr. Sidney Phillips (Central Hospital Association Council for London), Dr. Charles Gray (Charity Organization Society), Lord Cheylesmore (Metropolitan Hospital Sunday Fund), Mr. Douglas Owen (London Hospital), Mr. J. R. Bland (London Ophthalmic Hospital) and Dr. H. M. Fletcher (St. Bartholomews' Hospital). This committee has issued a most exhaustive and important report under the following heads: teeth, vision, ringworm, favus, suppurating ears and adenoids, tuberculosis, and general debility. At least 90 per cent. of the children are in urgent need of dental treatment because of neglect of proper feeding and hygiene during infancy and childhood. Of 245 children, only three used a toothbrush. For the caries so prevalent the existing accommodation in the hospitals and dispensaries is inadequate. Provision should be made for the simple dental treatment of school children; that instruction in the hygiene of the teeth should be given both to the children and to their parents.

It is computed that about 60,000 children in the schools suffer from defective vision. The hospitals can deal with only a small proportion of the children so affected. It is recommended that additional provision be made for the treatment in the vicinity of the school of all children suffering from errors of refraction.

Ringworm is common all over London. The loss of school attendances in London from this disease is calculated at

1,179,934 attendances per annum. The cure by lotions and ointments occupies many months and in some cases even seven years, while rapid cure with freedom from infection can be produced by the *x*-rays. As the provision for this treatment in the hospitals is limited it is recommended that a fixed center or centers be established for this treatment and that the attendance of children shall be made compulsory as soon as the disease is discovered.

Favus is seldom found in London except in the children of aliens. The treatment of favus has resulted in 37 per cent. of cures, which is considered satisfactory.

For cases of adenoids and otitis media requiring operation the hospitals are adequate. Cases of chronic otitis occur in about 1 per cent. of children, especially among those living in insanitary surroundings. It is recommended that provision be made in the vicinity of the school for the treatment of these children.

Many children suffer from general debility, often due to poverty. It is recommended that further provision be made on the lines of the existing open-air schools to which debilitated children can be admitted for short periods.

Two propositions have been considered: one, that the council should make arrangements with the existing hospitals and dispensaries for the treatment of children; the other, that it should establish school surgeries or clinics. The existing hospitals can not adequately provide the treatment required, and even if this were attempted the efficiency would be less than that provided in the school surgery or clinic specially equipped for the purpose. It is recommended, therefore, that such clinics be established in the center of groups of schools and the treatment furnished by school medical officers.

Physician Prosecuted for Failing to Diagnose Scarlatina

The prosecution of Dr. H. B. Dickinson, one of the leading practitioners of Hereford, is an extraordinary example of official perversity. Dr. Dickinson was doubtful as to the diagnosis in a case which he was attending but suspected scarlet fever. Accordingly he took the necessary precautions as to isolation and disinfection until the diagnosis of scarlet fever was established, and then duly reported the case to the health authorities and had the patient sent to the hospital. He was summoned for not having complied with the law that cases of infectious disease shall be reported "forthwith." The fight was a stubborn one. Dr. Dickinson, who was ably defended by the Medical Defence Union, barely escaped with an acquittal, being deprived of his costs. These proceedings are monstrous. If, when in doubt, a doctor reported a case of scarlatina and the patient were removed to a fever hospital he would render himself liable to an action for damages for exposing the patient to infection if the case proved to be something other than scarlatina.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Dec. 22, 1908.

Congresses as a Financial Burden

Congresses may be classed in two groups, those of merely professional interest, and those which address themselves more to the general public. The first lead a modest existence, come and go without noise, and their proceedings are scarcely noticed in the public press. In contrast to these is the other group, the preparations for which and the proceedings are published in the daily papers as news, and the transactions pread abroad. These latter congresses demand the attention of the authorities of the cities in which they are held, and he municipality feels itself in duty bound to prepare for the ongress an especially ceremonious reception. This practice imposes on the cities a not inconsiderable financial burden, a ircumstance that gives occasion for complaint in more than ne direction. From an article published in the *Deutsche medi-inische Wochenschrift*, No. 48, it appears that the expenses which are occasioned to the cities by receiving congresses ccasionally assume quite unexpected proportions. The ty of Berlin has expended in the last twenty-five years or medical and allied congresses about 200,000 marks ($48,000) among which were about 71,000 marks ($17,040), ich for the Association for the Advancement of Science-- *aturforscher* Congress, in 1886, and the International edical Congress in 1890. During the same time about 100,-00 marks ($24,240) were paid out for non-medical congresses Berlin. The appropriations which other cities have made r the *Naturforscher* congresses in the last twenty-five ars have averaged less, to be sure, but amount to quite important sums. At Carlsbad in 1902, the congress cost the city not less than 140,000 kroner ($34,000). The chief part of this expense after the *Festschrift*, the souvenir book, is occasioned by the banquets. Meran expended on the festivities in honor of the *Naturforscher* congress in 1905 not less than 92,000 kroner ($22,300). Quite properly it has been pointed out that these appropriations are in no relation to the real worth of the entertainment, and that the money might be applied to more useful objects. It has come to a point where many cities which are not able to entertain in this manner decline to receive congresses on this ground, and so a congress often finds difficulty in the choice of its next place of meeting. Quite properly the demand has been made that the cities be no longer subjected to so great expense and that the committee of organization of the congresses adopt resolutions to this effect. Indeed the officers of the German Public Health Society have already voted not to accept any longer the invitations of the city authorities to official dinners, and it is very much to be desired that this example find imitators.

The Dispensary Question

The misuse of the dispensaries by patients able to pay is quite as great in our country as in other countries, especially in England and America. Efforts to correct this abuse and to reserve the dispensaries exclusively for the poorer population have been made for several decades, but only lately have they been able to show any success of consequence. Nothing is to be obtained here by legislation, although I am informed that a bill for this purpose has been passed in one of the United States. With us, as in England, France and Austria, physicians are bestirring themselves, in the direction of self-help to correct the dispensary abuse. In 1906 in Austria the government issued the following order with regard to the out-treatment of patients in the Vienna public hospitals: "The dispensaries are institutions for free medical treatment of needy patients. While the dispensaries are intended only for the needy patients no one will be refused the distinctly necessary first medical aid, and the authorities of the dispensary have the right, in case of necessity, to have the patient who has come under treatment, report a second time for the purpose of further examination. The patient requiring aid from the dispensary who is not in the position to show legal evidence of poverty should bring a certificate from the poor-law board regarding his neediness. Exceptions to the necessity of showing evidence of need are permissible: (a) If new methods of treatment are distinctly demanded with such apparatus as is not at the time at the disposal of private physicians; (b) in the ambulatory treatment of patients, of the third poor-law class; (c) if an especially tedious ambulatory treatment must be applied, which requires the knowledge of a specialist. Persons who have sick insurance are in general excluded from treatment in the dispensaries, and may be admitted only when they come with an order from the physician of the sick benefit society. The necessity for restriction of this imposition, especially in Berlin, is shown by the fact that 145,000 patients were treated in 1905 in 20 of the state policlinics of this city. Among these patients there are occasionally found well-to-do people from Berlin and the surrounding country. The evil is recognized by the government, and in this respect the late ministerial director, Althoff, was outspoken. In 1904 the following notice was posted in the treatment and waiting rooms of the university policlinic for diseases of the throat and nose, with the consent of the department of education: "The university policlinic for throat and nose diseases provides free medical treatment with the distinct understanding that (with the exception of course of cases in which there is danger in delay) only such patients shall apply for treatment as are in circumstances which do not permit them to obtain medical treatment in any other way. On the other hand, the actual cost of the medicines, etc., is to be borne by the patients who require them, and for this purpose a weekly contribution of 25 pfennige (6 cents) is required. In exceptional cases even this contribution may be remitted by the director."

A few weeks ago further progress was secured in this field by an agreement between the representatives of the medical profession of greater Berlin and the directors of most of the surgical policlinics of the state and city hospitals. The regulation agreed on is as follows:

1. In public dispensaries no payment for medical treatment is to be taken, but compensation for the expenses is permissible. First medical aid in emergencies does not involve dispensary treatment. 2. The dispensary physicians are not to

deliver certificates entitling the insured to sick benefits. 3 (a). In public dispensaries only needy patients shall be treated. (b). Notice of these regulations shall be given to the dispensary public by placards in the public policlinics. (c) The directors of public policlinics shall inform themselves, in doubtful cases, with regard to the means of those applying for treatment in the policlinics. 4. It should be explained to physicians that so far as possible they should not send the sick to the city dispensaries.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 31. 1908.

The Campaign Against Infant Mortality

In the effort to check infant mortality, great efforts have been made for the last ten years to organize infant consultations and *gouttes de lait* or milk stations. The efficacy of these two institutions having been called in question, Dr. Ausset of Lille on December 8 submitted to the Academy of Medicine the results of extensive inquiry in all the departments of France, except that of the Seine, on the following points: 1, Whether in the localities where these institutions have been organized the infant mortality had diminished; 2, whether the diminution was more marked where there were infant consultations of the Budin type or where there were milk stations; and, 3, whether there was ground for the objection that these institutions exposed the infants to contagion and to cold. It seems that the reduction in mortality has been greatest and most rapid in the localities where the infant consultations have been established. The physicians in charge of the infant consultations who replied to Dr. Ausset have not observed any instances of ill results from exposure to cold or to contagion. It is certain, on the other hand, that if the objection were well founded, the mortality would not be so much lower wherever these institutions have been organized. (Their organization and workings were described in detail in The Journal, Sept. 30, 1905, p. 1033.) Ausset estimates that prizes for breast-feeding cost less than the gratuitous distribution of milk, and answer the desired purpose better in many cases. His inquiry has demonstrated also that, even in the industrial centers, where the working women are often very poor, breast-feeding by the mother is possible, at least during the first three or four months, and that mixed feeding is almost always possible. There is thus no valid reason why the mother should not nurse her infant under all circumstances. In short, in the strife against infant mortality, these infant consultations are a much better weapon than milk stations. Here is one proof taken from among many: At Fécamp, where the first milk station was established, it has taken fourteen years to lower the infant mortality by 25 per cent., while in many cities in which the efforts are directed toward fostering breast-feeding, much greater reductions in the death rate have been obtained in four or five years. Moreover, in the larger industrial centers, the proportion of breast-fed infants ranges from 60 to 70 and 75 per cent. Those institutions which concern themselves only with artificial feeding thus fail to meet the needs of the situation. Ausset concludes that "the work of the lamented Professor Budin remains the best means at our disposal to combat the wholesale sacrifice of little children, and, consequently, to combat depopulation."

Reform of Criminal Statistics

The compiling of criminal statistics has long been confined to recording the age, sex, profession and degree of instruction of delinquents and criminals. As these points furnish only very insufficient data for appreciation of the causes of criminality, considerable progress was made two years ago when it was determined to investigate the part played by alcoholism as an exciting cause of crime and minor offenses, but not all the precision that was to be desired was brought to this investigation. The minister of justice has recently addressed to the state's attorneys the *procureurs généraux*, a circular destined to bring about a complete reform in criminal statistics. Henceforth these statistics will be compiled, no longer by means of retrospective examination of the legal proceedings, but by the aid of individual records on the card index system (*fiches individuelles*), which will be kept for each accused person and which will be filled out as the trial proceeds. These records have been designed in such a manner as to permit research on the etiology of criminality under conditions of precision hitherto unknown. Under the head of "alcoholism" will be indicated in the record whether the accused is affected with alcoholism properly so-called, either hereditary or acquired, or whether he is only a drunkard, habitual or occasional, thus taking care not to confound alcoholism with drunkenness. Besides alcoholism, moreover, will be noted in the records all other physical defects revealed by the official inquiry which precedes the trial, or at the trial itself, if these defects are of such a nature as to exert an influence on criminality.

Closing of the Medical School to Students of the First and Second Years

In consequence of the disturbances to which the course of Prof. Nicholas had given rise, the minister of public instruction has just issued a decision whereby the faculty will remain closed to students of the first and second years until March 1, 1909. This decision, the effect of which will be considerably to retard the studies of these young men, has aroused numerous protestations; the more so that the manifestations by which it had been brought about were coming to a spontaneous end. It is hoped that the minister will not hesitate to reverse so rigorous a decision.

Women at the Competitive Examination for Hospital Internes

For some ten years the number of women externes of the Paris Hospitals who face the difficult tests of the competitive examination for interneships has been steadily increasing. This year twenty-five are competing, an unprecedented number. Since the first test, however, four have withdrawn from the competition.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 3, 1909.

From What Do the Viennese Die?

The statistical year-book for 1908 (really for half of 1907 and half of 1908) contains interesting information in regard to the causes of mortality in this city. In a population of 1,979,000, there were 34,188 deaths, of which 5,690, or fully 16 per cent., were due to phthisis, which is justly called here "morbus viennensis." The second disease on the list, inflammation of the lungs and pleura, caused 3,113 deaths. A remarkably large number, 2,857, succumbed to diseases of the heart. For the first time in this city, deaths due to appendicitis were recorded separately; they numbered 195. Owing to the epidemic of smallpox from July to September, 1907, thirty-three deaths due to this disease figure on the list. Twenty-nine of the victims had not been vaccinated; the remainder, though vaccinated at some remote period, were not considered immune. Previous statistics show that several years may elapse without deaths from smallpox in Vienna. If incidence with reference to age is regarded, 8,320 deaths (24 per cent.) occurred in infants under 1 year of age, and 2,883 between 1 and 5 years. The mortality has again decreased in comparison with former years; it now is 16.67 per thousand, while it was 16.9 in 1906-07 and 18.65 in 1905-06.

The Army Medical Corps

Political difficulties and the possibility of war have recently aroused unusual public interest in the army, and investigation has revealed the insufficiency of the present medical provision for war. Under a bureaucratic régime the medical corps has long been neglected. The financial position of the staff surgeon has not improved for thirty years, while the cost of living has risen 60 to 80 per cent. Private practice and public civil appointments offer better inducements to the recent graduate than does the army. Thus, there are now only 1,024 surgeons for 313,000 of the rank and file, or 1 doctor for each 305 men—a proportion which compares badly with that in the German and Italian armies. The present war scare has caused the minister of war to contemplate (but, so far, only to contemplate) improvements in the pay and rank of army surgeons to induce the enlistment of a sufficient number of qualified men. The lesson of the Russo-Japanese war seems to have been wasted on us!

Sudden Death of Professor Schnabel

The director of the second ophthalmologic clinic, Prof. Isidor Schnabel, well known to all American doctors studying in Vienna, fell near the entrance to his lecture-hall in the General Hospital; the nurses who saw him fall found, on reaching him, that life was extinct. Schnabel was 66 years old; had never been ailing, had led a very active life, and was loved and esteemed by his pupils and patients. An unusual gift of rhetoric, keen observation, a talent for exact criticism, and an indomitable love of freedom combined to make an unusual character, which has left its impress on his contemporaries and on his specialty.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association]

VERONAL-SODIUM AND MEDINAL

W. A. Puckner and W. S. Hilpert

Veronal is a trademarked name for diethylbarbituric acid, a condensation product of diethylmalonic acid and urea which has come into somewhat extended use.[1] A sodium salt of this acid has recently been offered to the medical profession by two different firms, one, the makers of Veronal—the Farbenfabriken of Elberfeld Co.—calling the product Veronal-sodium, and the other—the Chemische Fabrik auf Actien, Berlin—giving it the name of Medinal. Both Veronal-sodium and Medinal having been submitted to the Council, their examination was taken up by us in the Association laboratory. It was found that the composition of both brands of this salt agreed with the statements made and it appeared to be a definite chemical substance.[2] A claim made for one of these products, however, is open to criticism. In submitting Medinal to the Council the American agents, Schering and Glatz, stated—and the same statement is made in the advertising matter—that Medinal is "soluble even in cold water to the extent of 20 per cent.; with the aid of heat 30 per cent. solutions, permanent in the cold, may be prepared." This statement is, on the face of it, a contradiction of a well-known physical law. Under ordinary conditions, if hot water is saturated with a substance more soluble in hot than in cold water, when the water is cooled the substance will separate out until only the amount which is soluble in cold water remains. Experiments to determine the solubility of Medinal showed that a solution saturated at a temperature of 5 C. contains 6.08 per cent. of the substance by weight; at 15 C. a saturated solution contains 16.87 per cent.; at 25 C. it contains at saturation 17.18 per cent., while at 91 C. the point of saturation was reached when 32.5 per cent. of Medinal had been dissolved. Water at 91 C. saturated with Medinal and filtered while hot, when cooled to 25 C. in a thermostat and filtered was found to contain only 17.35 per cent. Medinal. The statement that a 30 per cent. solution of Medinal is permanent in the cold is, therefore, incorrect.

THE COMPOSITION AND RELATIVE VALUES OF MEAT EXTRACTS

An Examination by Government Chemists of Meat Extracts and Similar Preparations

The Bureau of Chemistry of the Department of Agriculture has recently given in Bulletin No. 114 much new and valuable data regarding the commercial meat products. The work contained in this bulletin is practically an elaboration or continuation of that published in The Journal of May 11, 1907, p. 1612. It was taken up to determine the condition and quality of meat preparations in general and from the results obtained to prepare tentative standards for the preparation and composition of such meat preparations. The results as well as the methods of analysis of many meat products are given, showing the composition and relative value of the various preparations. The comments of many investigators regarding the food value of such products is also a valuable contribution to the knowledge of meat extracts, and will help in deciding the real value of the preparations.

The preparations taken up are divided into three general classes: (1) Solid and Fluid Meat Extracts; (2) Meat Juices; (3) Miscellaneous Preparations. For each of these the tentative standards submitted by the Committee on Food Standards of the Association of Official Agricultural Chemists are given along with the tabulated results of the chemical analysis. The preparations examined showed, for the most part, that they conformed to the standards, and only those which are at variance in one or more particulars will be mentioned in this review.

SOLID MEAT EXTRACTS

For solid meat extracts the following are the requirements:

> "Meat extract is the product obtained by extracting meat with boiling water and concentrating the liquid portion by evaporation after removal of fat, and contains not less than 75 per cent. total solids of which not over 27 per cent. is ash and not over 12 per cent. is sodium chlorid (calculated from the total chlorin present), not over 0.6 per cent. is fat and not less than 7 per cent. is nitrogen. The nitrogenous compounds contain not less than 40 per cent. of meat bases and not less than 10 per cent. of kreatin."

With the above as the standard, several of the solid meat extract preparations examined were not up to grade on one or more points, though in some cases it is true they were very slightly below the standard set. The following products were found wanting in some respects and the requirements which they failed to meet are given:

"Rex" Brand Beef Extract (Cudahy Packing Co., Omaha) contained 26.50 per cent. water instead of the standard 25 per cent.

Extract of Beef Premier (Libby, McNeill & Libby, Chicago) contained 30.92 per cent. of ash instead of the standard 27 per cent.; 18.32 per cent. of sodium chlorid (standard, 12 per cent.); 6.02 of nitrogen (standard, 7 per cent.).

Beef Extract (Swift & Co., Chicago) contained 13.51 per cent. sodium chlorid (standard, 12 per cent.); 6.60 per cent. nitrogen (standard, 7 per cent.).

Beef Extract, Coin Special (G. H. Hammond Co., Hammond, Ind.) contains 13.25 per cent. of sodium chlorid (standard, 12 per cent.); and 6.86 per cent. nitrogen (standard, 7 per cent.).

With these few exceptions, the solid meat extracts were found to comply with the standards given.

FLUID MEAT EXTRACTS

For fluid meat extract the following standards have been suggested:

> "Fluid meat extract is identical with meat extract except that it is concentrated to a lower degree and contains not more than 75 per cent. and not less than 50 per cent. of total solids."

According to this standard all excepting one of the fluid meat extracts examined were found to be below grade in one respect, that of solids. The following are preparations examined and the percentage of solids found:

	Per cent.
Concentrated Fluid Beef Extract (Armour & Co., Chicago)	42.25
Meat Juice (Valentine's Meat Juice Co., Richmond, Va.)	42.36
Beef Juice (John Wyeth & Bro., Philadelphia)	41.16
Vigoral (Armour & Co., Chicago)	50.06
"Rex" Fluid Beef Extract (Cudahy Packing Co., Omaha)	44.01
Fluid Extract of Beef (Cibilis Co., New York)	35.37
Fluid Beef Jelly (Mosquera-Julia Food Co., Detroit)	31.03

Special notice is directed to the price of some of these preparations, which in spite of their large water content, are higher priced than some of the solid meat extracts.

MEAT JUICES

The following is given as the standard for preparations of meat juice:

> "Meat juice . . . is the fluid portion of muscle fiber obtained by pressure or otherwise, and may be concentrated by evaporation at a temperature below the coagulating point of the soluble proteids. The solids contain not more than 15 per cent. of ash, not more than 2.5 per cent. of sodium chlorid (calculated from the total chlorin present), not more than 4 per cent. nor less than 2 per cent. of phosphoric acid (P_2O_5), and not less than 12 per cent. of nitrogen. The nitrogenous

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[1] This substance is official in the Swiss pharmacopeia (Pharm. Helv ed. 4) as Acidum diaethyl-barbituricum, and in the British Pharmaceutical Codex it is described under the name Malourea (malo-urea). It is also known under the proprietary name Malonal.

[2] A reprint of this article containing in addition the analytical data will be mailed on receipt of 2 cents to cover postage.

bodies contain not less than 35 per cent. of coagulable proteids and not more than 40 per cent. of meat bases."

It is especially noticeable among the meat juices, so called, that none shows any appreciable amount of coagulable proteids. Valentine's Meat Juice and Wyeth's Beef Juice, besides being below the standard in total solids as fluid extracts, are misbranded when called meat or beef juices, as can readily be seen by comparing the results of the analyses and the standard.

Wyeth's Beef Juice is advertised as containing "all the albuminous principles of beef in an active and soluble form" and "in an unaltered form"—two statements that are on the face of them untrue and misleading. To say that all the albuminous principles of meat are present is to say that not only the juice of the meat but all the fiber is present, which evidently is not true. Then, again, to say that it is present in an unaltered form is far from the facts, for, as is stated on page 18 of the Bulletin: "It appears impracticable to prepare a true meat juice for market, as the temperature necessary for the preservation of food products in hermetically sealed packages coagulates the proteids and changes the nature of the product." On page 55: "When prepared under the best possible conditions a commercial meat extract is, of necessity, in order that it may not spoil, deprived of the greater part of the coagulable proteids, which constitute the chief nutritious elements of the juice."

On examining the tables of analysis, it is seen that Wyeth's Beef Juice contains but 23 per cent. of its total proteids in a coagulable form, while the standard calls for 35 per cent., thus showing it to be no more valuable as a food product than any other so-called meat juice, the statements of the manufacturers to the contrary notwithstanding.

In the case of Valentine's Meat Juice we note a large discrepancy between the standard requirements and the results of the government analysis, for instead of the proteid matter containing 35 per cent. in the coagulable form, it contains but 1.6 per cent. These figures show, then, that Valentine's preparation contains practically no coagulable proteids, and since the quantity of these measures the food value of such preparations, the conclusion must be drawn that Valentine's Meat Juice has practically no value as a food and should certainly not be classed as a meat juice.

Bovinine, another widely advertised meat preparation, which, according to statements on "The Bovinine Co.'s" letter head, is "a concentrated beef juice" and "the only perfect food in the world," was analyzed and found below the standard set for meat juices, since it contains only 3.38 per cent. of coagulable proteids. Yet in spite of this discrepancy, the manufacturers of Bovinine persist in exploiting it as a food, stating it to be " . . . a concentrated easily assimilable, nitrogenous food," and in another place it is stated that Bovinine "is an ideal food." As it is deficient in coagulable proteids and thus below the requirements as a food, it is misbranded when called a food of any sort, for to quote again the Bulletin, page 55: " . . . meat extracts . . . must not be looked on as representing in any notable degree the food value of the beef or other meat from which they are derived"; and, again: "They are not, however, concentrated foods, having, on the contrary, but comparatively little nutritive value."

Taken individually or as a class, meat extracts are not to be considered as foods, and should, therefore, not be advertised as such, a conclusion which the government officials have come to and voiced in the conclusion of the Bulletin as follows:

VALUE AND LIMITATIONS

"It seems to be the consensus of opinion among scientific investigators who have studied this question that the food value of these meat extracts is rather limited, and although they are a source of energy to the body they must not be looked on as representing in any notable degree the food value of the beef or other meat from which they are derived. When prepared under the best possible conditions a commercial meat extract is of necessity, in order that it may not spoil, deprived of the greater part of the coagulable proteids, which constitute the chief nutritious elements of the juice."

A Needed Change in the Form of the Federal Guaranty Legend

The federal Food and Drugs Act of 1906 provides that the retailer of an adulterated or misbranded article shall be exempt from prosecution if he can establish a guaranty signed by the manufacturer or wholesaler to the effect that the articles are not adulterated or misbranded within the meaning of the act. Hence the legend:

"GUARANTEED UNDER THE FOOD AND DRUGS ACT, JUNE 30, 1906."

This form of guaranty was fought by the sophisticator and dishonest manufacturer until such opposition was seen to be clearly hopeless. After its inevitableness was established, the advertiser saw the commercial possibilities in the guaranty and a campaign of advertising was instituted with the one object in view of leading the public to think that "guaranteed under the Food and Drugs Act" is equivalent to a government guaranty of the purity of the product bearing the legend. This, of course, is far from the truth. To prevent the continued unscrupulous use, the wording of the guaranty clause has been changed, the modified form becoming effective Jan. 1, 1909. After that date it will read:

"GUARANTEED BY [NAME OF GUARANTOR] UNDER THE FOOD AND DRUGS ACT, JUNE 30, 1906."

To prevent loss on the part of those who have labels on which the legend appears in its older form, such labels may be used until Jan. 1, 1911. This applies, however, only to those who had their guaranty on file at Washington previous to Jan. 1, 1909.

Anusol Suppositories Contain No Anusol

Anusol, a German product widely advertised in this country, was refused recognition some two years ago by the Council on Pharmacy and Chemistry. The *Pharmaceutical Journal* (London) in quoting from an article by J. F. Suyver in the *Apotheker-Zeitung*, says:

> "Anusol suppositories are put on the market with a label stating that 7.5 gm. of anusol (bismuth iodo-resorcinol-sulphonate) is contained in twelve suppositories. This statement is incorrect. The suppositories are found to contain neither sulphonic acid nor iodin, the sulphur present being in the form of bismuth sulphid, and the resorcin in the free state. Anusol suppositories therefore contain no 'anusol'."

Correspondence

Postmortems on Tuberculous Cattle

To the Editor:—My attention has been called to a communication from Dr. W. S. Devine of Marshalltown, Iowa, in THE JOURNAL, Dec. 19, 1908, describing a public postmortem demonstration on a cow which had been shown to be tuberculous by the tuberculin test. It might be inferred from the letter that the public postmortem demonstration on tuberculous cattle is a new means of proving to the farmer and to the milk consumer the importance of bovine tuberculosis, the great value of the tuberculin test, and the widely distributed lesions that may often be found in an apparently healthy animal.

Under the former Wisconsin law, when cattle were tested by the state authorities and found tuberculous, they were appraised, and were slaughtered on the farm. An effort was always made to have as many of the neighboring farmers present at the postmortem examination as possible, in order that they might see for themselves the accuracy of the test and gain some idea of the importance of the disease as a menace to their herds. These semipublic demonstrations aroused the greatest interest and led to the testing of other herds in the neighborhood.

In connection with the work given to the three or four hundred farmer boys who go each winter to the State Agricultural College, instruction in the application of the tu berculin test has been given, followed by a demonstration of the lesions to be found in reacting animals. Such demonstrations have been given for the last ten years. They have also been held in connection with the Farmers' Course, which is attended each winter by from 600 to 800 farmers from all parts of the state.

The interest which was aroused by these demonstrations and the results which followed in the widespread use of the test by the individual farmers, led to the giving of more public demonstrations by the state authorities in connection with the state fair, with county fairs, at farmers' institutes and at county agricultural schools. For the last five years a considerable number of such demonstrations have been given annually. The demand for them has been far in excess of the available time and funds of the state authorities.

The main phase of the question brought out in connection with these demonstrations has been the financial rather than the hygienic. The farmer was informed of the loss he was certain to incur if the disease were present in his herd and no effort were made to eradicate it. He was told of the danger of purchasing diseased animals and of feeding mixed creamery skim milk to his calves and hogs. He was shown apparently healthy animals, which had reacted to the test. These were slaughtered in his presence and the lesions demonstrated.

An effort has always been made to show animals having the disease in the early stages and also in animals having generalized tuberculosis. These demonstrations have always resulted in a large number of herds being tested. These tests have been voluntary in every case. In some of the counties in which the public demonstrations have been most numerous, from 10 to 60 per cent. of the milch cows have been tested.

At the International Congress on Tuberculosis, photographs of the public demonstrations, given in various parts of Wisconsin, charts showing the number of such demonstrations given annually, and maps of the state illustrating the results of the demonstrations on the use of the tuberculin test, were shown in the Wisconsin exhibit. This line of work has been emphasized because the state authorities have believed that when the farmer is convinced of the economic importance of bovine tuberculosis, he will act, and the hygienic phases of the question will be solved because of his effort to protect himself. Cities then will not have to provide elaborate mahinery for the enforcement of the ordinances requiring that attle be tested, for, to save his own herd, every farmer will nforce it for himself. There is one creamery in Wisconsin, nd we presume it has the unique distinction of being the only ne in the United States, every patron of which has volunarily tested his herd.

If bovine tuberculosis is ever to be eradicated in this counry it will be through the cordial cooperation of the farmer ith the state authorities who will teach him the value of he tuberculin test and its accuracy by such demonstrations s described by Dr. Devine.

E. G. Hastings, Madison, Wis.
College of Agriculture, University of Wisconsin.

Patenting Surgical Devices

To the Editor:—In The Journal, May 9, 1908, I contribed a paper entitled "Practical Cystoscopy," incidentally scribing and explaining therein my latest model of examing and catheterizing cystoscope, named the "universal," hich had first been introduced in 1906. In the paper I failed mention the name of the manufacturers of the instrument, hich, in the light of subsequent events, I believe to have en an unfortunate mistake on my part.

In attending the Chicago session of the Association, a nth after the publication of the paper, my attention was lled by a surgeon friend to several practically worthless stoscopes being offered for sale by some of the exhibiting alers under the name, the "Bransford Lewis Universal stoscope." We examined a number of these instruments d found them to be inaccurate and lacking in every parular in the attainment of the several objects supplied by the instruments being made under my direction by the authorized makers, the Kny-Scheerer Co., 404 West Twenty-seventh street, New York City.

Were I alone involved in the consequences of what must necessarily prove unfair treatment of the profession, I should probably have nothing to say about it; but when medical friends and correspondents tell me of having purchased and found wanting such spurious instruments, under the assurance that they were correctly and properly made, I feel that I should be doing them as well as others in the profession a material injustice in maintaining silence, aside from inviting obliquy and condemnation for myself.

In developing an intricate instrument of this sort, in determining the harmonious adjustment of its several parts, the construction and setting of its lenses, provision for irrigation, ureter-catheterization, etc., it is needless to say that numerous conferences, reviews and criticisms must be exchanged between the designer and the maker before a practical, serviceable and satisfactory product can be evolved; and it is obviously impracticable for such conferences to be carried on with several different instrument makers at the same time.

It is necessary, therefore, that one capable and conscientious maker be selected to manufacture and sell the instrument to the advantage of all parties concerned: the author of the device, on whom credit or blame must fall, according to the merit of the product; the physician or surgeon who buys and uses it—with success or failure, for the same reason; the patient on whom it is used, with benefit or injury; and finally, the legitimate manufacturer himself, who is necessarily subjected to the expenditure of much time and money, preliminary to the completion of untried plans and designs. Deviation from such a course can only bring injury, disappointment and distrust to all concerned, *with one exception*, the interloping, unauthorized imitator or maker of the device. Him alone does it seem to benefit, and his profit must needs be short-lived, at best.

The profession itself in its individual membership must be the greatest sufferer from interloping of this kind, and yet it makes practically no provision to protect itself.

Is this not a subject well worthy the attention of those in whose hands the destinies of our Association lie?

In addition to the specific interdiction of the Principles of Medical Ethics (Chap. II, Art. I, Sec. 8), there is widespread and deep-lying sentiment against the patenting of surgical instruments by a member of the profession. It is hardly deemed proper for him to receive monetary compensation for his talent or his pains. The product of these, in the shape of a surgical instrument or device, he must bestow freely and without reservation "for the benefit of humanity."

And yet experience does not prove that the patenting of devices redounds to the injury of humanity, or that their non-patenting promotes humanity's interests. It is a well-established fact that the patenting of a device permits and actually leads to the cheapening of its sale price and without lowering its standard of excellence—the vastly greater number made insuring better workmanship, better materials and better output, justified by the greater commercial field, that are awaiting it.

In my opinion, from whatever standpoint we view it, the same conclusion must be reached: Failure to furnish some means of control and protection for its members by the profession brings about consequences injurious alike to the originator of an instrument, to its legitimate manufacturer, to the member of the profession who buys it, to the member who makes use of it, and to the patient on whom it is to be used, *i. e.*, humanity. The only one who reaps the benefit of such insecure and unreasonable conditions is one deserving no such consideration at our hands, the irregular and not over-scrupulous maker who rushes into the field, makes and sells imitations of an instrument before its maturing and completion, even by its author; modifies it, "improves" it according to his own ideas; uses the author's name if he likes, or if better suited to commercial purposes he discards that name and applies either his own or some other in alliance with him—all in total disregard of the author's directions, protests, wishes or interests. These are as nothing compared to the interests of commercialism.

In the past ten years I have been through experiences such as these several times and have had no means of recourse, either for myself or for members of the profession.

Bransford Lewis, M.D., St. Louis.

The Causes and Treatment of Backache in Women

To the Editor:—Dr. Leon F. Garrigues, in his article with the above title in The Journal, January 2, has omitted one of the most important causes of backache, namely a peculiar chronic periostitis of one of the spinal processes, generally of a lumbar or sacral vertebra. The affection, according to my experience, is by no means a rare one, but very few physicians seem to recognize it. The characteristics are circumscribed pain on pressure on the affected process. The pain is present especially during the night when the patient is in a warm bed or on awakening in the morning; there is less or no pain during the day while the patient is about. There is slight elevation of temperature in the evening. The pain radiates sideways or downward; never ceases on its own account, but lessens and gradually will cease entirely under treatment for periostitis, which in this affection is one application of two leeches close to the spinal process from which the pain proceeds, and this promptly secures decided relief. The next step is painting the skin surrounding the affected spinal process once a day with tincture of iodin and internally iodid of potassium According to my experience, this treatment has to be continued for a long period, because the pain, although continually diminishing, will only cease completely in the course of time.

The benefit experienced by the patient can not be overestimated. She is no longer treated for some uterine trouble which in reality does not exist or has nothing to do with the periostitis; and a constant drain on the system, leading to grave symptoms is gradually removed. The affection is easily recognized by pressing with the finger along the spine on all the processes and finding that one and one only of these processes is painful on pressure, and when, as stated, the pain is worse during the night. I have had over thirty years' experience with this peculiar affection, but except Dr. A. Jacobi, who first called my attention to it, I know of no physician who has written or spoken about it. How many women may be treated, often heroically, for uterine troubles, who suffer from nothing but this periostitis. I am not prepared to say anything concerning the etiology, but confine myself to the statement of facts.

A. Rose, New York.

Commercial Piracy of Scientific Work

To the Editor:—Our attention has just been called to the unauthorized use of an abstract of our report on "Chloral, Isopral and Bromural,"[1] as a "paid-reading notice" in the advertising pages of medical journals. In the interest of independent pharmacologic research, we take this occasion to register a protest against this common abuse. When an investigator publishes a report of his work, he makes his results common property, and thus voluntarily renounces his personal rights as to his results; but he does not thereby renounce his moral right to control the uses to which his report may be put. This right must be conceded, not only as a matter of justice to the man who has done the work and bears the responsibility, but also as an essential condition for independent scientific research. There can be no true liberty of research when the investigator must live under the fear that his name will be abused and his work misrepresented. The moral sense of the profession must protect these rights, which cannot be enforced by any other means. This principle applies strongly to the so-called "abstracts" which are prepared by the employés of manufacturers and published as advertisements. We contend that the unauthorized use of any abstracts for such purposes is reprehensible, since the manufacturers must know that such notoriety is repugnant to most scientific workers. The offense is made even more serious by the fact that such abstracts very rarely do justice to the views of the investigators. An "abstract" is presumed, by its readers, to present fairly the main objects, results and conclusions of the investigator. A fair abstract can only be prepared by one who thoroughly understands the point of view of the investigator. The employé of a commercial house, even if he intends to be honest, cannot be expected to understand the point of view of an independent investigator, since his own training and surroundings are usually so very different. Consequently, these commercial abstracts are, of necessity, partial in nearly every case, partial in both meanings of the word. They misinform the public instead of informing; and they place the investigator, his objects, results and conclusions in a wholly false light.

The present instance illustrates these remarks very forcibly. Our report aimed, above all, to expose the inadequacy of the so-called "scientific evidence" for the claims of a commercial product, and our main conclusions bore on this point. Of this, our principal object, there is not even a mention in the so-called abstract. By this important omission, our attitude toward the subject is totally misrepresented. The whole form and especially the heading of the abstract, is framed so as to imply that the advertisement had been prepared or at least authorized by us—another gross and inexcusable misrepresentation. Pond's Extract is extolled as a certain cure for all kinds of injuries, but the close association of this discredited "patent medicine" with our names (both appearing on the same page of the journal) does not allay the present irritation. It merely illustrates that these methods of advertising are indistinguishable from those which have been so often denounced in the case of "patent medicines."

Manufacturers have often complained that independent investigators do not investigate their products. Do they blame a scientist for harboring small enthusiasm for work which exposes him to the dangers of having this sort of notoriety thrust upon him?

Torald Sollmann, Cleveland, Ohio.

[Professor of Pharmacology and Materia Medica, Medical Department of Western Reserve University.]

Robert A. Hatcher, New York.

[Professor of Pharmacology, Cornell University Medical College.]

The Expression of O'Dwyer's Tube

To the Editor:—Some time ago I performed intubation on a child less than a year old, on account of membranous croup. Repeated attempts to extract the tube on the third day in the usual instrumental way, failed. The tube was loosely held within the larynx and every time the closed jaws of the extractor and the guiding finger touched its head, it would sink down out of reach. I was about to give up further attempts for the time being in order to give the child a little rest, when my obstetric sense asserted itself and Credé's method of placental delivery was applied. I was surprised at the ease with which I was able to express the tube out of the larynx and into the mouth, using my left hand for the external manipulation, while the index and middle fingers of my right hand were in the throat ready to receive the delivered tube.

I thought then that I had struck something original in this matter and reported it at the meetings of some medical societies. Before publishing it, however, I thought best to wait for some more experience with this method. The next patient on whom I had an opportunity to try it was a child about 10 years old. In this case, the method failed, but as the thread was left in and the child was very unmanageable, the method was not thoroughly tried. I felt then, that at least so far as young children were concerned I had discovered an additional, practical method of extubation, and saw visions of a permanent place for my name in the literature on intubation under the title of "Golden's method of extubation."

But my determination to wait for greater experience before giving this method to the world has ruined the prospects for the materialization of these visions. I was greatly disappointed to read in The Journal, Dec. 12, 1908, p. 2082, that this method, under the name of "enucleation," has already been discovered and described. The reviewer of Dr. J. von Bókay's book on "Die Lehre von der Intubation," among other things, writes: "In addition to instrumental extubation, the 'enucleation' method of Bayeux, in which the tube is expressed from the windpipe and larynx by stripping them from without by pressure on the neck, is fully described." Alas, for my immortality! However, these few lines may help to popularize a useful method which is certainly but little known.

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[1] The Journal, Aug. 8, 1908, p. 487.

W. W. Golden, Elkins, W. Va.

The Medical Profession and the Emmanuel Movement

To the Editor:—In view of the widespread interest in the so-called Emmanuel movement and because of our appreciation of the value of that work, we, the undersigned, have agreed to serve as an advisory board to the clergy of Emmanuel Church, in Boston, and make the following statement of the manner in which the work is conducted:

We believe the Emmanuel movement is sound in its fundamental principle, namely, that the effective cooperation of physician and minister is of value to many sick persons. Since character is an important factor in the cure of many diseased conditions, especially of the nervous system, we believe that any one who can help to guide, strengthen and enlighten the patient by the influence of moral and religious teaching will be of genuine assistance to the patient and to the physician in charge of the case. In rendering such assistance at the physician's request and with his cooperation we believe the clergyman to be entirely on his own ground, fulfilling in relation to the individual that time-honored office of ethical and spiritual instruction which in the past he has exercised chiefly at long range to congregations from the pulpit.

At the same time we recognize that, in view of the rapid growth of public interest in the movement, overburdening the devoted ministers of Emmanuel Church with a multitude of applicants, letters and unexpected calls of all kinds, it is necessary that the organization and methods should keep pace with the demands. Doubtless mistakes have been made, but we believe that they have been no more numerous than would be expected in any rapidly developing work in which there exist no precedents to guide the arrangement of details. Methods which seemed adequate at an early stage of the work now need to be improved and in particular a closer relation between the physician and the clergyman is desirable.

We believe that the provision for the examination and medical treatment of such patients as have no family physician is at present unsatisfactory. The physicians who have given their services for this purpose have been unable to devote suf-icient time to the subsequent medical treatment of the pa-ients examined by them. Indeed, had they done so it would have been impossible for them to pursue their own private practice.

In order to preserve and to extend the cooperation of physi-ian and minister the following rules have recently been dopted by the Emmanuel clergy:

1. No person shall be received for treatment unless with the pproval of, and having been thoroughly examined by, his amily physician, whose report of the examination shall be filed ith the minister's records.

2. No patient shall be referred for diagnosis or treatment to ny specialist or assistant save with the advice and consent of he patient's own physician.

3. All patients who are not under the care of a physician ust choose one and put themselves in his care before they an receive instruction at Emmanuel Church. To those who ask r advice in this choice there shall be handed a printed, alpha-etical list of all the general practitioners (internists) at-ched to the visiting and out-patient staffs of the Boston City ospital, the Carney Hospital, the Homeopathic Hospital and e Massachusetts General Hospital.

From this (or from any other source if the patient prefers) physician is to be selected. Should these physicians decide at none of the patients thus referred to them ought to re-ive treatment at Emmanuel, none will be treated there.

Through the operation of Rules 1, 2 and 3, it will be seen at an internist remains throughout in general charge of ery case.

It thus rests wholly with the physicians of this community and not with the Emmanuel clergy to decide whether or not a patient should be referred to a neurologist or other specialist and which patients, if any, are suitable for treatment by moral and religious re-education at Emmanuel.

The advisory board is concerned solely with advice and counsel regarding the manner of conducting the work, and in no sense with the examination, control or treatment of individual patients.

We believe that under these rules the fundamental object of the movement deserves the support of all physicians and of the community generally.

Joel E. Goldthwait, M.D.,
James G. Mumford, M. D.,
Richard C. Cabot, M.D.,
Joseph H. Pratt, M.D.,
Boston.

Miscellany

Pseudoparasites.—M. A. Royal reports (*Bulletin of the State University of Iowa*) the results of a careful study of the subject of pseudoparasites, both from the literature from clinical observation and from experiments on himself. Various vegetables and fruits are capable of yielding residues which resemble animal parasites, especially worms, somewhat closely. The experiments were made by eating large quantities of various substances and subsequently examining the feces for residues resembling animal forms. For these experiments the following substances were used: bananas, lemons, oranges, sauerkraut, onions, apples, thread, rhubarb, celery, dates, oatmeal and pineapple. The substances themselves were also examined after exposure to the air for a day and treatment with potassium hydroxid to give them an appearance similar to that which they would have after passing through the intestinal canal and to bring out the structure distinctly. Pseudoparasites are divided by Mr. Royal into two groups: The first consists of living animals which have been accidentally introduced into the gastrointestinal tract, but which are not properly parasitic. About a dozen cases have been reported in which gordius, the hair snake, has been taken from man, and this form has been mistaken by physicians for a true parasite. The second group is made up of indigestible residues of food resembling animal forms. To this class the examples given belong. The banana yields residues which closely resemble minute tapeworms, especially *Tænia nana* and *Tænia diminuta*. Oranges give rise to forms resembling the liver-fluke; lemon residues may easily be mistaken for *Opisthorchis noverca*, *Fasciola hepatica*, and *Opisthorchis sinensis*. Celery fibers may simulate *Ascaris mystax*, *Oxyuris vermicularis*, *Trichocephalus trichiurus*, *Uncinaria americana*, or *Dipylidium caninum*. Parts of the onion may resemble *Ascaris lumbricoides*, *Anchylostomum duodenale*, or *Ascaris mystax*. Shreds of rhubarb much resembled in macroscopic appearance, *Oxyuris vermicularis*, *Uncinaria americana*, and *Trichocephalus trichiurus*. Sauerkraut may also be mistaken for some of these parasites and the same is true of thread. Examination with the microscope usually reveals the vegetable structure and clears up the mistake. If not, a test for cellulose may be useful.

Alcohol a Poison.—At the recent meeting of the New York State Conference of Charities and Correction at Elmira Dr. Frederick Peterson, a former head of the State Lunacy Commission was strong in his opposition to alcohol. Dr. Peterson asserts that it is a poison and that if, as is maintained by some, it is a food, it is a poisoned food. As quoted by *Charities and The Commons* (Nov. 28, 1908), he said: "In the State of New York there are now some 30,000 insane in the public and private hospitals, and it is estimated that 20 per cent. of these, or 6,000 patients, owe their insanity to alcohol. In all the asylums of the United States are 150,000 insane, and assuming the same percentage there are 30,000 individuals in this country in whom alcohol has brought about insanity. . . . Alcohol is often a direct cause of epilepsy, but more often epilepsy is due to alcoholism in parents. Thus Bourneville, in a study of over 2,500 idiots, epileptics and imbeciles admitted to the Bicêtre Hospital, found that over 41 per cent. of them had drunken parents. In the report of the Craig Colony for Epileptics it was found that over 22 per cent. of 950 cases of epilepsy had alcoholic parents. What I want to point out is that the asylums for the insane, the institutions for epileptics, idiots and feeble-minded, the prisons and the county poorhouses are representative, as far as their alcoholic population is concerned, of the extremes of alcoholic indulgence and debauchery. Here alcohol has done its worst to the living individual. Below this topmost wave of ruin and desolation are innumerable gradations of alcoholism down to the moderate drinkers and the temperate or occasional drinkers. The race is reasonably safe from further contamination by those victims of alcohol who are locked away in the retreats that our charitable world provides for them. It is otherwise with the vaster number of excessive drinkers who are free to work any havoc in the social organism about us and who are direct and indirect feeders of the institutions named. It is not a single Jukes family that society has ranged itself against, but against the legions of Jukes families that menace the human stock."

The Diet of the Hindu.—Vegetarians will derive little satisfaction from a recent report by Prof. D. McCay to the Indian government and reviewed in *Nature*, November 12. They have been in the habit of citing the Hindu race as an example of the ability of man to abstain from a flesh diet and yet keep in good bodily condition. Professor McCay finds from his study of the Hindu physique that while the native Bengali maintains nitrogenous equilibrium on his vegetable diet, nevertheless the low nitrogen intake acts deleteriously, reduces the blood protein, and tends to produce degenerative changes, especially in the kidneys. He is not only physically incapable as compared with the European, but he also becomes more easily exhausted, which is not in accordance with vegetarian claims; his blood pressure is below normal, and his lack of stamina makes him an easy prey to infectious diseases. Professor McCay further suggests the possibility or probability of dangerous decomposition products being formed from the large fat and carbohydrate intake rendered necessary by a poor nitrogen diet. Remarking on the extreme prevalence of diabetes in its worst form among the Bengal natives, he attributes it to this carbohydrate excess and asserts that it proves conclusively that the evils from this cause may be more real than those attributed to an excess of protein in the diet. In fact, India is, as *Nature* says, a vast dietetic experimental station, affording in its results, if carefully observed, a far better indication of the effects of low protein diet than could possibly by obtained from experiments under artificial conditions, and lasting only a few months on individuals of the white race. Tropical anemia is probably not exclusively a result of parasitic infection; diet may have more nearly the share formerly attributed to it in the production of the pot-bellied anemic children and adult weaklings who are so conspicuous in many tropical regions. The vigorous African savage has been generally a meat-eater, and if the whites make their homes successfully in the tropics it is probable that the protein intake in their diet will not be radically changed or not greatly reduced to meet the changed climatic conditions.

Teaching the Prevention of Tuberculosis to Children.—An important position in the antituberculosis crusade must be assigned to the educational methods inaugurated in the public schools. A pamphlet entitled, "Simple Lessons on Tuberculosis or Consumption," suitable for children of the seventh and eighth grades, has been prepared by Dr. M. J. Rosenau, Dr. E. C. Schroeder, and Emile Berliner under the direction of the Committee for Prevention of Consumption of the Associated Charities, Washington, D. C., of which Gen. George M. Sternberg is chairman. Bertha L. Stark, in the *Journal of the Outdoor Life*, September, 1908, describes the methods employed in the Pittsburg schools. The work is divided into three parts; lectures, literature and exhibitions. The cooperation of the teachers is first secured and the lectures are given to all pupils above the third grade, the subject-matter being the same for all grades, but the treatment being varied to suit the locality and grade. A cardboard folder is distributed to the children and a pamphlet to the teachers. Probably the most effective aid in this instruction is given by the exhibitions. These are five in number and consist of a collapsible wooden frame and easel, the frame being covered with canvas on which the pictures are fastened. The frames are rolled up and carried from school to school, and at each school the easel is set up, the frame unrolled, and the pictures fastened on it. The pictures illustrate three principal topics: Tuberculosis as a prevalent disease; as a preventable disease; as a curable disease. At Saranac Lake similar methods have been introduced into the public schools. Cardboard models of unhealthy and of model sanitary sleeping-rooms were exhibited. That the lessons were effective was shown by essays written by the pupils recapitulating the principal facts which the course was intended to teach.

The Biting of Man by Ground-Squirrel Fleas.—The finding of several plague-infected ground-squirrels in California, together with the belief that man has been infected from squirrels, has prompted experiments to determine whether fleas from these rodents would bite man under experimental conditions. Passed Assistant Surgeon George W. McCoy, in *Public Health Reports* (U. S. P. H. and M.-H. S.) gives the results of experiments with fleas collected from California ground-squirrels and allowed to bite human beings. The reaction at the site of the feeding was much more marked than after the bite of the human flea, *Pulex irritans*. A red papule associated with marked itching appeared at the point of each puncture. Traces of the lesion remained for several weeks and itching persisted for ten days. These experiments prove that the common fleas of the ground-squirrels in the vicinity of San Francisco will bite man under the experimental conditions noted. Whether man is actually infected from squirrels through their fleas is a matter that remains to be determined. The Indian Plague Commission believed that infection from the rat flea was probably through dejecta from the flea. In the American experiments it was noted that even during the most prolonged feeding the fleas never ejected blood or feces from the anus.

Differentiation of Abdominal Aortitis.—G. Zagari analyzes the clinical findings in some cases of inflammation of the abdominal aorta, and calls attention to the differential value of the discovery that blood pressure in the arteries of the legs is higher than normal, while persisting normal in the arteries of the arms. This discovery of an equally high or higher arterial tension in the arteries of the foot is a presumptive sign of abnormal conditions in the vessels below the diaphragm. Another instructive sign is the paresthesia of the legs, "as if they were asleep." These sensations are noted early and in one case continued in tormenting fashion during the patients stay in the clinic. The patients complain also of pain in the epigastrium, toward the left side and weakness. On account of the lack of objective symptoms, the disturbances are usually credited to neurasthenia. The aortitis is insidious and essentially chronic, the latent process causing no disturbances until exacerbation follows some intercurrent affection or excessive effort, the symptoms then being generally ascribed to some crisis in the stomach, liver or kidney unless the physician locates the true source of the trouble in the aorta. He gives several tracings of the arterial pressure in his communication which appeared in the *Riforma Medica* Oct. 19, 1908.

Diphtheritic Paralysis.—Schneider and Vandeuvre (*Progrè* *médical*, Aug. 29, 1908) report a case of very extensive par alysis following diphtheria, from which the patient was resur rected (they do not consider this too strong a word) by ful doses of antitoxin, 160 c.c. being injected in the course o seven days in three injections of 40 c.c. and two of 20 c.c respectively. Each injection was followed by a marked im provement as if it neutralized a certain amount of toxin Schneider and Vandeuvre say that it seems that subjects thu profoundly intoxicated with the diphtheritic poison have remarkable tolerance for the serum. The possibility of uncon fortable skin eruptions, etc., following such large doses o antitoxin is of course to be considered, but Schneider and Van deuvre remark that we have, as Netter has shown, a powerful agent to prevent such complications in calcium chlorid.

The Battlefield Against Tuberculosis.—The field in which the decisive battle of our future campaign against tuberculosis must be fought is the home; our chief enemy, infection in early childhood; our heaviest gun and our most crying need, camps, "preventoria," for the reception and cure of infected or exposed children before they have become unmistakably tuberculous.—Dr. Woods Hutchinson, New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

THE INJECTION TREATMENT OF HERNIA

To the Editor:—Now and then the general practitioner encounters a patient who has had hernia cured, or at least temporarily relieved, by the so-called injection treatment, sometimes by a regular practitioner and sometimes by an advertising specialist. Many members of the profession would be interested to know more about this method, the material that is injected and the results that may be expected.

S. W. I.

ANSWER.—The chief difference between the modern injection treatment of hernia and that of Heath of Boston, of some forty years ago, is in the materials injected, but the reasons why the method is not more successful are just the same now as they were then. Heath used as an injection material the extract of white oak bark, but to-day alcohol, tannin, zinc chlorid, phenol, etc., are used in addition to this, while cocain, morphin or other anodynes are frequently added to relieve somewhat the pain of the injection. Whatever the substance used, the object is the same, namely, to cause sufficient proliferation of connective tissue to block the descent of the rupture. The latest substance to be used in this way is paraffin, which is injected into the canal in a liquid form where it solidifies on cooling and is supposed to act mechanically by blocking the opening through which the rupture descends. The apparent simplicity of the method led to its ready adoption by charlatans and advertisers who, by advertising to cure ruptures without the use of the knife and without the confinement of the patient to bed, have reaped a rich harvest from the gullible and the timid. Were the method a success, the risks connected with t might be justified, but unfortunately it is not. That an exudate may be produced which may temporarily hold up a rupture is not o be denied, but that the result is usually not permanent is well known by all surgeons of experience, since they are almost constantly being called on to reoperate on recurrent cases after the njection treatment.

The reasons for the failure of the injection treatment are mainly two. First, the sac is left undisturbed; and it has been universally found that the presence of the sac is the greatest redisposing factor to a recurrence. Second, a mass of newormed connective tissue, such as is formed by the irritant inected, yields readily to continued pressure. Concerning the falacies of the paraffin injection treatment, an article by Harris in HE JOURNAL (Oct. 19, 1907, xlix, 1353) shows that the method ot only fails to effect a cure, but that the paraffin itself may rove such a source of pain and annoyance as to require removal. Since the radical operation for the cure of hernia entails such slight risk—only a fraction of 1 per cent.—and since the peranent results are so very satisfactory—2 to 3 per cent. of recurnces—there seems to be no good reason why an inferior method ould be used which entails as great a risk and which is folwed by very unsatisfactory results.

FIFTY YEARS AS ANESTHETISTS

To the Editor:—Please ask your readers to send me the names any physicians now living, who have been administering anesetics for over fifty years. Dr. Stephen J. Young of Terre Haute, s been a specialist in anesthesia for fifty-seven years and at esent limits his practice to this line of work.

CHARLES N. COMBS, Terre Haute, Ind.

SAPONATED PETROLATUM

To the Editor:—Please inform me as to the nature of saponated trolatum referred to in THE JOURNAL, Jan. 9, 1909, by a contribu in South Africa.

W. T. GROVE, Eureka, Kans.

ANSWER.—Petrolatum saponatum liquidum or liquid petrox is a tional Formulary preparation and consists of a mixture of 100 rts of petrolatum, 50 parts of oleic acid, and 25 parts of spirit of monia. It dissolves iodin, salol, salicylic acid, and many alkaloids readily, mixes with chloroform and with volatile oils, and forms a permanent emulsion with water in almost any proportion, before and after such addition.

URINE ANALYSIS IN PYORRHEA ALVEOLARIS

To the Editor:—I have lately been impressed by the coincidence of pyorrhea alveolaris (pus coming up over the gums from the roots of the teeth) and sugar and albumin in the urine, and the disappearance of these symptoms when the condition of the teeth was cured. I am collecting two hundred cases of pyorrhea alveolaris, with urine examinations before and after the pyorrhea is cured. I wish to ask other practitioners who are interested in this subject, to kindly send me any results which they have in the same line, that is, when they find sugar and albumin in the urine, will they have the teeth investigated, and find out how many of such patients have pyorrhea alveolaris? This is a subject of interest to all of us, and I am sure the results will amply repay us for the trouble involved.

WILLIAM MARTIN RICHARDS.
229 West 97th street, New York City.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending, Jan. 16, 1909.

Smith, A. M., major, granted leave of absence for four months, when relieved from duty in the Philippines Division.

Quinton, W. W., captain, granted an extension of one month to his sick leave of absence.

Clarke, J. T., major, ordered to Fort Crook, Neb., on return with troops from Cuba.

Miller, R. B., captain, ordered to Fort Meade, S. D., on return with troops from Cuba.

Ashburn, P. M., major, ordered from Fort Banks, Mass., to Jefferson Barracks, Mo., for temporary duty and return.

Farr, C. W., captain, ordered from Fort McKinley, Maine, to Fort Banks, Mass., for temporary duty and return.

Tefft, W. H., captain, granted leave of absence for two months.

Woodson, R. S., major, relieved from duty in the Philippines Division; will sail March 15 from Manila for San Francisco, Calif.

Nichols, H. J., first lieutenant, relieved from duty in the Philippines Division; will sail on first available transport from Manila for San Francisco, Cal.

Kean, J. R., major, on relief from duty with the Provisional Government of Cuba, ordered to return to duty in the Surgeon-General's Office, Washington.

Edie, G. L., major, ordered to Hot Springs, Ark., for observation and treatment at the Army and Navy General Hospital.

Brooks, W. H., captain, granted leave of absence for one month on arrival in the United States.

O'Reilly, R. M., brig.-gen., retired from active service Jan. 14, 1909, as a major general.

Adair, G. W., col., ordered for examination by an Army retiring board at Chicago, Ill.

Davis, W. T., capt., relieved from duty with Army of Cuban Pacification, and ordered to Washington, D. C., for duty as assistant to the attending surgeon.

Ragan, C. A., capt., relieved from duty at Fortress Monroe, Va., and ordered to duty as surgeon of the transport *Kilpatrick* en route to the Philippine Islands, and on arrival at Manila, to duty in the Philippines Division.

Worthington, J. A., 1st. lieut., relieved from duty on the transport *Thomas*, and ordered to duty in the Philippines Division.

Krebs, L. L., capt., relieved from duty in the Philippines Division and ordered to duty as surgeon of the transport *Thomas*.

Smith, R. D., M.R.C., granted an extension of one month to leave of absence.

Porter, E. H., M.R.C., granted leave of absence for one month.

Betts, C. A., M.R.C., ordered from Ft. Lawton, Wash., to Ft. Worden, Wash. for temporary duty.

Lowe, T. S., M.R.C., ordered from Ft. Walla Walla, Wash., to Vancouver Barracks, Wash. for temporary duty.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 16, 1909.

Ledbetter, R. E., surgeon, commissioned surgeon from Oct. 11, 1908.

Sellers, F. E., P. A. surgeon, commissioned P. A. surgeon from Aug. 1, 1908.

Old, E. H. H., White, E. C., P. A. surgeons, commissioned P. A. surgeons, from Sept. 21, 1908.

Melhorn, K. C., asst.-surgeon, ordered to the Navy Yard, Philadelphia, Pa., for duty in connection with fitting out of the *Dixie* and ordered to duty on board that vessel when commissioned.

De Laney, G. H., P. A. surgeon, detached from the Navy Yard, New York, and ordered to the Naval Medical School Hospital, Washington, D. C., for treatment.

Fauntleroy, A. M., P. A. surgeon, detached from the Naval Hospital, Annapolis, Md., and ordered to the Naval Hospital, Philadelphia, Pa.

Iden, J. H., P. A. surgeon, orders to the Naval Hospital, Pensacola, Fla., revoked; ordered to the Naval Hospital, Annapolis, Md.

Campbell, R. A., acting asst.-surgeon, appointed acting asst.-surgeon from Jan. 9, 1909.

Hart, G. G., acting asst.-surgeon, appointed acting asst.-surgeon from Jan. 10, 1909.

Scott, T. W., pharmacist, unexpired portion of leave revoked; ordered to duty at the Naval Hospital, Annapolis, Md.

Kindleberger, C. P., surgeon, detached from the Naval Station, Cavite, P. I., and ordered to the Navy Yard, Mare Island, Cal.

Trible, G. B., asst.-surgeon, detached from the *Relief* and ordered to the Naval Station, Olongapo, P. I., for temporary duty.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 15, 1909.

SMALLPOX—UNITED STATES

California: Los Angeles, Dec. 19-26, 1 case; Oakland, Dec. 26-Jan. 2, 4 cases; San Francisco, Dec. 19-26, 8 cases.

District of Columbia: Washington, Dec. 26-Jan. 2, 1 case.

Illinois: Cairo, to Jan. 7, 12 cases; Peoria, Dec. 19-26, 4 cases.

Indiana: Anderson, Dec. 1-31, 1 case; La Fayette, Dec. 27-Jan. 4, 3 cases.

Kansas: Atchison, Dec. 26-Jan. 2, 1 case; Pittsburg, Dec. 1-31, 36 cases.

Kentucky: Covington, Dec. 26-Jan. 2, 2 cases; Lexington, Dec. 26-Jan. 2, 2 cases.

Louisiana: New Orleans, Dec. 19-Jan. 2, 2 cases imported.

Minnesota: Stillwater, Dec. 1-31, 3 cases.

Missouri: St. Louis, Dec. 19-26, 2 cases.

Nebraska: Lincoln, Nov. 1-30, 3 cases.

Ohio: Cincinnati, Dec. 26-Jan. 2, 20 cases.

Pennsylvania: Gracedale, Oct. 24, 1 case.

Tennessee: Knoxville, Dec. 26-Jan. 2, 1 case.

Texas: Falfurrtiss, Dec. 26, 12 cases; San Antonio, Dec. 26-Jan. 2, 6 cases.

Washington: Seattle, Nov. 1-30, 7 cases; Spokane, Dec. 19 26. 1 case; Tacoma, Dec. 13-Jan. 3, 14 cases.

Wisconsin: La Crosse, Dec. 19-Jan. 2, 6 cases.

SMALLPOX—FOREIGN

Brazil: Pernambuco, Nov. 1-15, 3 cases; Rio de Janeiro, Nov. 15-29, 420 cases, 200 deaths; Sao Paulo, Santos, Nov. 23-Dec. 6, 31 deaths; Santos, Nov. 15-22, 2 deaths.

Canada: Halifax, Dec. 19-26, 2 cases; Winnipeg, Dec. 19-26. 1 case; Yarmouth, Dec. 1-31, 1 case.

China: Shanghai, Dec. 8, present.

Egypt: Cairo, Dec. 2-9, 4 cases, 3 deaths.

Greece: Athens, Dec. 5-12, 1 death.

India: General, Nov. 21-28, 2,156 cases, 1,646 deaths; Bombay, Dec. 1-8, 1 death; Calcutta, Nov. 7-28, 10 cases; Madras, Nov. 28-Dec. 4, 1 case; Rangoon, Nov. 21-28, 1 case.

Indo-China: Cholen, Nov. 14-21, 1 case, 1 death; Saigon, Oct. 31-Nov.21, 2 cases, 2 deaths.

Italy, general: Dec. 13-20, 10 cases; Naples, Dec. 13-20, 18 cases, 4 deaths.

Persia: Teheran, Nov. 14-28, 10 deaths.

Russia: Warsaw, Nov. 14-28, 5 deaths.

Spain: Barcelona, Dec. 12-19, 1 death; Madrid, Nov. 1-30, 9 deaths.

Turkey: Constantinople, Dec. 3-13, 15 deaths.

YELLOW FEVER

Brazil: Manaos, Nov. 28-Dec. 5, 2 deaths.

Ecuador: Guayaquil, Nov. 28-Dec. 2, 4 deaths.

Martinique: Port de France, Dec. 12-19, 1 case.

CHOLERA—FOREIGN

India: Calcutta, Nov. 7-28, 31 deaths; Madras, Nov. 21-Dec. 4, 19 deaths; Rangoon, Nov. 21-28, 1 death.

Indo-China: Cholen, Nov. 8-15, 1 case, 1 death.

Russia: St. Petersburg, Dec. 15-23, 89 cases, 28 deaths.

Straits Settlements: Singapore, Nov. 15-22, 10 deaths.

CHOLERA—INSULAR

Philippine Islands: Manila, Nov. 14-28, 24 cases, 18 deaths; Provinces, Nov. 14-28, 518 cases, 345 deaths.

PLAGUE

Brazil: Rio de Janeiro, Nov. 15-29, 18 cases, 8 deaths.

Ecuador: Guayaquil, Nov. 28-Dec. 5, 3 deaths.

India: Bombay, Dec. 1-8, 7 deaths; Calcutta, Nov. 7-28, 18 deaths; Rangoon, Nov. 21-28, 2 deaths.

Indo-China: Cholen, Oct. 24-Nov. 21, 10 cases, 9 deaths; Saigon, Oct. 24-Nov. 7, 3 cases, 2 deaths.

Mauritius: Oct. 22-29, 5 cases, 4 deaths.

Turkey: Bagdad, Nov. 6-Dec. 5, 14 cases, 9 deaths.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 13, 1909:

Gassaway, J. M., surgeon, directed to proceed to Pittsburg, Pa., on special temporary duty, Jan. 12, 1909.

Mead, F. W., surgeon, directed to proceed to Georgetown, S. C., and Jacksonville, Fla., on special temporary duty, Jan. 8, 1909.

White, Joseph H., surgeon, granted 7 days' leave of absence from Jan. 9, 1909, under paragraph 189 of the Service Regulations.

Gardner, C. H., P. A. surgeon, directed to proceed to Southport, N. C., on special temporary duty.

Cofer, L. E., P. A. surgeon, granted 9 days' leave of absence from Jan. 1, 1909, on account of sickness.

Lavinder, C. H., P. A. surgeon, detailed as member of board of medical officers convened under bureau orders of Dec. 8, 1908, Jan. 8, 1909.

Goldsberger, Joseph, P. A. surgeon, relieved as member of board of medical officers, convened under bureau orders of Dec. 8, 1908, Jan. 8, 1909.

Glover, M. W., P. A. surgeon, granted 7 days' leave of absence from Jan. 8, 1909.

Burkhalter, J. T., P. A. surgeon, leave of absence, granted Dec. 9, 1908, for 1 month from Dec. 19, 1908, amended to read 19 days from Dec. 19, 1908.

Mullan, E. H., asst.-surgeon, granted 4 days' leave of absence en route to join station.

Warner, H. J., asst.-surgeon, directed to proceed to Cape Charles Quarantine, Fortress Monroe, Va., for temporary duty, Jan. 6, 1909.

McKinney, M. W., acting asst.-surgeon, granted 7 days' leave of absence, under paragraph 210 of the Service Regulations.

Rodman, J. C., acting asst.-surgeon, granted 5 days' leave of absence from Jan. 11, 1909.

RESIGNATION

Ward, William K., resignation accepted by the president, to take effect Jan. 15, 1909.

Marriages

John Lunney, M.D., to Miss Campion, both of Darlington, S. C., January 7.

John Stanley Hanlon, M.D., to Miss Marks, both of San Francisco, December 29.

Philip Foster Barbour, M.D., to Miss Elizabeth Akin, both of Louisville, January 6.

Thomas W. Bailey, M.D., to Miss Mary Travers, both of Philadelphia, January 7.

Nathaniel Allison, M.D., St. Louis, to Miss Marian Aldrich of Chicago, January 9.

Orril Le Grand Suggett, M.D., St. Louis, to Mrs. Helen K. Seligman of Chicago, January 1.

D. E. Morgan, M.D., LaGrange, Ga., to Miss Clyde Morrow of Henderson, N. C., December 21.

James Atkinson Smith, M.D., to Miss Delia Grace Peet, both of St. Louis, December 17.

Neil David Nelson, M.D., Shoshoni, Wyo., to Miss Mabel Porter of Milwaukee, December 15.

David M. Fields, M.D., King's Creek, Ky., to Miss Mattie Adams of Cowan Creek, Ky., recently.

Addison Guthrie Swaney, M.D., to Miss Nina Isabel Martin, both of Lee's Summit, Mo., December 30.

Robert Braxton Jarratt, Jr., M.D., to Miss Phillips, both of Richmond, Va., at Washington, D. C., January 4.

Carl William Walser, M.D., New Brighton, Staten Island, N. Y., to Miss Rubeana Fixter of Anne de Bellevue, Quebec, December 31.

Deaths

John Pitt Matthews, M.D. Long Island College Hospital, Brooklyn, N. Y., 1865; Illinois Army Board, 1862; a member of the American Medical Association; in 1890 vice-president of the Illinois Medical Society and president in 1891; assistant surgeon of the One Hundred and Twenty-second Illinois Volunteer Infantry during the Civil War; a member of the U. S. Board of Pension Examining Surgeons from 1865 to 1875; died at his home in Carlinville, Ill., from valvular heart disease and chronic interstitial nephritis, January 7, aged 73.

William Maddren, M.D. Bellevue Hospital Medical College, New York City, 1873; a member of the American Medical Association; vice-president of the Medical Society of the State of New York; a member of the Brooklyn Pathological Surgical and Gynecological societies; surgeon to King's County, Bradford Street and Coney Island Reception hospitals; consulting surgeon to the St. Christopher State Hospital and the Brooklyn Central Dispensary; died at his home in Brooklyn, January 8, after a prolonged illness, aged 63.

Offa Lunsford Shivers, M.D. Tulane University, New Orleans, 1873; a member of the American Medical Association; a member of the city council of Marion; Ala., for three years and trustee of the public schools for eight years; one of the organizers of the Southern Medical Association and Southern Surgical and Gynecological Association; for seven years a councilor of the Medical Association of the State of Alabama; died in an infirmary in Selma, Ala., January 4, from cirrhosis of the liver, aged 59.

John J. Quigley, M.D. New York University, New York City, 1886; a member of the Medical Society of the State of New York, New York Academy of Medicine and Celtic Medical Society; visiting surgeon to Fordham Hospital; chief surgeon to the New York Police Department; from 1894 to 1897 surgeon to the fire department; professor of clinical surgery at Fordham University; died at his home in New York City, January 8, from cerebral hemorrhage, aged 44.

Daniel Dudley Gilbert, M.D. Berkshire Medical College, Pittsfield, Mass., 1864; a member of the American Medical Association; medical cadet in the U. S. Army in 1862; and assistant surgeon in the U. S. Navy in 1863; a member of the staff of the Boston City Hospital; consulting physician to St. Mary's Infant and Maternity Asylum, and the Massachusetts State Insane Hospital, Danvers; died recently at his home in Boston, aged 70.

Wiley K. Fort, M.D. University of Pennsylvania, Philadelphia, 1855; surgeon in the Confederate service during the

Civil War; an expert on yellow fever and sent by the United States Government as special commissioner to Puerto Cortez, Central America, to investigate yellow-fever conditions there; for thirty years a practitioner of New Orleans; died at the home of his sister in Fort Davis, Ala., January 4, aged 75.

Edward R. Snader, M.D. Hahnemann Medical College, Philadelphia, 1884; of Philadelphia; professor of practice of medicine in his alma mater, and visiting physician to St. Luke's and the Children's hospitals; consulting physician to Harler Memorial Hospital; was instantly killed by the fall of his automobile over an embankment in Fairmount Park, Philadelphia, January 4, aged 54.

James Andrews De Wolf, M.D. College of Physicians and Surgeons, New York City, 1865; formerly of Providence, R. I.; acting assistant surgeon in the Army during the Civil War; for 39 years a practitioner of Port of Spain, Trinidad; government medical officer of Trinidad in 1874, and surgeon general of that colony from 1901 to 1907; died at his home, January 2, aged 69.

David T. Stewart, M.D. Rush Medical College, Chicago, 1881; of Hartley, Iowa; a member of the local board of U. S. Pension Examining Surgeons; a member of the Association of Surgeons of the Chicago, Milwaukee and St. Paul and the Chicago and Rock Island railways; died suddenly December 26, from heart disease, while returning from a professional call, aged 59.

Anthony W. Scarlett, M.D. College of Physicians and Surgeons, Kansas City, Kan., 1899; of Pueblo, Colo.; a member of the Colorado State Medical Society; surgeon to the Colorado Fuel and Iron Company, and to the Colorado and Wyoming Railroad; was drowned in the Nenoshee Reservoir near Eads, Colo., while hunting, January 3, aged 35.

Otis Lawrence Williams, M.D. Tulane University, New Orleans, 1872; a member of the Tri-State Medical Society of Texas, Indian Territory and Oklahoma; professor of electrotherapeutics in Southwestern University, Dallas, Texas; a member of the staff of the St. Paul Sanitarium, Dallas; died at his home, January 1, aged 65.

Ira Gordon Stone, M.D. Rush Medical College, Chicago, 1890; a member of the American Medical Association; and president of the Kingfisher County (Okla.) Medical Society; mayor of Kingfisher, 1905 to 1907; died in St. Francis Hospital, Wichita, Kan., December 31, after an operation for cholecystitis, aged 54.

Marion F. Williamson, M.D. Medical College of Ohio, Cincinnati, 1865; a member of the American Medical Association; and one of the most prominent citizens of Joliet, Ill.; died at his home January 6, from pneumonia, aged 75. At his funeral the pallbearers were all members of the Will County Medical Society.

John T. Luck, M.D. College of Physicians and Surgeons, New York City, 1858; a surgeon in the Navy during the Civil War; consulting physician to the North Hudson Hospital; or many years school trustee and library commission of Union Hill, N. J.; died at his home in Weehawken, N. J., reently.

James Lewis Davis, M.D. Washington University, St. Louis, 856; of San Antonio; a member of the State Medical Assoiation of Texas; a surgeon in the Confederate service during he Civil War; died at the Physicians and Surgeons' Hospital, San Antonio, January 4, from arteriosclerosis, aged 76.

Frank S. Wagenhals, M.D. Starling Medical College, Columus, Ohio, 1878; director of the Columbus City Infirmary 883-1887; for four years chief physician to the Ohio State enitentiary; died at his home in Columbus, January 9, from ancer of the stomach, aged 59.

John S. Stockwell, M.D. Rush Medical College, Chicago, 888; a member of the American Medical Association; townhip physician and for several years town health officer; died uddenly at his home in Charlestown, Ind., January 6, from ngina pectoris, aged 61.

Andrew J. Beale, M.D. Transylvania University, Lexington, y., 1854; formerly a member of the Kentucky legislature; Confederate veteran and first mayor of Oklahoma City, kla.; died at the home of his daughter in Cynthiana, Ky., anuary 4, aged 73.

Charles Cecil Stockard, M.D. Vanderbilt University, Nashile, Tenn., 1877; a member of the Medical Association of orgia; founder of the Stockard Sanatorium, Atlanta; died ddenly at his home in Atlanta, from heart disease, Januy 1, aged 55.

Frederick William Dortch, M.D. Vanderbilt University, Nashville, Tenn, 1898; of DeRidder, La.; a member of the American Medical Association; died from chronic nephritis in the Shreveport Sanitarium, December 30, after an operation, aged 37.

William Forster, M.D. University of Buffalo, N. Y., 1865; for many years a member and in 1908 elected an honorary member of the American Medical Association; died at his home in Oil City, Pa., January 5, from disease of the liver, aged 69.

Jabus Swanson Nowlin, M.D. University of Nashville, Tenn., 1859; a member of the Tennessee State Medical Association; died at his home in Shelbyville, December 29, five days after a fall in which he sustained a fracture of the hip, aged 70.

Arthur Ward King, M.D. Cleveland Homeopathic Medical College, 1905; of Cleveland, Ohio; a member of the Ohio State Medical Association; died at his home, January 8, after an exploratory operation for disease of the kidney, aged 26.

Irving Benjamin Hayes, M.D. Long Island College Hospital, Brooklyn, N. Y., 1889; of Florence, Mass.; a member of the American Medical Association; was instantly killed by a fall from a train near El Paso, Texas, January 3, aged 46.

William Joseph McGuigan, M.D. McGill University, Montreal, 1879; M.C.P. & S., Ont., 1880; formerly coroner, alderman and mayor of Vancouver, B. C.; died at his home in that city, December 25, after an illness of six months.

Redell C. Fausett, M.D. Starling Medical College, Columbus, Ohio, 1890; formerly a member of the board of health of Geneva, Ohio; died suddenly at his home in Olmsted Falls, Ohio, from pneumonia, December 20, aged 53.

Rhessa S. Slusher, M.D. Barnes Medical College, St. Louis, 1900; for two years surgeon for the Santa Fe, Prescott and Phoenix Railroad at Phoenix, Ariz.; died at his home in Denver, January 3, from tuberculosis, aged 31.

John Bligh Leeson, M.D. Trinity Medical College, Toronto, 1895; Manitoba Medical College, Winnipeg, 1901; of Brandon, Man.; died at Beresford, Man., November 28, from injuries received in a runaway accident, aged 38.

Clarence F. Roberts, M.D. Medical College of Ohio, Cincinnati, 1895; a member of the American Medical Association; formerly of Nevada, Mo.; died at his home in Kansas City, December 27, from peritonitis, aged 37.

Joseph L. Mizener, M.D. Missouri Medical College, St. Louis, 1873; a member of the Missouri State Medical Association; died at his home in Edgerton, Mo., from an overdose of morphin, January 5, aged 66.

William Frederick Docker, M.D. Jefferson Medical College, Philadelphia, 1868; of Shawneetown, Ill.; died suddenly at the home of his sister in Minonk, Ill., March 25, from cerebral hemorrhage, aged 62.

Matthew Chalmers, M.D. College of Physicians and Surgeons, New York City, 1861; of New York City; assistant surgeon in the Navy during the Civil War; died at his home January 6, aged 72.

Mordecai Wheatley Suter, M.D. Eclectic Medical College of Philadelphia, 1867; a veteran of the Civil War; died at his home in Rocky Fork, Ohio, from disease of the liver, January 9, aged 72.

James Cowden Grafton, an eclectic practitioner of Ossian, Ind., and a surgeon during the Civil War; died at the home of his daughter near Monroe, Ind., September 9, from nephritis, aged 69.

George Hunt, M.D. University of the Victoria College, Cobourg, Ont., 1886; medical health officer for Sunnidale Township; died at his home in New Lowell, Ont., September 5, aged 42.

Joseph Waldo Jewett, M.D. New York University, New York City, 1881; an oculist and aurist of New Haven, Conn.; died at his home, December 30, from typhoid fever, aged 54.

Garner M. Jordan, M.D. University of Tennessee, Nashville, 1866; a surgeon in the Confederate service during the Civil War; died at his home in Triune, Tenn., December 27, aged 70.

John Wesley Wade, M.D. Ensworth Medical College, St. Joseph, 1880; of Denver; a Confederate veteran; died at Steele Hospital, Denver, December 29, from erysipelas, aged 68.

Frederick William Schoppenhorst, M.D. Southwestern Homeopathic Medical College, Louisville, 1907; died at his home in Louisville, July 10, from capillary bronchitis, aged 26.

Robert A. Hawthorne (license, Neb., 1892), of Lawrence, Neb.; a veteran of the Civil War; died at the State Hospital, Ingleside, Neb., February 4, from senile debility, aged 79.

Wilbur W. Fry, M.D. Medico-Chirurgical College of Philadelphia, 1893; of Riverton, N. J.; died suddenly at his home, December 26, from the effects of an overdose of morphin.

Van Room R. Tindall, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1864; of Philadelphia; died in the Hahnemann Hospital in that city, January 5, aged 69.

George C. Littlepage, M.D. Jefferson Medical College, Philadelphia, 1877; died at his home in Warrenton, near Haubstadt, Ind., December 30, from cholecystitis, aged 56.

Frank Lindsey Hughes, M.D. College of Physicians and Surgeons, Memphis, Tenn., 1907; died at his home in Jackson, Tenn., from tuberculosis, December 28, aged 26.

H. C. F. Perlewitz, M.D. Hahnemann Medical College, Chicago, 1878; formerly of Algoma, Wis.; died at the home of his daughter in Seymour, Wis., January 3, aged 85.

Asa Scott Brecount, M.D. Eclectic Medical Institute, Cincinnati, 1876; president of the board of education of Arkansas City, Kan.; died at his home, January 3, aged 57.

Alexander Thomas Steele, M.D. Toronto University, 1901; of Shelbourne, Ont.; died at the home of his father in Orangeville, Ont., December 28, from diabetes, aged 30.

Vilroy T. Wilson, M.D. Drake University, Des Moines, Iowa, 1888; a veteran of the Civil War; died suddenly at his home in Hudson, S. D., December 22, aged 59.

Wilson Tanner White, M.D. University of Tennessee, Nashville, 1886; died at his home in Rockford, Ala., December 18, from paralysis of the throat, aged 49.

Wilson S. Anderson, M.D. Starling Medical College, Columbus, Ohio, 1852; died at his home in Newtonsville, Ohio, December 28, from pneumonia, aged 80.

William Wallace Ward, M.D. Baltimore University School of Medicine, 1895; died at his home in Harrisonville, Md., January 8, from pneumonia, aged 36.

John F. MacCormack, M.D. Trinity Medical College, Toronto, 1889; of Lafayette, Colo.; died in the University Hospital, Boulder, Colo., December 27, aged 46.

Thomas E. Woods, M.D. Western Reserve University, Cleveland, 1870; a veteran of the Civil War; died at his home in Findlay, Ohio, January 2, aged 68.

Ira Asbury Landis, M.D. Miami Medical College, Cincinnati, 1890; of Lightsville, Ohio; died in Albuquerque, N. M., December 13, from tuberculosis, aged 41.

J. W. Mabin, M.D. New Orleans School of Medicine, 1858; of Biloxi, Miss.; was found drowned in the Mississippi near Gulfport, Miss., July 21, aged 85.

Loren Levie Loomis, M.D. Physio-Medical Institute, Cincinnati, 1879; died at his home in Pemberville, Ohio, December 28, from heart disease, aged 79.

Luther Schofield, M.D. Cleveland Medical College, 1897; died suddenly from cerebral hemorrhage, at his home in Maumee, Ohio, December 29, aged 48.

Jasper N. Haynes, M.D. St. Louis College of Physicians and Surgeons, 1885; died at his home in Nevada, Mo., December 16, from influenza, aged 66.

John W. Davis, M.D. Rush Medical College, Chicago, 1902; of Defiance, Ohio; died at the Oakes Home, Denver, January 7, from tuberculosis, aged 31.

George Frederick Whitworth, Jr., M.D. Hahnemann Medical College, Chicago, 1884; died at his home in Berkeley, Cal., December 27, aged 51.

Samuel H. Hicks, M.D. University of Louisville, 1890; of Shreveport, La.; was shot and killed in an affray in that city, December 29.

George E. Marshall, M.D. Detroit College of Medicine, 1897; died at his home in Aguilar, Colo., December 30, from pneumonia, aged 38.

Douglas Argyll Robertson, M.D. St. Andrews, 1857; F.R.C.S. Edinburgh, 1862; honorary surgeon-oculist to the king in Scotland; formerly lecturer on diseases of the eye in the University of Edinburgh; ex-president of the Medico-Chirurgical Society of Edinburgh, and president of the ophthalmologic section of the British Medical Association in 1898; author of numerous papers on ophthalmic surgery; whose name is commemorated in the phenomenon referred to as the Argyll-Robertson pupil; retired, is reported to have died at Gondal, India, aged 71.

Medicolegal

In What Practice of Medicine May Consist

The Supreme Judicial Court of Massachusetts says that the defendant in the case of Commonwealth vs. Jewelle was convicted under a complaint charging him with a violation of Section 8 of Chapter 76 of the revised laws of Massachusetts by practicing medicine in that commonwealth without being lawfully authorized so to do. There was conflicting evidence at the trial in regard to what he had done. To quote from the judge's charge: "The commonwealth says that on different occasions the defendant has prescribed medicines and administered, and advertised that he prescribed as a part of his treatment, what he called 'vitalizer,' and that he has been in the habit of giving what are called electric or ray baths, and that on one or more occasions in the giving of what was called the stomach wash, another substance than water was in the tumbler, which was taken by the patient." There was also evidence that on different occasions he did make a diagnosis of the patients, for the purpose of ascertaining what ailed them and that then he prescribed for them treatment which was afterward administered to them. The defendant did not admit this. In his charge the judge said: "The defendant does not claim that he has any knowledge of drugs or of disease in the ordinary sense in which that word is used. I understand him to testify that he did not understand about diseases, that he did not treat disease; but that he treated the healthy portions of the body."

The defendant asked the court to rule that "there is no law against a person being a mind cure healer, or a massage healer, or an osteopathist; he can practice his healing so long as he does not prescribe or deal out medicine." The defendant excepted to the refusal of the judge to give in terms the last part of this request. He also excepted to the "rulings and refusals to rule." The defendant's request implied that one could not practice medicine within the meaning of the words in Section 8 without prescribing or dealing out medicine, that is, prescribing or dealing out a substance used as a remedy for disease.

The judge, on the other hand, allowed the jury to find that one might practice medicine within the meaning of the statute, that is, might practice the healing art, or the art or science which relates to the prevention, cure or alleviation of disease, without necessarily prescribing or dealing out a substance to be used as a medicine. In this the court thinks he was right. It would be too narrow a view of the practice of medicine to say that it could not be engaged in any case otherwise than by prescribing or dealing out a substance to be used as a remedy. The science of medicine, that is, the science which relates to the prevention, cure or alleviation of disease, covers a broad field, and is not limited to that department of knowledge which relates to the administration of medicinal substances. It includes a knowledge, not only of the functions of the organs of the human body, but also of the diseases to which these organs are subject, and of the laws of health and the modes of living which tend to avert or overcome disease, as well as of the specific methods of treatment that are most effective in promoting cures. It is conceivable that one may practice medicine to some extent, in certain classes of cases, without dealing out or prescribing drugs or other substances to be used as medicines. It is conceivable that one may do it in other ways than those practiced as a part of their respective systems, by either "osteopathists, pharmacists, clairvoyants or persons practicing hypnotism, magnetic healing, mind cure, massage cure science, or the cosmopathic method of healing."

The purpose of the statute seems to be to permit the practice of these several methods of treatment, including everything that strictly belongs to each; but not to permit the unlicensed practice of medicine otherwise. If a practice of medicine otherwise, without dealing out or prescribing drugs or other substances to be used as medicine, is possible, the rulings and refusals to rule were right. The court thinks such a practice of medicine is possible, and the defendant's exceptions are overruled.

Society Proceedings

COMING MEETING

Medical Society of State of New York, Albany, Jan. 26.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting held Dec. 23, 1908

The President, DR. ALBERT M. EATON, in the Chair.

Gastrointestinal Disturbances Due to Arteriosclerosis

DR. JOHN J. GILBRIDE: Gastrointestinal disturbances due to arteriosclerosis may be met in patients who have a generalized arteriosclerosis or in those in whom the splanchnic arteries only appear to be diseased. Within the past few months I have treated ten patients with arteriosclerosis in whom the symptoms were mostly gastrointestinal. Abdominal pain is a prominent symptom, localized in the epigastric or umbilical regions. Next to pain, the most common symptom is weakness and loss of weight. Abdominal distention and belching are also frequently present. Therefore, the association of dyspepsia with weakness and loss of weight in persons of middle or advanced age is apt to arouse some apprehension. The appetite may be variable; there may be constipation, alternating with attacks of diarrhea. The radial arteries may or may not be sclerosed, and the blood pressure may be high, low or normal. It is important to determine the blood pressure. A diagnosis of arteriosclerosis can be made in most of the cases without an analysis of the gastric contents, but it is safer to make such analysis. In some cases of arteriosclerosis there is pulsation in the epigastrium and the abdominal aorta is tender and painful. In the treatment the use of strophanthus and diuretin was followed by satisfactory results.

DISCUSSION

DR. WILLIAM EGBERT ROBERTSON: Did Dr. Gilbride take the blood pressure in these cases, and how would he recognize an arteriosclerotic abdominal lesion in the absence of a definite arteriosclerosis elsewhere? The blood pressure is not an index necessarily of arteriosclerosis, but there would be varying pressures dependent on the heart muscle.

DR. JAMES M. ANDERS: That there are cases of gastrointestinal disturbance dependent on arteriosclerosis I have no doubt, but there are many etiologic factors which may account for the disturbance. I have not much faith in the disease known recently as angina abdominis. In cases of severe pain below the diaphragm which might be termed angina abdominis, there are usually other features on which a diagnosis of true angina pectoris can be based. In other words, the cases are angina pectoris with the lesions in other places than the abdomen, but in which the pain is referred to some point below the diaphragm.

A Medical Library for the Philadelphia County Medical Society

DR. JAMES M. ANDERS: The creation of an independent ibrary under suitable regulations for the Philadelphia County ledical Society would be regarded as a substantial favor by s members. It is the junior physician who is urgently in eed of reference books, periodicals and practical works to id in the development of his knowledge and experience. he library of the College of Physicians is one of which any ity might feel proud, but it is not easily available to the ajority of the members of the Philadelphia County Medical ociety. In the matter of requisite funds, it is to be recollected that not less than three-fourths of the books in existng medical libraries have been donated. Through a special mmittee the society could create, though of necessity gradally, a working library and it could as readily discharge the bt. One useful line of work would be the collection and ing of reports of health officials, both local and general, and e leading exchanges from various sources. At the comencement, a central library under the control of the parent ciety only should be undertaken, while later the different anches should consider seriously the establishment of invidual libraries for the greater convenience of the members siding in the various sections of the city. It seems to me that the co-ordination of the libraries for the branches under the control of the librarian or council of the central society, would be a desirable and practicable scheme. Finally, what is true of the Philadelphia County Medical Society regarding an independent library applies with equal force to similar organizations in other counties having towns of considerable size.

The paper was favorably discussed and the subject referred to the board of directors.

Operations on the Cranial Vault

DR. H. C. MASLAND: The demands of modern cranial surgery have demonstrated the inefficiency of the present hand instruments. The best results are secured with the mechanically driven instruments, especially the circular saw, with which any sized bone flap can be raised without injury to the dura and with elevation rather than sinking after reposition.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Eighteenth Annual Meeting, held at Minneapolis, Dec. 29 and 30, 1908.

(Continued from page 238)

Diagnosis in Its Relation to the Laboratory and the Bedside

The president, Dr. W. W. Grant, Denver, delivered an address on this subject, which will be published in THE JOURNAL.

Sarcoma of the Fibula

DR. J. CLARK STEWART, Minneapolis, read a paper on this subject which was based on two cases observed within one month.

This form of tumor is rare, though probably not so rare as the study of the literature would show, as many cases are not reported. My first patient was a child, aged 8, with periosteal fibroid sarcoma of the upper end of the fibula of six months' duration. One-third of the fibula was excised, the whole tumor being removed down to healthy fibula. The second was a girl, aged 13, with sarcoma of the lower end of the fibula of about one year's duration, destroying the lower third of the bone. The leg was amputated, with excision of the whole fibula. The tumor was an alveolar central sarcoma and had perforated the bone at one point. In preparing the leg for amputation, an Esmarch was used above the knee to prevent the danger of dissemination by the necessary manipulation. In each of these cases treatment was modified to meet the individual conditions. In the first case it was deemed that much would be gained by excision, followed by the Coley treatment. In the second, amputation secured the removal of the whole fibula with a much better stump than would have been obtained by higher amputation.

The trend of the best modern practice seems to lean toward the less severe operation followed by the Coley treatment rather than the classical high amputation or disarticulation. The histologic type of sarcoma seen before dissemination determines the result. The softer periosteal sarcomata, as well as their prototypes in the central groups after they have penetrated the bone and invaded the soft parts, are probably never cured by operation, and only rarely by the Coley treatment, while giant and large spindle-cell tumors are of slow growth and slow to form metastases, and thus make possible better results and permit of conservative operations. With our present knowledge, I think that every patient with inoperable sarcoma and every one with sarcoma after operation should be given the Coley injection treatment, as the successes of this method have been too numerous and striking to justify any surgeon in not giving a patient what is certainly a fighting chance for life. My experience with this treatment has not been large, but it has convinced me of its positive value. Using it, as I have, only as a last resort in inoperable cases, it has never failed to produce marked improvement, as shown by shrinkage of the tumor and retardation in its growth, and in one case of sarcoma of the lower jaw I was able to obtain a complete disappearance of the tumor without recurrence during the two years the patient survived.

DISCUSSION

Dr. James E. Moore, Minneapolis: Conservative operations are the proper ones. Patients who are to be saved by operation can be saved by a conservative operation, and in those cases of the most malignant type patients are not saved by extreme operation, so that it is proper and right to remove the bone involved or part of it at times and take the chances, because the chances are no better with that operation than with high amputation or disarticulation. Surgeons should observe the pathologic law that recurrence in the long bones from malignant growth of any type is more likely to occur in the proximal end of the bone. Many of these patients will permit of considerable operation when the chances for the preservation of life are best, whereas they hesitate before submitting to amputation until such time as hope of saving life by extreme operation has been deferred too long.

Dr. J. W. Andrews, Mankato: A few years ago I had a case similar to those reported. In this the sarcoma occurred at the distal end of the fibula and involved one-third or possibly one-half of the bone. I recommended the removal of the fibula; but the patient went to Rochester, where amputation above the knee was recommended. She was not willing to submit to that operation, returned, and concluded to take my advice of excision of the entire fibula. This I did, and she made a beautiful recovery.

Dr. B. B. Davis, Omaha: I have observed a number of cases of sarcoma involving the tibia, but only one of the fibula.

Dr. Jabez N. Jackson, Kansas City: I recall a patient with sarcoma of the upper end of the fibula who was treated by operation, but recurrence took place in less than a year after operation at the site of the original tumor.

Treatment of Tetanus

Dr. William Hessert, Chicago: The best treatment of tetanus is to prevent the disease by prophylactic injections of antitetanic serum. The treatment consists in: (1) Removing the source of further toxin supply by proper local wound treatment; (2) neutralizing the toxin which may be contained in the tissue juices by massive injections of antitoxin subcutaneously; (3) employing some remedy to allay the reflex excitability of the spinal cord, namely, subarachnoid injections of magnesium sulphate; (4) nourishing and supporting the patient. The treatment of tetanus may be summarized as follows: 1. Generally accepted methods of local wound treatment should include the use of peroxid of hydrogen and balsam of Peru. 2. The serum treatment should be limited to subcutaneous injections, at least fifteen hundred units twice daily, and continued for days and weeks, as the case demands. 3. Injections of 25 per cent. magnesium sulphate solution may be given by lumbar puncture, exercising great care, especially with the initial dose and in the case of children. Set the patients up and repeat the injection as often as necessary. Watch for its toxic effect on the medulla, as shown by depression of the heart and respiration. 4. Proctoclysis is a valuable adjunct. Much depends on good nursing, with proper food and stimulation. Chloral and bromids may also be given, if there is no contraindication.

DISCUSSION

Dr. M. L. Harris, Chicago: When tetanus has once developed antitoxin is practically useless, and we should not waste time simply by injecting antitoxin, hoping for good results. The best way to treat tetanus is to prevent it. In cases in which tetanus has already developed, hope must be centered entirely on the injection of some substance or agent which will control the spasms of the patient long enough to permit the system to break up the combination of the toxins in the body and eliminate them. We know of no way of overcoming these toxins or of hastening their elimination. If we can prevent the patient from dying from exhaustion incident to the spasms, or from asphyxia from the spasms of the chest muscles, long enough to permit the system to break up this combination, we may hope for recovery. So far, the best treatment seems to be injections of sulphate of magnesia. I have used it in three cases—two of the patients recovered and one died. I believe that death was due to too large a dose.

Dr. Daniel N. Eisendrath, Chicago: Every punctured or blank cartridge wound ought to be converted into an open wound, and the only way to treat these cases, no matter whether the wound or wounds be in the hand or foot, is to anesthetize the patients, put on an Esmarch constrictor, open the wound from one end to the other, and not simply be content with opening up the wound, but cut away all necrotic tissue.

Dr. F. Gregory Connell, Oshkosh, Wis.: In two cases of tetanus in which I injected magnesium sulphate into the spinal canal, both patients died.

Dr. Roger B. Brewster, Kansas City, Mo.: I have had two cases of tetanus under observation recently. These occurred in the practice of Dr. George M. Gray. One was a boy with a wound of the hand. His jaws were locked. He was given antitetanic serum, the wound was thoroughly cared for, he was put on potassium bromid, and recovered. The other case was a young man of 21, with a wound of the index finger. Dr. Hertzley amputated the finger; gave him antitetanic serum; put the patient on 20 grain doses of potassium bromid every four hours, and kept him under that for about ten days. It was ten days before trismus was relieved. His spinal and neck muscles were all set, as well as the abdominal muscles, but on the tenth day he was relieved, and from that time made a good recovery. The boy had a punctured wound from a nail. The accident happened in the country. He came to the hospital on the third day after his jaws had set, and it was the tenth day before he got relief. I do not know the time of injury in the other case.

Dr. C. H. Mayo, Rochester, Minn.: The incubation period is the main thing in considering these cases. If we take the cases of tetanus that begin within seven or eight days we lose 80 per cent. of them, whereas of those cases that do not begin until after the tenth or twelfth day we will save 80 per cent. So it makes a lot of difference.

Dr. W. D. Hains, Cincinnati: I had occasion in 1900 to look up the statistics that were published in The Journal of the American Medical Association. It was stated that 500 patients died within the first two weeks following Fourth-of-July wounds from tetanus. I looked up our local statistics for ten years. There were 101 cases that passed through the coroner's office in which it was recorded that the patients died of tetanus following Fourth-of-July wounds.

(*To be continued*)

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-first Annual Session, held in St. Louis, Dec. 15-17, 1908

(*Concluded from page 243*)

Temporary Ventrosuspension of the Uterus: Its Technic, Indications and End-Results

Dr. E. H. Ochsner, Chicago: The operation consists in passing a needle armed with a double strand of ten-day unchromicized catgut through the rectus fascia, rectus muscle and peritoneum, on the right side, one inch below the lower angle of the peritoneal incision, then through the fundus of the uterus, being careful not to injure the peritoneal covering of the uterus unnecessarily, then cut through the abdominal wall in reverse order to its introduction. The stitch is then tied just tight enough to bring the uterus in contact with the parietal peritoneum, but not tight enough to cause necrosis of the peritoneum. I recommend this operation if after pelvic operations for inflammatory conditions the uterus shows a tendency to fall backward after the intra-abdominal work is completed. If properly applied it will prevent the uterus from falling backward and becoming adherent to the pelvic floor without making a permanent ventrosuspension or fixation with their numerous objectionable features.

Extensive Injury to the Abdominal Wall; Operation; Recovery

Dr. Rufus B. Hall, Cincinnati, reported a case of an accident to an infant 17 months old, with extensive injury to the abdominal wall, and evisceration of all of the small intestines, with recovery of the patient. The child's mother was giving him a bath by holding him on her lap in the kitchen where she had been canning fruit. To facilitate rinsing off the soap, she stood the child on the drain board of the sink, which was two and a half feet high. The mother left the child standing, and went across the room for a towel. The child fell, striking the right side of the abdomen on the top of an empty half-gallon glass Mason fruit jar. The impact broke the jar, telescoping it, leaving four sharp points remaining on the bottom of the can. One of these made a large wound in the side of the abdomen and the intestines at once protruded on to the dirty kitchen floor, picking up several fragments of peelings of tomatoes and pears. The child had lost a great quantity of blood, due to the injury of the deep epigastric artery. One prong of the glass cut through the tenth rib, dividing the intercostal artery. Another made an opening into the abdomen three inches above the large opening. All the small intestines, the pyloric end of the stomach, and four inches of the ascending colon were outside of the abdomen. There were sticking to the coils of bowel and omentum several pieces of the peelings of pears and tomatoes. When Dr. Hall arrived the child was semiconscious, pulseless, with cold extremities and rapid, superficial breathing. In addition to the division of the deep epigastric artery and the intercostal artery, there was a ragged-shaped wound in the omentum and one in the mesentery. The intestines were largely distended with undigested pears. The temperature twelve hours after the accident was 106.5 F., and remained high for twelve hours longer, at which time Dr. Hall succeeded in getting the intestinal tract emptied. Before the bowels were emptied, the child was delirious, with general twitching of the muscles throughout the body. Within two hours after the bowels were emptied the temperature declined to 100 F., and convalescence was established.

Surgical Treatment of Epilepsy

Dr. W. P. Carr, Washington, D. C., reported 20 operations for epilepsy, and said:

Eight of these patients have been cured to date or were well when last heard from; one after nine years, one after eight and a half years, one after seven and a half years, one after four years, one after three and a half years, one after one year, and two after three months. Five of these patients, probably not traumatic, in which the habit was well established, have been cured for over three years; three of them for seven, eight and nine years, respectively. Nearly all were benefited temporarily, most of them being so much improved as to make the operation justifiable. One was confined in the Government Hospital for the Insane, and another was a complete imbecile. Both regained the normal mental condition and have remained mentally sound to date. Only one was not benefited. The best results were in cases apparently most unfavorable. I believe that operation for cases of long-standing traumatic epilepsy, and idiopathic or hereditary epilepsy, has been abandoned on theoretical grounds, without a fair trial of modern surgical methods, and that such patients should be operated on for the following reasons: 1. There is strong evidence to show that a onsiderable proportion of even the most unpromising cases an be cured. 2. In view of the hopeless and progressive naure of the malady, the operation would be justifiable if even small percentage could be cured, or even greatly benefited. . No systematic attempt has been made to find what perentage of cures may be obtained, since modern methods have made the operation easy and safe, and that such attempts hould be made. 4. There is so little danger in the operation f either death or unpleasant sequelæ. 6. Because of the freedom from pain or discomfort of any kind following the peration, which is in marked contrast to the discomfort folowing most other operations of equal severity. I recommend pening the skull by making a large osteoplastic flap over he region indicated by focal symptoms, when they are presnt, or over the Rolandic area on either side when there are no focal symptoms. A careful examination should then be made by opening the dura widely, inspecting and palpating the brain and meninges, and by careful exploration with a grooved director, and any offending body, such as depressed bone, thickened dura, abscess, cyst, tumor, inflammatory exudate or edema, should be removed as far as possible. Most epileptic brains are edematous and the serum may be rapidly drained away by opening the dura and by inserting several grooved directors into the brain substance. Good results have followed more often when a large flap is made, and a large surface of the brain exposed. The flow of serum may continue for several days when a soft rubber drain is used.

Other Papers Read

The following papers were also read: "Report of a Case of Urethral Transplantation," by Dr. J. D. S. Davis, Birmingham, Ala.; "Operative Treatment of Tuberculous Joints," by Dr. H. J. Whitacre, Cincinnati, Ohio; "The Transverse Abdominal Incision," by Dr. S. M. D. Clark, New Orleans; "Transfusion, with a Note on Hemolysis," by Dr. G. W. Crile, Cleveland, Ohio; "Penetrating Wounds of the Abdomen," by Dr. Floyd McRae, Atlanta, Ga.; "Mortality in One Thousand Operations for Goiter," by Dr. Charles H. Mayo, Rochester, Minn.; "Elephantiasis of the Male Genitalia," by Dr. J. N. Baker, Montgomery, Ala.; "Anatomic and Physiologic Restoration vs. Removal of the Internal Generative Organs of Women," by Dr. J. E. Cannaday, Charleston, W. Va.; "Cancer of the Parotid Gland," by Dr. G. A. Hendon, Louisville; "Successful Operation for Vesicouterine Fistula with Loss of Function of Vesical and Urethral Sphincters," by Dr. R. S. Hill, Montgomery, Ala.; and "Hypoplasia in Relation to Health and Disease," by Dr. C. P. Noble, Philadelphia. The last-mentioned paper will appear in full in The Journal.

AMERICAN ROENTGEN RAY SOCIETY

Ninth Annual Meeting, held at New York, Dec. 28-30, 1908

(Concluded from page 236)

Surgical Treatment of Chronic Roentgen-Ray Dermatitis

Dr. Charles Allen Porter, Boston: There is always a time when the chronic Roentgen-ray lesions can be successfully eradicated by minor operations, but neglect has led to the necessity for major operations, in spite of which metastases and death will occasionally occur. No other agent is so potent in the production of multiple carcinomata in man. The most important changes are the rarefaction beneath the epidermis, with a total loss of papillæ and a telangiectatic condition of the blood vessels, disappearance of the glands, obliteration of the arteries and great increase in the connective tissue. The epidermis is thin and atrophic, with foci of epithelial proliferation, in some instances giving rise to papillary down-growths with keratoses, and in others to the invasive type of new growth. Apparently, the repeated exposures to the ray produce chronic changes in which the normal reparative power is lost. There is no constant change in the nerve trunks. In some instances the nerve fibers were replaced by connective tissue, and the nerves are compressed by the dense cicatricial tissue about them. This perineuritis may explain the extreme pain so characteristic of the lesion in the majority of cases. Of 44 cases recorded in the literature, 11 of which came under my observation, 6 were severe lesions of the ulcerative type, 4 beginning epithelioma and 34 undoubted carcinoma, with 8 deaths, a mortality of 25 per cent. There is always a latent period, usually one of years, and either keratoses or ulcerations precede the cancer. The only treatment which will prevent trouble is early removal by caustics or the knife of all suspicious lesions. When occurring on the backs of the hands, the lesions may be excised and the wound sutured or destroyed by liquid air or by carbon dioxid snow. When keratoses or ulcerations occur on the dorsal aspects of the fingers, and especially when the skin is dense, I advocate excision and skin grafting. If the primary grafts do not take owing to inadequate blood supply, the surface may be covered with grafts later, when connective tissue has formed.

Healing by cicatrization sometimes occurs, but owing to the thinness of the epidermis and the liability to subsequent injuries, skin grafting is preferable. Moderately thin grafts take better than thick ones. Hemorrhage should be controlled before the application of the grafts, and pressure must be maintained for twenty-four hours.

DISCUSSION

Dr. William Allen Pusey, Chicago: I differentiate between the acute ulcer and the chronic ulcer in Roentgen dermatitis. The former is no more likely to become carcinomatous than is any other ulcer. These chronic lesions should be operated on. An interesting analogy to the chronic Roentgen-ray burn is found in the senile keratoses and that exceedingly rare skin affection, xeroderma pigmentosum. All are the result of long-continued irritation by actinic energy, the sensitiveness of the skin varying, however. The Roentgen-ray skin is an extraordinary degree of senile skin. I advise excision, doing it early, when the lesions are few in number and the surrounding tissues in fairly good condition. I have treated two epitheliomas of this kind with Roentgen-ray exposures, and have found them as susceptible to such treatment as ordinary senile rodent ulcers, but I do not recommend that as a method of treatment, nor do I recommend the use of carbon dioxid snow for the destruction of these tumors larger than a wheat grain in size. For small tumors, liquid air and carbon dioxid snow are excellent means of eradication. Keratoses should be destroyed as rapidly as they develop. All these lesions are amenable to treatment so long as they are within bounds, and the thing to do is to destroy them when they are destroyable.

Dr. Charles Lester Leonard, Philadelphia: The difficult thing to determine in this connection is the time when these lesions should be operated on and whether the individual is capable of recovering without operation. I believe that the lesions recur after operation. Is there anything that will cut short the conditions, and if there is not, will not the patient live longer without the operation? Many of these lesions are amenable to surgical treatment, and yet in many of the serious injuries the Roentgenologist has suffered have resulted from the solicitous intervention of his friends.

Roentgen-Ray Examination for Urinary Calculi

Dr. Charles Eastmond, Brooklyn: I made careful urine analyses in 80 cases examined with the Roentgen ray for calculi. Calculi were present in only 24 per cent. of the patients presenting classical symptoms of that condition, and in only 14 per cent. of the cases were the calculi in the suspected region, while in 41 per cent. of cases with very vague and uncharacteristic symptoms calculi were demonstrated. Therefore, the Roentgen-ray examination should form an important means of diagnosis in these cases.

Roentgen Ray in Mediastinal Tumors

Dr Russell H. Boggs, Pittsburg, briefly reviewed the conditions in which the ray is the only means of making a positive diagnosis of tumors of the mediastinum, and reported three cases, one of tumor, mistaken for aneurism, another pronounced as hysteria proved to be mediastinal tumor, and the third, in which a diagnosis was impossible until a radiograph was made, which showed the case to be one of tumor of the thymus. The diagnosis was confirmed by operation.

Tumor of Mediastinum

Dr. W. S. Lawrence, Memphis: In the case which I report, the tumor, a black, non-pulsating mass, about six inches in diameter, occupied the entire upper central portion of the thorax, the chest wall bulging. The patient was rapidly losing strength and suffered considerable pain, and, later, cough. Several prominent surgeons diagnosed the case as one of dermoid cyst and sarcoma of the pleura, respectively. The first evidence of trouble was noticed in the summer of 1906 and consisted of bulging of the chest wall. Late in October, 1907, Roentgen treatment was begun. About twenty-eight treatments were given during a period of about two months. Improvement was prompt and continuous. At present the patient is feeling well, has gained in weight and the mass has almost disappeared.

Roentgen Ray in Therapeutics

Dr. George C. Johnston, Pittsburg: The usefulness of the Roentgen ray as a therapeutic agent has failed of recognition largely because of the fact that it was used by men who were not sufficiently familiar with the technic and the indications for its use. Success or failure in radiotherapy depend on the ability of the operator to produce with his apparatus a proper quality of radiation, to administer it in such quantities as to constitute a correct dose, and an acquaintance with the disease process, and the physiologic effect of the agent, sufficient to enable him to adjust his dosage so as to produce the reaction necessary to result in a cure. Needless to say, he must be thoroughly familiar with his apparatus in all its parts. Among the conditions in which the ray is indicated and in which it has proved useful, are the following: Acne, especially the pustular form; eczema, affections of the skin characterized by glandular hyperactivity; lupus vulgaris; sycosis, favus, tenia tonsurans; psoriasis, if the disease is limited in extent and essentially chronic; rodent ulcer, especially when small in size; epitheliomas on or about the eyelids; exophthalmic goiter, especially when accompanied by hyperthyroidism. In other cases, the ray has proved a useful adjunct to other treatment, or it has given the patient temporary relief, as in leukemia, Hodgkin's disease, tubercular glands, carcinoma, sarcoma.

Other Papers Read

The following papers were also read: "Further Study of the Sweet-Bowen Method of Localizing Foreign Bodies in the Eye," by Dr. C. F. Bowen, Columbus, Ohio; "Theory of Roentgen Ray," by Dr. L. I. Blake, Denver, Colo.; "Roentgenologic Technic," by Dr. P. M. Hickey, Detroit; "Roentgen Rays in the Diagnosis of Urinary Conditions," by Dr. Alfred T. Osgood, New York; "Twenty-five Cases of Aortic Aneurism Studied with Roentgen Ray," by Dr. Sidney Lange, Cincinnati; "Examination of Lungs with Roentgen Ray," by Dr. Henry Hulst, Grand Rapids, Mich.; "The Roentgenologist and His Specialty," by Dr. Percy Brown, Boston; "Roentgen Ray and Etiology of Cancer," by Dr. W. H. Dieffenbach, New York; "Surgical Treatment of Malignant Growths in Combination with the Roentgen Method," by Dr. Carl Beck, New York; "Treatment of Myoma by Roentgen Rays," by Dr. Albers-Schoenberg, Hamburg, Germany; "Localization of Foreign Bodies," by Dr Willis F. Manges, Philadelphia; "Use of Fluoroscope in Removal of Foreign Bodies from Extremities," by Dr. C. F. Bowen, Columbus, Ohio.

Book Notices

Text-Book of the Principles of Animal Histology. By Ulric Dahlgren, M.S., Assistant Professor in Biology in Princeton University, and William A. Kepner, A.B., Adjunct Professor in Biology in the University of Virginia. Cloth. Pp. 515. Price, $3.75. New York: The Macmillan Co., 1908.

For years we have been resigned to the annual succession of text-books on histology, each one differing from its predecessors and contemporaries by a degree so slight as to be appreciable only after microscopic examination. From a sense of duty, we read these books and approve them, as it is absolutely necessary that our histologic knowledge be brought up to date. The present book, in spite of faults, comes as a pleasant break in the general monotony, because its presents the subject from the comparative standpoint.

Practically all works on histology are based almost exclusively on human anatomy. A few authors have ventured to refer to the tissue elements of some domestic mammals and birds (dog, sheep, pigeon), but none has dared to stray outside of the barnyard into the wilds, for fear that the critics would stare aghast at any allusion to a vertebrate phylum humbler than the avian!

All physiologists and pathologists now base their work on the broad, comparative method. It is taken for granted that every medical student will know his human physiology the better for a minute study of frog-reactions. The man studying cancer learns infinitely more from mice and men than from men alone.

In the present work the elementary tissues are discussed seriatim. Thus, in the chapter on bone, we are given an inkling of the phylogenetic origins of osseous structures, through a study of the skeletons of sponges, cuttle-fish, etc. Even after a perusal of the few lines devoted to the spicule-secreting mesoglöeal cells of the sponge, we feel that our concepts of the osteoblast and its possible origin have been widened. The chapters on the tissues that produce light, electricity and gas are very interesting, and, of course, unheard of in the ordinary medical text-books.

Unquestionably, the weak part of the book is the first, the general discussion of cell and cytoplasm. The cytologic definitions and nomenclature are needlessly imperfect, as they lack even that small degree of precision which is possible in the present stage of the science. Thus, the distinction between nucleolus and pseudonucleolus is not brought out clearly. After Wilson's elaborate clearing of the field, it seems a pity to have the terminology of centrosome, sphere and centriole muddled up again. Too dogmatic a stand is often taken, as, e. g., in the matter of trophospongia.

The definition of epithelia is far from felicitious, and not at all in accord with the embryologic viewpoint and with the best usage.

There are many curious omissions which can hardly be excused on the plea that brevity demanded a suggestive and stimulating, rather than an exhaustive treatment, for many facts and principles quite as important as those included are omitted. Thus, in the discussion of the limitation of the size of cells (p. 11), no reference is made to the important factor emphasized so strongly by Loeb in *"Warum ist die Regeneration kernlöse Protoplasmastücke unmöglich oder erschwert?"* Again, one wonders why, in the chapter on cardiac cells, no mention is made of the phylogenetically and ontogenetically important Purkinje type, which, from the chosen standpoint of the authors, probably throws more light on the meaning of the finished cardiac cell than all else.

Altogether, this book is strikingly uneven, a curious blend of the praiseworthy and the blamable, with the balance perhaps on the side of commendation. As it stands, it could not serve as a medical text-book, nor was it so intended. But it would be well for medical students if the catholic comparative standpoint of this book could be incorporated into some good text, for the book abounds in wide viewpoints and illuminating presentations of basic principles, such as would be of great value to the medical student as well as to the devotee of "pure science," e. g., the development of the idea of tissue from the phylogenetic standpoint (p. 14), or the discussion of the fundamental needs underlying the evolution of the connective tissues (p. 56).

DISEASES AND SURGERY OF THE GENITOURINARY SYSTEM. By Francis S. Watson, M.D., Lecturer on Genitourinary Surgery, Harvard Medical School. Assisted by John H. Cunningham, Jr., M.D., Visiting Surgeon to the Long Island Hospital, Boston. Vol. I, The External Genitals. The Prostate and Bladder. Vol. II, The Kidneys and Ureters. Cloth. Pp. 1101, with illustrations. Price, $12.00 per set. Philadelphia: Lea & Febiger, 1908.

In the preface, the authors state that they desire to cover both the medical and surgical aspects of genitourinary diseases, according to our present state of knowledge.

In the first chapter, cavernitis is spoken of as being extremely rare, a view which is far from being generally accepted. Under balanitis, no mention is made of a specific form of balanitis, due to a spirochete and a vibrio, described first by Bataille and Berdal in 1889-1891 and later by Scherber and Müller in 1904. The colored illustrations in this chapter are not up to date and are out of keeping with the rest of the book. In the second chapter, specific urethritis is considered, but not enough space is given to treatment and scarcely a dozen words are allotted to non-specific urethritis. Endoscopy is described in characteristic style, but the endoscopic pictures illustrating the various pathologic conditions are poor both in execution and in descriptive value, but as these conditions are extremely hard to depict, some excuse can be offered in this regard. In this chapter some mention should have been made of the capillary syringe of Guyon, which is usually considered superior to the old Keyes-Ultzmann syringe.

Strictures are well described and illustrated in two exhaustive chapters. The real merits of the work, first seen in these chapters, lie in its description of operative technic, the various operations being well covered.

The surgery of the prostate is taken up in detail. The authors encourage operative interference rather than any palliative measures. Considering the important place that cystoscopy occupies in the modern diagnosis and treatment of genitourinary diseases, more space and fewer generalities should have been devoted to it. The illustrations of observation cystoscopes are antiquated, and the technic of ureteral catheterization is disposed of in a few lines. The half-tones illustrating the various operations and steps in technic will serve as a valuable aid to the genitourinary surgeon.

The second volume begins with the examination of the urine, and while considerable space is given to the functional diagnosis of the kidneys, inasmuch as these are timely subjects, it is to be regretted that the chapter is not more complete. The subject of chromocystoscopy seems to be omitted. The chapters on kidney and ureteral surgery contain excellent descriptive and illustrative work. In the chapter on renal calculi commendable attention to exact detail seems to be carried to an excess in the list of foods to be avoided. If one had to follow such a scientific dietary in order to avoid renal stone, life would be indeed a burden. The arrangement by which the subject of tuberculosis is considered under one heading and not piecemeal in the different chapters is excellent, as it enables one to grasp the subject in its entirety.

The great subject of functional disturbances of the sexual organs is not considered in either volume, which seems an oversight. The ramifications of the subject of sexual neurosis may extend into every branch of medicine; and, as this subject is so little understood, any additional light would be greatly appreciated.

The book contains many excellent illustrations; the bibliography is exhaustive, and the statistics are complete.

THE LAW IN GENERAL MEDICAL PRACTICE. By Stanley B. Atkinson, M.A., M.B., B.Sc., Justice of the Peace for the County of London. Cloth. Pp. 239. Price $1.50. London: Oxford University Press, 1908.

In taking up this book with its specific title and discovering that it was a British work, our first thought was the fear that it would be of little service in this country, owing to the difference in laws. An examination of the book, however, reveals the fact that, except in a few instances which the ordinary reader will readily recognize, law is not discussed so much in the concrete as in the abstract. The book is more of a series of advisory talks, imparting much of the information which some men have to obtain by hard knocks in the world of experience and which others are fortunate enough to acquire from their preceptors or their associates in medical practice. Atkinson has an interesting style and he is mainly practical. Although we can not recommend the book as a legal guide for physicians in this country, it will be found of interest as an advisory commentary on ethics and the everyday rules of conduct toward those with whom the physician has to deal.

ROTUNDA MIDWIFERY FOR NURSES AND MIDWIVES. By G. T. Wrench, M.D., Late Assistant Master Rotunda Hospital. with an Introduction by the Master of the Rotunda Hospital. Cloth. Pp. 324, with illustrations. Price, $2.00. New York: Oxford Press, 1908.

This book, originating as it does from the famous Rotunda Hospital, should be of practical value to nurses, though it is primarily intended for midwives. As usual, in books of this kind, the opening chapters deal with the anatomy of the pelvis and the physiology of pregnancy. The remainder of the book is devoted to the management of labor, normal and abnormal, the complications and sequelæ likely to be encountered, infant feeding and the care of the infant. The rules and regulations of the Central Midwives Board form an appendix. On the whole, the book is a disappointment and some of the teaching is far from commendable.

Medical Economics

A New Form of Insurance in England

Of organizing and promoting companies there is no end, and, in England, there is apparently no possible contingency in life against which one can not be insured. The latest proposition along this line and, so far as we know, the only one of its sort, is a company for the insurance of individuals against "excessive medical bills." "Excessive medical bills" is a dire catastrophe which is liable to happen to any one at any time and from which heretofore there has been no protection. Unfortunately, however, the promoter proved to be considerably in advance of his times and the company went into bankruptcy. This is from the *Medical Press and Circular* (London):

> "In the bankruptcy court at Stockport, last week, a certain Mr. H. F. Mason was examined by the official receiver, the liabilities being £674 9s. 6d., and the assets *nil*. The bankrupt attributed his failure to non-success in floating a Medical Indemnity Insurance Company, whose primary object was insurance against 'excessive medical bills.' The company was registered in October, 1906, with a nominal capital of £50,000. According to the bankrupt, however, that year was a very bad one for company-promoting, and only £750 were subscribed. Then came disagreement with the solicitor, refusal by the board to issue a prospectus, and the eventual retirement of the directors. The company consequently collapsed and with it the promoter. We can not help shedding a tear at this lamentable still-birth. What if Mr. Mason had been successful and had obtained his £50,000? Without admitting the possibility of his clients receiving 'excessive medical bills,' we can imagine that medical attendants would have stepped across their door-steps with blithe hearts had they known that, whatever the charge for attendance, the sum would have been forthcoming from a well-capitalized insurance company. . . . We regret, however, that no one seems anxious to step into the breach made by this gentleman, and to tell medical men, one and all, that they have only to send in their bills, and that a trustworthy company will foot them at sight."

Certainly, this is a new and unexplored field for the promoter. We have had numerous instances of companies organized to insure the patient against sickness and injury and agreeing to furnish free medical services in event of disability. The only way in which such companies are able to do business is by making contracts with physicians to do work at absurdly inadequate prices. Mr. Mason's company, on the other hand, was to insure the patient not against injury or disease, but against the "excessive medical bills" which would follow disability. Whether or not this is a practical proposition from the actuary's standpoint, we can not say. It would certainly be preferable to the contract practice plan, from a physician's point of view while, if the premium remained the same, it would make no difference to the patient whether the company insured him against sickness or insured him against the cost of sickness. Mr. Mason certainly would have been an angel in disguise to the medical profession of England had he succeeded in securing the additional £49,250 of the capital. We doubt, however, whether the American public is sufficiently educated along the lines of insurance and high finance to justify such a plan in this country.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Third Weekly Meeting

Surgery of the Intestines

INTESTINAL SUTURE

Method of Suture.—Lembert's, Halstead's, Dupuytren's, Cushing's, Maunsell's, Connell's. Use of mechanical apparatus, Murphy's button, etc.

OPERATIONS ON INTESTINES

Enterotomy.—Indications in acute intestinal obstruction, foreign bodies, polypi, etc. Technic of operation.

Enterostomy.—In small intestine: Formation of fecal fistula, indications, technic of operation. In large intestine: Inguinal colotomy, indications, technic. Lumbar colotomy, indications, technic.

Entero-anastomosis.—Indications. Use of Murphy button, suture.

Enterectomy.—In small intestine: Tumor, stricture, mesenteric tumor, gangrene of hernia or obstruction. In cecum: Tumor, tuberculosis, etc. In large intestine: Tumor, and acute obstruction from tumor. Indications, technic, and variations in technic in each case.

OPERATIONS FOR FECAL FISTULA AND ARTIFICIAL ANUS

Dissection of fistula and closure of bowels or enterectomy.

INTESTINAL OBSTRUCTION

Diagnosis. Indications for exploration. Technic in early cases; in late cases, enterostomy. Special technic in: (1) Strangulation by bands, (2) intussusception, (3) volvulus, (4) Meckel's diverticulum, (5) internal hernia, (6) obstruction by gallstones.

INTESTINAL PERFORATION IN TYPHOID FEVER

Frequency, incidence, diagnosis, indications and contraindications for operation. Technic: Anesthetic, incision, closure of perforation; formation of fistula, resection or anastomosis; toilet of peritoneum, drainage.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Kansas: Topeka, Feb. 9. Sec., Dr. R. A. Light, Chanute.
Nebraska: State Capitol, Lincoln, Feb. 3-4. Sec., Dr. E. J. C. Sward, Oakland.
New York: Albany, Feb. 2-5. Chief of Examinations Division, Dr. Charles F. Wheelock.
Wyoming: Cheyenne, Feb. 10-12. Sec., Dr. S. B. Miller, Laramie.

Medical Education and Nostrums, Third Letter

This is the third of a series of letters issued jointly by the Council on Medical Education and the Committee on Medical Teaching of the Council on Pharmacy and Chemistry.

To Medical Teachers:—This letter treats of the ultimate causes of the nostrum evil.

The practice of prescribing nostrums is commonly attributed to inefficient teaching of one or two branches in the medical colleges. Some blame the course of materia medica, others therapeutics, others prescription-writing, others pharmacy, others the clinical instruction. These are doubtless all concerned to some degree; but a little reflection must convince that the cause lies deeper than the failure on the part of any one or two departments of medical education.

An evil so deep-seated, so widespread, with so many ramifications, requires careful and calm study with regard to its origin and treatment. Limits of space, however, permit of suggestion merely, and not of exhaustive consideration.

Prominent among the underlying causes, of the conditions to which we have called your attention, are indolence and ignorance.

Indolence, namely, the shirking by the physician of his duty to make a careful study of the needs of each case. It is so much more convenient to give a mixture which the manufacturer says will do good, than to think out what the patient really requires. Thus, the physician gradually becomes more and more dependent on the ready-made pseudo-therapeutics of the nostrum-maker.

Ignorance, the want of sufficient fundamental knowledge in the various branches of medicine to realize the absurdity of the claims made for these nostrums. Counting on this, the manufacturer supplies a mass of technical descriptive matter, which is often intentionally so framed as to be beyond the understanding of the average physician. Being human, the latter is prone to accept as advanced truth what appears learned and is incomprehensible. A little more exact knowledge would convince him that a matter which can not be clearly expressed is generally false.

The report on the methods of the Reed & Carnrick Co. (THE JOURNAL, Oct. 5, 1907, xlix, 1198) illustrates one phase of this matter. It will repay some serious thinking.

Georgia October Report

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners of the State of Georgia, reports the written examination held at Atlanta, Oct. 13-14, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 32, of whom 30 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
International Med. Miss. Coll	(1908)	85, 86
Atlanta School of Med	(1908)	80, 83, 85
Howard University	(1906)	80, 81
University of Louisville	(1908)	86
Jenner Med. Coll	(1908)	82
Tulane University of Louisiana	(1908)	89
Maryland Med. Coll	(1908)	84, 86
University of Maryland	(1907) 87; (1908)	87
College of P. and S., Baltimore	(1890)	80
University of Michigan	(1908)	87
Columbia Univ., Coll. of P. and S., New York	(1903)	89
Syracuse University	(1908)	91
Cornell Univ. Med. Coll	(1905)	83
North Carolina Med. Coll	(1908)	82
Leonard School of Med	(1908)	80, 83, 85, 86, 86
Chattanooga Med. Coll	(1898)	83
College of P. and S., Memphis	(1908)	89
University of Nashville	(1908)	81, 83
University Coll. of Med., Richmond	(1908)	91

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1908)	78
University of West Tennessee	(1908)	77

GEORGIA RECIPROCITY REPORT

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners of the State of Georgia, sends the following report of reciprocal licenses issued by that board since May 5, 1908:

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Howard University, Washington	(1886)	Dist. Colum.
Rush Med. Coll	(1890)	Indiana
American Med. Miss. Coll	(1901)	Missouri
Illinois Med. Coll	(1901)	Kentucky
University of Maryland	(1900)	N. Carolina
University of Maryland	(1905) (1907)	Maryland
University of Michigan	(1906)	Michigan
University of North Carolina	(1908)	N. Carolina
Jefferson Med. Coll	(1887)	Dist. Colum.
Jefferson Med. Coll	(1903)	Michigan
University of Nashville	(1900) (1901) (2, 1908)	Tennessee
University of Tennessee	(1900)	Tennessee
Memphis Hospital Med. Coll	(1890)	Tennessee
University Coll. of Med., Richmond	(1905) (1908)	Virginia
Wisconsin Coll. of P. and S	(1899)	Wisconsin

The following were licensed under the exemption clause:

College.	Year Grad.
Ioward University, Washington	(1894)
tlanta Med. Coll	(1890)
altimore Med. Coll	(1893)

North Carolina June Report

Dr. G. T. Sikes, secretary of the North Carolina Board of ledical Examiners, reports the written examination held at inston-Salem, June 10, 1908. The number of subjects exmined in was 13; total number of questions asked, 90; per-ntage required to pass, 80. The total number of candidates xamined was 121, of whom 95 passed and 26 failed, includg one non-graduate. Eight reciprocal licenses were issued this examination. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent
eorgetown University	(1906) 89.9; (1908)	93.1
tlanta Coll. of P. and S	(1908)*	
earborn Med. Coll	(1907)	80.1
altimore Med. Coll	(1898) 88; (1906) 80;; (1908)	82.2
aryland Med. Coll	(1903) 82; (1907)	94.1
ollege of P. and S., Baltimore	(1907)	89.2, 89.5
niversity of Maryland	(1896) 80.8; (1905) 85; (1906) 89.2, 90.8; (1907) 80.1, 87.7, 93.1; (1898) 82.6, 82.8, 83.9, 84.2, 85.9, 86.8, 87.3, 87.4, 88.5, 89.7, 90.9.	
Woman's Med. Coll., Baltimore	(1908)	90.7
Johns Hopkins Med. School	(1908)	91.1
North Carolina Med. Coll.	(1905) 84.4; (1908);	80, 82.1, 82.6, 88.2.
University of North Carolina	(1907) 84.1; (1908)	80.6, 82.5, 84.7, 86.7, 87.6, 87.6, 88.2, 88.2, 90.2, 90.3, 91.1, 93.1.
Leonard School of Med.	(1908)	80, 80, 80.1, 80.5, 82.3, 83.5, 83.7, 83.7, 84.6, 85.6, 86.9, 87, 87.5, 91.2, 92.3.
Columbia University, Coll. of P. and S., New York	(1901)	84.8
University of Pennsylvania	(1903) 87.5 (1907)	86.7
University of the South	(1903)	85.7
University of Tennessee	(1895)	80.6
Jefferson Med. Coll.	(1906) 87.2; (1908):	84.1, 84.1, 88, 89.7, 90.1, 90.3, 90.9, 91, 91.5, 91.8, 92.9, 93.1.
University of Nashville	(1907) 84; (1908)	80.
Tennessee Med. Coll.	(1901) 81.4; (1908)	83.7 84.2
Medical Coll. of Virginia	(1908)	86.1 91.1 91.7
University Coll. of Medicine, Richmond	(1908)	83.4, 87, 87.5 87.8
University of Virginia	(1897)	90.4

FAILED

College.	Year Grad.	Per Cent
Atlanta Coll. of P. and S.	(1900)	64.1
Baltimore Med. Coll	(1908)	77.
Maryland Med. Coll	(1908)	75.
University of Maryland	(1907)	75.3
College of P. and S., Baltimore	(1908)	77.8
New York Univ. Med. Coll	(1879)	66.2
University of North Carolina	(1908)	77.1
North Carolina Med. Coll.	(1905) 66.9; (1907) 77.5; (1908)	75, 77.
Leonard School of Med.	(1905) 65.5; (1908)	72.6, 78.9
University of Tennessee	(1904) 64.3; (1905) 60.9; (1907)	74.4
University of the South	(1901)	75.3
Meharry Med. Coll	(1905)	66.
University of Nashville	(1908)	68.3, 70.2
Chattanooga Med. Coll	(1906)	76.6
Knoxville Med. Coll	(1908)	69.9
University Coll. of Med., Richmond	(1907) 76.3; (1908)	79.

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Atlanta School of Medicine	(1908)	Georgia
Atlanta College of P. and S.	(1903)	Georgia
Baltimore Med. Coll	(1907)	W. Virginia
New York Medical Coll. and Hosp. for Women	(1879)	New York
University of Tennessee	(2, 1908)	Georgia
Tennessee Med. Coll	(1905)	Georgia
College and year of graduation for one reciprocity candidate not known		Georgia

*No percentage given.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Medical Record, New York

January 9

1 *Pulmonary Embolism Following Operation. C. L. Gibson, New York.
2 Case of Addison's Disease, with Autopsy. C. H. Lewis, New York.
3 *Congenital Abnormalities of the Penis and Their Influence on the Acquisition and Course of Gonorrhea. E. W. Ruggles, Rochester, N. Y.
4 *Methods and Results of Drainage in Abscess of Appendix. R. M. Harbin, Rome, Ga.
5 Conservation of Hearing in the Radical Mastoid Operation. S. Oppenheimer, New York.
6 Medical Education in Russia. L. Louria, Brooklyn, N. Y.
7 Hemolytic Properties of Cancer Serum. A. S. Blumgarten, New York.
8 New Apparatus for Intrathoracic Operations Under Differential Pressure. W. Meyer, New York.

1. **Pulmonary Embolism.**—Gibson calls attention to the necessity of inquiry into the causes of pulmonary embolism following operations, often of a quite benign character, properly performed on subjects whose physical condition makes them an apparently good risk for operations for hernia, interval removal of appendix, female pelvic operations, etc. He records and discusses five cases and emphasizes the following three points:

First.—The age of the patients—young individuals are more or less exempt, and if affected may perhaps recover, presumably on account of the yielding elasticity of their vessels, which may allow the blood to push its way beside a clot. The age from forty to sixty being most afflicted, we are probably dealing with conditions of vascular changes over which the operator has little or no control. We should, however, be more on the alert to recognize or anticipate such changes, and their existence should be considered in operations which are a matter of expediency rather than of actual necessity.

Second.—Practically all those cases of embolism follow interventions below the diaphragm and even lower, "below the belt." Therefore, we must study the local conditions more closely for further light.

Third.—At present there is little or no justification in rushing patients out of bed as a routine measure, it being granted that in individual cases and conditions a pre-existent or suspected tendency to stagnation of coagulation, should be counteracted by this and other measures.

3. Abstracted in THE JOURNAL, July 11, 1908, p. 160.

4. **Drainage in Appendicular Abscess.**—Harbin says that:

1. Statistics of recoveries from drainage of cases of diffuse peritonitis are of no value unless the date of the perforation is known.

2. In the absence of proper facilities, it is better to adopt the Ochsner procedure and the Fowler position, pending consultation.

3. The doubtful propriety of waiting for the walling off process, may merge a certain number of cases into a diffuse form of peritonitis.

4. Deferred operations, under favorable conditions, give the patient time to undergo a sort of autoinoculation with bacterial vaccines.

5. The uncertain course of peritonitis argues for immediate operation.

6. Infections low in the right iliac fossa can safely be trusted to nature.

7. Short incisions and few manipulations should be the rule.

8. As a rule, it is unsurgical to leave the same gauze in the wound over four or five days.

9. The right lateral and ventral positions are of great value in supplementing other methods of drainage.

10. Drainage in diffuse peritonitis should not only give exit to pus, but should provoke a reverse current of serum out the wound.

11. Intermittent injection of normal salt solution seemed to gain a greater amount of absorption in the rectum than the instillation method.

12. In well defined abscess cases there was a mortality rate of 4.5 per cent.

New York Medical Journal

January 9

9 Theories and Problems of Heredity. J. Wright, New York.
10 *Present Status of Hysteria. T. A. Williams, Washington, D. C.
11 *Puerperal Sepsis. H. Weil, New York.
12 Myocarditis. P. H. Markley, Camden, N. J.
13 Relationship Between Dental and Systemic Disturbances. W J. Lederer, New York.
14 Spontaneous Absorption of Incipient Cataract. S. Moskowitz, New York.
15 Acute Gastric and Duodenal Dilatation Treated by Gastrojejunostomy, with Recovery. G. Torrance, Birmingham, Ala.

10. **Hysteria.**—Williams considers that the most authoritative contribution to the elucidation of the subject of hysteria ever presented, is afforded by a recent discussion at the Paris Neurological Society. He enumerates the eight different heads of inquiry, and summarizes the discussion. The first question, whether there is a special group of symptoms that can be exactly reproduced and made to disappear under suggestion, is answered unanimously in the affirmative. The second question as to the use of the word pithiatism was postponed. With regard to the third question, the relationship of hysterical stigmata to suggestion, it was decided by the majority that medical suggestion is at the root of a vast majority of hysterical symptoms. The relation of suggestion to reflexes and involuntary functions was held to vary. The following reflexes under certain conditions were considered modifiable: Skin, false pharyngeal, and pupillary reflexes of dementia præcox. Unaffected by suggestion are the tendon reflexes, the true faucial reflexes, pupillary reflex, contracted visual field, dermatographia, urticaria, edema, ulceration and fever. The connection of the above-named phenomena with the special group of symptoms named in question, one was variously regarded as casual, coincident and possible trickery. The application of the term suggestion, whether it should be applied to all acts that influence the mentality, or only to those implying a pejorative idea—that is, such as correspond to the use of the word insinuation—reserving the term persuasion for those of an ameliorative character, is well discussed. From those considerations it follows that there is a fundamental distinction between suggestion and persuasion, and this consists of the subject's entire unconsciousness, the absence of realization of the manner in which a new idea has been imposed on him during suggestion. Sometimes he is even ignorant of having received anything new. Persuasion, on the other hand, appeals to the individual's own power of reflection, and this makes him aware of the whole process of reasoning by which he becomes convinced. A false conclusion derived from persuasion is false, not in virtue of incorrect reasoning, but by error in the premises. The *folic raisonnante* of the paranoiac furnishes another striking example of autopersuasion. Suggestibility is annihilated by skepticism, the habit of suspension of judgment and doubt. It is diminished, while persuadability is fostered by rational education. It requires time to persuade and often to influence the feelings, but a suggestion may be instantaneous and is generally rapid.

11. **Puerperal Sepsis.**—Weil says that certain facts are absolutely established: 1. The uterine walls can and do absorb, and this power is greater following abortion and labor with its more numerous veins and lymphatics. 2. The products of germ metabolism are poisonous; these poisons called toxins, when derived from pathogenic bacteria, are capable of producing violent symptoms and death when injected into animals. 3. The lochial discharges of a puerperal infection are loaded with pathogenic germs and toxin. Each of these facts are easily demonstrated and incontestable. 4. This being the case, it only remains to demonstrate that absorption plays an important part in the disease.

Boston Medical and Surgical Journal

January 7

16 Histologic Aspect of Professional Relationship. C. E. Edson, Denver.
17 *Psychotherapy. J. J. Thomas, Boston.
18 *Acute Intussusception. Its Early Diagnosis and Treatment. H. S. Rowen, Boston.
19 Composition of Small Curds in Infants' Stools. F. B. Talbot, Boston.
20 *Association Test and Psychoanalysis. A. H. Ring, Arlington, Mass.

17. **Psychotherapy.**—Thomas discusses various methods of exercising psychotherapy, the method of surprise, of purposeful neglect, of isolation, the re-educational method, psychoanalysis, hypnotism, etc., and criticizes the Emmanuel movement.

18. **Intussusception.**—Rowen discusses the early diagnosis and treatment and reviews the literature of this subject. He impresses the importance of early recognition of the condition by means of: 1, The mother's story; 2, the paroxysms of shock, abdominal pain; 3, the early discovery of blood-stained mucus in digital examination of the rectum. This last point he has not found mentioned by the authorities.

20. **The Association Test.**—Ring describes, in a practical manner, the mode of application of the association test and psychoanalysis in mental troubles. He emphasizes Putnam's suggestion that at times it may be harmful to require patients to recall unhappy episodes, especially those connected with unfortunate sexual experiences. But the same end may be accomplished by getting the patient's main train of thought and substituting by discussion another train of association starting from the same point but having a happy tone for its accompaniment.

Lancet Clinic, Cincinnati

January 2

21 Surgery of the Biliary Tract. G. Goodhue, Dayton, Ohio.
22 Obscure Fractures Discovered by X-Ray Examination. S. Lange, Cincinnati.
23 Hyperchlorhydria and Its Treatment Based on Animal Experiments. M. M. Portis, Chicago.
24 Hyperthyroidism and Basedow's Disease. A. Schachner, Louisville, Ky.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

December

25 *Hemolytic Test for Malignant Tumors. G. W. Crile, Cleveland, Ohio.
26 The Omentum as a Factor in Abdominal Surgery. C. C. Norris, Philadelphia.
27 *Treatment of Postpartum Hemorrhage. J. C. Edgar, New York.
28 Treatment of Accidental Hemorrhage and Placenta Praevia. G. L. Brodhead, New York.
29 *Cystocele. I. S. Stone, Washington, D. C.
30 *Injuries to the Bladder During Hernia Operations. R. E. Skeel, Cleveland, Ohio.
31 *Gastric Tetany, Operation and Recovery. J. Y. Brown and W. Englebach, St. Louis, Mo.
32 *Treatment of Typhoid Fever Perforation. J. D. S. Davis, Birmingham, Ala.
33 Cancer of the Cervix Uteri in Pregnancy. I. S. Stone, Washington, D. C.
34 *Anatomic Basis for Successful Repair of the Female Pelvic Outlet. I. S. Haynes, New York City.
35 Intra-abdominal Route for the Removal of Calculi from the Pelvic Portion of the Female Ureter. D. Bissell, New York.
36 *Some Old Fallacies in Retroversion Surgery Revived. A. Goldspohn, Chicago.
37 *Repair Rather Than Removal of the Generative Organs of Women. J. E. Cannaday, Charleston, W. Va.
38 *Rheumatism in Children. L. Kerr, Brooklyn.
39 *Idem. L. A. McClelland, Brooklyn.
40 Idem. J. R. Stivers, Brooklyn.

25. Published in full in THE JOURNAL, Dec. 12, 1908, p. 2036.

27. **Postpartum Hemorrhage.**—Edgar says that, as in primary, so in secondary postpartum hemorrhage, the most satisfactory treatment is preventive. The lying-in-woman

should be protected against, 1, mental emotions; 2, disturbances of the general circulation, and 3, blood conditions that might cause hemorrhage during the puerperal state. If the third stage of labor, as well as the first few days of the puerperium, are carefully managed, the four main causes of secondary postpartum hemorrhage will be avoided. These are, 1, the retention of placental tissue; 2, the retention of membranes; 3, of blood clots, and 4, a distended bladder or rectum. The patient should not be allowed to assume the erect position until involution is well advanced, and sexual intercourse should be prohibited for two months. The curative treatment of secondary postpartum hemorrhage, as in primary hemorrhage, consists in making sure that the uterus is completely emptied, and in securing complete uterine contraction .

29. **Cystocele.**—Stone reviews the literature and discusses the operative results. He says that the operation of Arx is adapted to the severer forms of prolapse of both uterus and bladder. The method of Gersuny, while ingenious and a great improvement on the old anterior colporrhaphy, fails to meet with full approval, because it turns irregular rugæ into the base of the bladder and also fails to reattach the bladder higher up and farther out toward the pelvic wall. The methods of Freund, Fritsch and Wertheim do not appeal to him, for he has always succeeded in curing his patients without leaving the uteri in their vagina. The method proposed by Alexandroff and those who use the base of the broad ligaments as tractors or suspensors, has not been in use long enough fully to test its merits. Finally he reserves the Sänger technic for a class of cases which are most difficult of cure by any of the usual methods by vaginal narrowing or by any operation on the ligaments of the uterus.

30, 32, 36, 37.—Abstracted in The Journal, Oct. 24, 1908, pp. 1458-1459.

31. **Gastric Tetany.**—Brown and Englebach report a case in a woman of 48 as follows: Ether anesthesia, median incision. Examination of the stomach revealed a cicatrix encircling about three-fourths of the pylorus, causing complete obstruction of that orifice. No adhesions around the pylorus. Stomach greatly dilated. Walls markedly hypertrophied. No other abnormal findings in the abdomen. Short loop posterior gastroenterostomy, suture method, was performed. The case is noteworthy in that recovery ensued. Prophylactic treatment is important, namely caring for the lesions before they cause serious pyloric obstruction—another argument for radical surgical treatment of chronic ulcers, cholelithiasis, etc. Symptomatic treatment during attacks—stomach lavage, hypodermoclysis, protoclysis and morphin hypodermically—is indicated. Radical surgical treatment is urged.

34. **Female Pelvic Outlet.**—Haynes discusses at length the anatomy of the pelvic outlet and the function of the structures described, and states that the levator ani muscle, especially its pubococcygeal (puborectal) portion is the important contractile element present. He discusses the production, effects, and diagnosis of pelvic laceration, and describes a flap-splitting operation in which no tissue is lost, the exact site of the lesion is exposed, which is easy of execution and rapidly performed, and in which all sutures are buried.

38. **Rheumatism in Children.**—Kerr states that as a result of the closer study of the child, which is a product of recent years, we are now cognizant of the fact that rheumatism, as t affects the young child, is an entirely different proposition from the same disease in adult life. It is now a well-recognized fact that in acute rheumatism in children the joints argely escape. Irreparable damage is often done to the heart, without any evidences of an arthritis, or of the usually recognized symptoms of rheumatism. The earliest possible recognition of acute rheumatism in a young child is afforded by a correct estimation of the functional capacity of the heart. He reports the Herz arm flexion method and describes his own, which consists in giving the child a small dose of incture of digitalis (1 minim to a child of 7 years) and noting the effect on the pulse. If there is an appreciable diference in the rate or quality of the pulse under conditions similar to those which preceded the ingestion of that dose, it is suggestive of functional perversion.

39. **Id.**—McClelland insists that removal of tonsils and adenoids removes a source of rheumatic infection.

Bulletin Johns Hopkins Hospital, Baltimore

December

41 *Comprehensive Plan for Treatment of Tuberculosis Problem. G. Bloede, Baltimore.
42 *Axillary Diastolic Murmur in Aortic Insufficiency. R. Cole and A. B. Cecil, Baltimore.
43 *Clinical Features of Cardiac Disease. G. A. Gibson, Edinburgh.
44 *Practical Value of the Demonstration of *Spirocheta pallida* in the Early Diagnosis of Syphilis. J. T. Geraghty, Baltimore.
45 *Contrast in the Excretion of Chlorin in Influenza Pneumonia and in Ordinary Lobar Pneumonia. L. G. Rowntree, Baltimore.

41. **Tuberculosis Problem.** Bloede's comprehensive plan for the treatment of tuberculosis is practically identical with that in successful operation at the Victoria Hospital, Edinburgh, as described by Dr. Phillips in the *Boston Medical and Surgical Journal*, Oct. 22, 1908, and abstracted in The Journal, Nov. 7, 1908, p. 1639. The author gives credit to Dr. Phillips.

42. **Axillary Diastolic Murmurs.**—Cole and Cecil report a series of cases, and attempt to show that it is the rule, rather than the exception, that the diastolic murmur or aortic insufficiency is transmitted loudly to the axillæ, and furthermore that it is not a transmission of the murmur toward the apex in the general acceptance of this statement, but that in most cases there is a second area of greater intensity above and outside the apex. He also states that while in many cases the murmur is heard continuously as one passes outward from the sternum to the axilla, becoming fainter and fainter, in other cases the murmur becomes inaudible in the region of the nipple, and is again heard in the axilla; or in rare cases the murmur may be entirely inaudible over the heart and at the base, and only be heard, at times at least, outside the apex. For this axillary diastolic murmur they suggest the term aortic axillary diastolic murmur.

43. **Cardiac Disease.**—Gibson discusses the pain of angina pectoris, which is of the "referred" or "somatic" variety. He refers approvingly to Mackenzie and Head's explanation, and the fact, shown by Morrison and himself, of the correspondence between the side of the heart affected and the localization of the pain. It has been shown by Eichhorst and Gibson that wasting of the muscles and changes in the texture of the skin are often found in the painful regions. Gibson has further demonstrated that when muscular atrophy is found, the myotatic irritability may be increased, exactly as in the case in arthritic muscular atrophy, while the electric reactions show a distinct increase, both as regards faradism and galvanism. He further discusses the alterations in the eye and the disturbances in the rate and rhythm of the heart. In regard to the last named, he discusses the different types of bradycardia, and adds that certain tracings shown prove that it is not always conductivity that is impaired, but that excitability may be lessened. He further states that a heart block may take place higher up than the usual location in the auriculoventricular band, namely, at the sino-auricular junction, and refers to a tracing, previously published by Ritchie and himself, which seems most easily explicable on the supposition that certain of the smaller waves which occur among, but do not accord with, the rhythm of the auricular impulses are produced by the sinus contraction. With regard to tachycardia, the tracings show that the increased rate is largely dependent on the presence of premature systoles. We may assume an increased production of the rhythmic stimulus at the sino-auricular junction of Keith, which must be regarded as the pacemaker of the whole heart, except in cases in which the impulses are blocked. The ventricle, however, may initiate a rhythm of its own.

44. **Diagnosis of Syphilis.**—Geraghty asserts that his investigations show conclusively that the *Spirochæta pallida* can be found with comparative ease in primary sores—90 per cent. of his own cases—in 15 minutes. In his genitourinary clinic smears are made from all venereal sores as a matter of routine, and if *S. pallida* is found, specific treatment is at once begun.

45. **Excretion of Chlorin in Pneumonia.**—Rowntree's investigations show that:

1. The retention of chlorin did not exist in the cases of influenza pneumonia studied to nearly so marked a degree as is usually found in acute lobar pneumonia.

2. In uncomplicated cases of influenza pneumonia there may be a normal daily excretion of chlorin; if it is reduced, the reduction is not very great and does not remain low, but steadily increases by lysis till normal is reached.

3. There is a tendency for the amount of chlorin in 10 c.cm. of urine and the daily total output of chlorin to run more or less parallel in their fluctuations.

4. The quantity of urine during the course of influenza pneumonia is not greatly diminished, and the amount of chlorin in 10 c.cm. of urine is not markedly low; the urine has a slight tendency to decrease in quantity during convalescence, while the amount of chlorin in 10 c.cm. of urine steadily increases to normal.

5. In influenza pneumonia a large quantity of urine is not usually associated with a markedly low amount of chlorin in 10 c.cm. of urine, as is usually the case in ordinary lobar pneumonia.

Journal of Biological Chemistry, Baltimore

December

46 Mode of Oxidation of Phenyl Derivatives of Fatty Acids in the Animal Organism. H. D. Dakin, New York.
47 Chemical Studies in Cytolysis. A. E. Taylor, Berkeley, Cal.
48 Conversion of Glycogen into Sugar in the Liver. A. E. Taylor, Berkeley, Cal.
49 *Antagonism of Alcohol to Carbolic Acid. A. E. Taylor, Berkeley, Cal.
50 Blood Clot of *Limulus Polyphemus*. C. L. Alsberg and E. D. Clark, Boston.
51 *Effect of Diet on the Maltose-Splitting Power of the Saliva. C. H. Neilson and M. H. Scheele, St. Louis.
52 The Chemical Composition and Toxicity of *Ibervillea Sonoræ*. J. T. Emerson and W. H. Welker, New York.
53 *The Inhibiting Effect of Potassium Chlorid in Sodium Chlorid Glycosuria. T. C. Burnett, Berkeley, Cal.
54 *The Uric Acid Excretion of Normal Men. P. J. Hanzlik and P. B. Hawk, Champaign, Ill.
55 Adsorption of Diastase and Catalase by Colloidal Protein and by Normal Lead Phosphate. A. W. Peters, Champaign, Ill.

49. **Antagonism of Alcohol to Carbolic Acid.**—Taylor shows by experiments on yeast that alcohol does not reduce in the least the antiseptic action of carbolic acid. On the contrary, with high concentrations of alcohol and low concentrations of carbolic acid, the alcohol seemed to increase the toxicity of the carbolic acid. A 1 to 100,000 concentration of carbolic acid was more toxic in the presence of 10 per cent. of alcohol than without it. These experiments tend to prove that there is no chemical detoxication of carbolic acid by ethyl alcohol, and that the effect observed in therapeutic practice must rest on some physical basis.

51. **Maltose-Splitting Power of the Saliva.**—The experiments of Neilson and Scheele show that a change in the diet produces a change in the maltose-splitting power of the saliva. The change is parallel to the change in the amylolytic power of the saliva on the same diets. As the amylolytic power of the saliva increases on a carbohydrate diet, the maltose-splitting power increases in approximately the same ratio. On a protein diet the amylolytic power and the maltose-splitting power decreases in the same ratio. These experiments seem to add further proof in favor of adaptation to diet.

53. **Inhibition of Salt Glycosuria.**—Burnett finds that while sodium chlorid injected into rabbits will produce glycosuria, the addition of potassium chlorid to the solution injected reduces or prevents the glycosuria. Calcium chlorid acts similarly, but if the injection is begun with sodium chlorid plus calcium chlorid and after sugar appears, the injection fluid is changed to sodium chlorid plus potassium chlorid, the amount of sugar increased. The same holds good if the order of the injections is reversed. According to Loeb a pure sodium chlorid solution produces ordinary cytolysis and also a process called "black disintegration." He found that the addition of calcium chlorid inhibited the cytolysis, while the addition of potassium chlorid inhibited the "black disintegration." In view of this the above results are clear. The addition of one salt, for example, potassium chlorid, to the injection fluid, prevents one of the destructive processes, without causing a complete disappearance of it, for there is the other destructive process still active. When sodium chlorid plus potassium chlorid is substituted for sodium chlorid plus calcium chlorid, or vice versa, there is an additive effect; either the cells which are partially injured by the one combination, are further injured by the second, or a new lot of cells may be injured by the substituted combination of salts. In either case the result would be an increase in the amount of sugar in the urine.

54. **Uric Acid Excretion.**—Hanzlik and Hawk conclude an investigation of the uric acid excretion of normal men as follows: 1. The average daily excretion of uric acid for ten men, ranging in age from 19 to 29 years, and fed a normal mixed diet, was 0.597 gram, a value somewhat lower than the generally accepted average of 0.7 gram for such a period. 2. The average daily protein ingestion for these same subjects, when permitted to select their diet, was 91.2 gram, or 1.33 gram per kilogram of body weight.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

December

56 *Idiopathic Status Hemiepilepticus and Genuine Focal Epilepsy. H. H. Hoppe, Cincinnati.
57 *Delayed Apoplexy (Spaetapoplexie) with Report of Case. A. R. Allen, Philadelphia.
58 *Symptom-Complex of a Lesion of the Uppermost Portion of the Vertebral Arteries. W. G. Spiller, Philadelphia.

56-57. Abstracted in The Journal, July 11, 1908, p. 163, 164.

58. **Symptom-Complex from a Lesion of the Vertebral Arteries.**—Spiller emphasizes a clinical picture, the complement of that caused by occlusion of the posterior inferior cerebellar artery, as reported by him in the same journal, June, 1908. He describes the anatomy of the anterior spinal arteries and points out that the area supplied by them is chiefly the anterior and middle portions of the medulla oblongata. He reasons *a priori* that in their occlusion we should expect to find paralysis of all the limbs, trunk and neck, whereas the reflexes necessary to life would be preserved. The face would not be affected. The tongue might escape, as the hypoglossus nerve has at least a portion of its origin above the origin of the anterior spinal arteries, but it might be involved by implication of the vertebral. As the lemniscus probably conveys fibers of deep sensation, this form of sensation would probably be disturbed. If the lemniscus contains tactile fibers, tactile sensation would be affected. If the symptom-complex were unilateral the disturbance of sensation referred to and that of motion would probably be on the same side of the body, as all the fibers concerned with these functions have decussated at the level in question. If the lesion extended lower, sensation might be affected on the side opposite to that of the disturbance of motion, or even on both sides of the body. The tendon reflexes are not infrequently lost when the cerebellum or fibers connecting with it are involved, and as in the lesion under consideration the cerebello olivary fibers would be implicated, it is possible that the tendon reflexes would be lost instead of exaggerated, although this loss might be due to other causes. The vagus and glossopharyngeus should escape, at least in great part. Ataxia probably would not be observed because of the motor paralysis, or the escape of important cerebellar fibers. Occlusion of the vessels in the posterior part of the brain is more likely to occur in syphilitic arterial disease, and transitory quadriplegia might be caused by temporary interference with this vascular supply. Spiller reports a case that probably belongs to the above described type.

Journal Arkansas Medical Society, Little Rock

November

59 *Secondary Pancreatitis. F. B. Young, Springdale.
60 Calcified Fibroma of the Ovary. A. Watkins, Little Rock.
61 Acute Catarrhal Bronchitis. J. A. Robertson, Hot Springs.
62 Treatment of Pneumonia. J. W. Melton, Alum, Ark.
63 Idem. H. H. Niehuss, Wesson.

59. Abstracted in The Journal, July 18, 1908, p. 250.

Journal Missouri State Medical Association, St. Louis

December

64 *Treatment of Visceral Ptosis by Respiratory Exercises. C. Shattinger, St. Louis.
65 Suitable Patients for the Missouri State Sanatorium for Incipient Pulmonary Tuberculosis. O. H. Brown, St. Louis.
66 Clinical Reports from Mt. St. Rose Hospital. S. Cameron, St. Louis.
67 Responsibility of Boards of Health. A. H. Hamel, De Soto, Mo.
68 Work of the St. Louis Health Department in Its Relation to Tuberculosis. H. W. Bond, St. Louis.

64. **Visceral Ptosis.**—Shattinger says that while the importance of strengthening the abdominal muscles is recog-

nized, the training of them in their most important functions as respiratory muscles is generally overlooked. As muscles of expiration their function is well recognized but as inspiratory muscles it is not so well known. During the inspiratory descent of the diaphragm, their tension prevents downward displacement of the viscera which instead are pressed laterally against the lower ribs and thus kept from being drawn inward by the contracting diaphragm. Were the costal attachments of the latter not thus fixed, its excursions would become much less effective. Weakness of the supporting apparatus of the abdominal viscera consequently is weakness of the breathing apparatus. This point of view becomes of the greatest practical consequence when the abnormalities of the thorax and diaphragm found in splanchnoptosis are taken into consideration. To estimate fully the influence such abnormalities must have on the position of the viscera within the abdominal cavity, it is necessary to keep in mind that the upper part of the latter should occupy about half of the thorax, and that the stomach, spleen, liver and kidneys are firmly attached to the diaphragm. A rational therapy of visceral ptosis therefore demands that attention be not narrowly centered on the abdomen, but be directed toward utilizing the anatomic physiologic and pathologic facts presented. Accordingly, the treatment of this disease should include:

1. Development of the abdominal muscles in general, and in the direction of adding to their strength as auxiliary agents of inspiration in particular.
2. Increase of pressure and furtherance of the circulation of blood and lymph within the abdomen.
3. Enlargement of the thorax, especially of its lower half.
4. Development of the diaphragm and elevation of its domes.

Journal of the Medical Society of New Jersey, Orange

December

69 The Psychic Element in Medical Practice. L. Emerson, Orange.
70 Acute Perforating Gastric and Duodenal Ulcer (continued). E. Eliot, New York.
71 Gastric Ulcer. D. A. Currie, Englewood.
72 *Prevention of Mental Disease. F. C. Horsford, Morris Plains.

72. **Mental Disease.**—Horsford says that for the prevention of mental disease, as close approach as possible must be had to natural conditions of environment, having due regard to protection from harmful influences. Education in personal and public hygiene is important. To modify heredity, the marriage problem requires consideration. Legal prohibition of marriage to those who have suffered from idiopathic epilepsy or insanity would not be too drastic. A family history of nervous instability, especially chronic alcoholism, suggests a possible transmission of degeneracy. The medical practitioner must do his duty in counsel regarding marriage. Too much forcing in education is doing harm. Masturbation, common in youth, while overestimated as a source of danger, if persisted in, suggests mental inferiority. Repeated suggestion is necessary to effect any good. He discusses the dietetic poisons, syphilis, prostitution, the puerperal insanities, etc. He particularly points out the importance of continued observation in the case of those who have recovered from the attack.

Old Dominion Journal of Medicine and Surgery, Richmond

November

73 *Typhoid Fever in the South. E. C. Levy and A. W. Freeman, Richmond.
74 *Epithelioma of the Lip. E. S. Judd, Rochester, Minn.
75 Uses of Adrenalin Chlorid. C. O. Abernethy, Raleigh, N. C.
76 *Bladder Wounds in Hernia Operations. W. B. De Garmo, New York.
77 *Rational Treatment of Indigestion. D. Vanderhoof, Richmond.
78 *So-called Gastric Neuroses. T. A. Williams, Washington, D. C.

73. Abstracted in THE JOURNAL, Sept. 12, 1908, p. 940.

74. **Epithelioma of the Lip.**—Judd says that cancer of the lip, no matter whether it begins as a wart, ulcer, excoriation, tubercle or leukoplakia, can be diagnosed positively within a few weeks, during which time the epithelial cells have changed but little from the normal, the glands have not become involved, and the growth is comparatively benign. The removal by paste or caustics, though now considered an act of malpractice in all other types of cancer, is still employed to a considerable extent in cancer of the lip, and, with the exception of the deformity, the results are as good as those obtained by any one who simply snips out the growth. The disease does not often manifest itself in the glands for many months and sometimes for several years after it starts in the lip, and the patient is apt to consider the lump in the neck a new disease instead of an extension of the former trouble. The same feeling should exist regarding the removal of submaxillary and submental glands in cancer of the lip as animates the surgeon in removing cancer of the breast. Judd discusses the diagnosis, growth, and extension of the conditions, and summarizes these results in fifteen cases of cancer of the lip operated on at St. Mary's Hospital, Rochester, Minn., which testify to the superior results obtained by the complete cleaning operation, the technic of which he describes.

76-77. Abstracted in THE JOURNAL, Nov. 14, 1908, pp. 1722, 1723.

78. **Gastric Neuroses.**—Williams refers to Pawlow's experiments, which, he says, form the best basis for the profession to train itself in the true import of the procedures of psychotherapy, so as to be able to explain them to the laity in these days of mental healing cults. While the influence of sudden grief or terror on digestion is well known, it is not realized that the lesser psychic trauma can by long continuance produce an effect equally pernicious and of longer duration. In cases in which the patient's failure to digest is caused in reality by the idea that he can not do so, treatment should be directed to the removal of the causal idea. In such cases, the gastric secretion having been diminished by disuse aided by general bodily feebleness, complete rest in bed is necessary to confine the energy of the organism to the anabolism required and it must be accompanied by abstraction of the patient from as many external stimuli as possible. Until the profession as a whole understands the mechanism of the false gastropathies, we shall continue to see cases of so-called gastric neuroses, and they will continue to find their salvation, after vain medical consultation, at the hands of various faith and mental healing cults.

Bulletin of Medical and Chirurgical Faculty of Maryland, Baltimore

January

79 *Present Status of the Proprietary Medicine Question. P. Marvel, Atlantic City, N. J.
80 *What Should be our Attitude Toward Proprietary Medicines? H. O. Reik, Baltimore.

79. **The Proprietary Medicine Question.**—Marvel says that one of the greatest problems confronting the American Medical Association at the time of reorganization was the proprietary or "trade-mark" medicine question. Physicians have always been divided into two classes: those associating themselves to exalt their profession and better the people's condition, and those considering mainly self-interest. On the latter class rests largely the responsibility for the proprietary medicine difficulty. He asks how any member of a medical society can justify the prescription, endorsement or use of such remedies. The two besetting sins of the physician are credulity and indifference. The first renders him an easy mark for every charlatan; the second is largely the result of the deadening routine of an exacting practice. Both these faults lay him open to the wiles of the "patent medicine" road agent. Further, the lack of teaching of the proper application of drugs by medical colleges is partially responsible. Marvel discusses the fostering influence of the patent office and postoffice in assisting the trust, and commends those states that are attending to this matter by legislation. He urges the pharmacists not to specially introduce, barter, or try to persuade his customers to purchase nostrums. He deplores the lack of conscientiousness of the majority of medical journals in accepting advertisements of these frauds, in consequence of the financial advantage arising from them. He particularly condemns the part played by the lay and religious press in foisting such remedies on the public, but is glad to note an increasing appreciation on the part of the religious press of its responsibility in this matter.

80. **Id.**—Reik refers to the crusade conducted by Adams and Bok in reference to the nostrum trade, and to the awakening of physicians to the hold attained on it by the kindred proprietary medicine fraud. He describes the formation of

the Council on Pharmacy and Chemistry and quotes its regulations in regard to the proprietary remedies, and says that no reasonably fair-minded person can find fault with these rules. The better class of manufacturers promptly recognized the right of the profession to the knowledge it asks for. The Council has acted with the greatest judgment. No preparation has been rejected without good and sufficient cause or without an opportunity for the manufacturer to defend or reform his product, but accepted preparations are not thereby endorsed, approved, or recommended by the Council for use. It is merely testified to that they have complied with its rules. Among the faults found by the Council was a great deal of intentional deception in the statements of the manufacturers, numerous instances of which Reik relates. For himself, he has formulated the following rules: 1. To confine his prescribing where possible, to the U. S. P. and the N. F. 2. Not to prescribe any proprietary preparation that the Council has tested and rejected; to retain the privilege of prescribing any preparation listed in "New and Nonofficial Remedies"; and to insist on all new preparations being submitted to the Council before being offered to the profession. 3. To meet the detail man with an inquiry whether the remedy he is offering has been accepted by the Council, and if not, by stating that it is waste of time to discuss it until it has. 4. Without boycotting otherwise decent medical journals that accept for advertisement unauthorized products, to point out to editors that it is poor policy to keep on antagonizing the profession. 5. Carefully to revise any testimonial he might ever feel inclined to write and then—to destroy it.

Yale Medical Journal, New Haven, Conn.

December

81 Opsonins and Their Relation to Bacterial Vaccine Therapy. W. B. Steiner, Hartford, Conn.
82 Bacterial Vaccines and their Opsonic Index. C. T. Beach, Hartford.
83 Bacterial Vaccines and Vaccine Therapy. A. H. Griswold, Hartford, Conn.
84 *Prognosis in the Suture of Nerves. E. A. Wells, Hartford, Conn.
85 *Etiology and Treatment of Puerperal Infection. W. L. Barber, Waterbury.

84 and 85. Abstracted in Society Proceedings, The Journal, July 25, 1908, p. 338.

Northwestern Lancet, Minneapolis

January 1

86 Congenital Idiopathic Dilatation of the Colon: Hirschsprung's Disease. E. S. Judd, Rochester, Minn.
87 Modern Operation for Cure of Inguinal Hernia. E. W. Andrews, Chicago.
88 Postoperative Complications. A. E. Wilcox, Minneapolis.
89 Mortality in One Thousand Operations for Goiter. C. H. Mayo, Rochester, Minn.

Archives of Ophthalmology, New York

November

90 Bilateral Glioma of the Retina with Numerous Distant Metastases. J. P. Gardiner, Chicago.
91 *Treatment of Immature Cataract. H. Smith, Jullunder, Punjab, India.
92 Symblepharon, Corneal Opacities, etc., of Prenatal Origin, in a Woman with Hereditary Cataracts at an Early Stage. B. Chance, Philadelphia.
93 Conjunctivitis Associated with *Bacillus pyocyaneus* Found in Normal Conjunctival Sac. B. Pusey, Chicago.
94 Practical Value of the Sphygmomanometer to the Ophthalmologist. J. Dunn, Richmond, Va.

91. Published in *Indian Medical Gazette*, October, 1908, and abstracted in The Journal, Dec. 19, 1908, p. 2191.

West Virginia Medical Journal, Wheeling

December

95 Influenza. W. W. Tompkins, Charleston.
96 Pathology, Symptomatology, Diagnosis and Treatment of Influenza. J. W. Moore, Charleston.
97 Erythromelalgia. W. Neill, Charleston.
98 Functions of the State Association Journal. S. L. Jepson, Wheeling.
99 Louis Pasteur—His Work. C. S. Bowers, Wheeling.
100 The Pharmacist as a Professional Man, and His Relation to the Physician. E. B. Romig, Keyser.

Albany Medical Annals

December

101 Recent Advances in Obstetrics. J. P. Boyd, Albany.
102 Medical Education of the Public. S. W. S. Toms, Nyack, N. Y.
103 Intermittent Claudication. H. C. Gordinier, Troy, N. Y.
104 Acute Anterior Poliomyelitis. L. Archambault and W. G. MacDonald, Albany.

Memphis Medical Monthly

December

105 Responsibilities of Surgery. E. J. Johnson, Yazoo City, Miss.
106 Pathologic Nasopharynx. J. T. Allen, Brownsville, Tenn.
107 Bier's Obstructive Hyperemic Treatment with Elastic Bandage in Acute Infections of Extremities. W. T. Black, Memphis.
108 Treatment of Eye Diseases by the General Practitioner. G. H. Woods, Greenville, Miss.
109 Are We Advancing? H. C. Buck, Friars Point, Miss.
110 Psychotherapy. M. G. Thompson, Hot Springs, Ark.

Dominion Medical Monthly, Toronto

December

111 Acute Hematogenous Infection of One Kidney in Persons Apparently Well. T. B. Richardson, Toronto.

Ophthalmic Record, Chicago

November

112 Limitations of Ophthalmic Practice. D. T. Vail, Cincinnati.
113 Teaching the Subject of Ocular Refraction. E. Jackson, Denver.
114 Teaching of Ocular Pathology to Graduates and Undergraduates in Medicine. C. A. Wood, Chicago.
115 Etiology of Chorioiditis. J. B. Lawford, London, Eng.
116 A New Eye Dressing. J. L. Hiers, Savannah, Ga.
117 Sympathetic Ophthalmia Occurring Thirty-One Days After the Removal of the Injured Eye. G. H. Mathewson, Montreal.
118 Pseudo-Optic Neuritis. T. B. Schneideman, Philadelphia.
119 Postoperative Sympathetic Ophthalmitis. D. M. Campbell, Detroit.
120 Sympathetic Ophthalmia Following Mules' Operation. C. H. Brodst, Peoria, Ill.
121 Sympathetic Ophthalmia After Evisceration and Mules' Operation. H. Gifford, Omaha, Neb.
122 Transferred Ophthalmitis Following Insertion of a Gold Ball into the Scleral Cavity—Enucleation—Recovery with Useful Vision. C. A. Oliver, Philadelphia.
123 Estimation of Errors of Refraction by Astigmatic Charts. E. K. Ellis, Boston.

Detroit Medical Journal

November

124 Disinfectants in Treatment of Surgical Wounds. F. T. McCormick, Detroit.

Mississippi Medical Monthly, Vicksburg

December

125 Typhoid in Children. L. E. Pierce, Stovall, Miss.
126 The Physician as a Business Man. E. F. Arnold, Bellefontaine.
127 Management of Syphilis in the Negro. F. M. Brougher, Belen.
128 Abnormal Presentations. J. T. Butler, Brookhaven.

American Journal of Urology, New York

December

129 Pyuria: Its Causes, and the Methods of Determining Them. A. L. Wolbarst, New York.
130 Endoscopic Consideration of New Growths of the Urethra. E. G. Mark, Kansas City, Mo.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 26

1 Treatment of Fractures of the Base of the Skull. R. Maclaren.
2 Asthma. A. G. Auld.
3 *Pyrexia During the Puerperium. L. B. Cane.
4 *Malformations of the Hind End of the Body (continued). A. Keith.

3. **Pyrexia During the Puerperium.**—Cane's inquiry is based on the stringent condition, that every case in which the temperature goes above 100, with or without a rise of pulse rate, is reckoned as morbid. His paper is based on an examination of 1,196 cases of childbirth, attended during 12 consecutive months by the out-door midwifery department of St. Bartholomew's Hospital, with special attention to the following points:

1. The number and percentage of cases of pyrexia with the relative frequency in multiparæ and primiparæ.
2. The usual time after delivery at which the normal limit is passed.
3. The duration of pyrexia from all causes, and of those cases clearly due to sapremia.
4. The range of temperature in multiparæ and primiparæ respectively.
5. The more common causes and their relative frequency.

The results are tabulated.

4. **The Hind End of the Body.**—Keith discusses in this article the following four conditions: 1, Ectopia vesicæ in the male; 2, ectopia vesicæ in the female; 3, ectopia vesicæ combined with fistulous condition of the intestine; 4, epispadias.

Lancet, London

December 26

5 *Arthritis Deformans. A. H. Tubby.
6 *Clinical and Postmortem Observations on the Status Lymphaticus. R. E. Humphrey.
7 Compound, Comminuted and Depressed Fracture of Skull with Laceration of Brain and Rupture of Middle Meningeal Artery. R. Hill.
8 Extrauterine Pregnancy; Operation During the Sixth Month. H. J. Paterson.

5. **Arthritis Deformans.**—Tubby discusses Still's disease, hypertrophic arthritis deformans, and atrophic arthritis (rheumatoid arthritis). He strongly advocates in the last form the fermented milk diet—Metchnikoff's milk or the bacillus acidi lactici milk. Constipation must be treated. As to medicaments, guaiacol carbonate in the acute stages has appeared to him of some use, probably because it limits intestinal putrefaction; and in the chronic stages, in which the fine crepitation is replaced by coarse crackling, he finds that arsenic and iron, or Donovan's solution, are of service as tonics. Many patients do well on cod-liver oil, but will not tolerate potassium iodid. The joint should never be fixed; support is called for. Tender and painful joints demand compression by layers of cotton and an elastic bandage. The results of cataphoresis have been encouraging. Physical methods—radiant heat, vibration and hot-air baths—have a definite place in treatment. He finally discusses surgical measures, the objects of which are: 1. To rid an articulation of the products of inflammation, either toxins or bacteria; and in this connection it is interesting to note the great improvement that takes place in the general condition of the joints in a case of rheumatoid arthritis after the draining of even one joint; it appears as if the patient had been relieved of some of his toxemic products. 2. To remove hypertrophied villi and osteophytes, which interfere with the functions of the joint and produce erosion of the articular surfaces. 3. To correct deformity.

6. **Status Lymphaticus.**—Humphrey describes 5 cases of death under anesthetics, with autopsy results and their relation to the anesthetics. He speaks in favor of ethyl chlorid, as holding an intermediate position between nitrous oxid and chloroform or ether, and discusses several causes which have tended to throw ethyl chlorid somewhat into disrepute. He holds that deaths under any anesthetic properly administered are, apart from the status lymphaticus, of extreme rarity, and that there is no valid evidence to show that either chloroform or ethyl chlorid is worse than any other anesthetic when dealing with subjects of status lymphaticus. If one is cognizant of the disease the beginning of the operation should be postponed until the patient is in the third stage of anesthesia, for in these cases shock is probably a more important factor than the influence of a narcotic.

Medical Press and Circular, London

December 23

9 Physiology of the Child. G. E. Pritchard.
10 Corneal Ulcers. H. C. Mooney.
11 Operative Treatment of Strabismus. G. T. B. James.
12 Pericardial Effusion. S. West.

Clinical Journal, London

December 23

13 Large White Kidney. W. P. Herringham.
14 Tumors of Breast. J. Bland-Sutton.
15 *Causes of Death During Anesthesia. R. J. Probyn-Williams.

15. **Anesthesia.**—Probyn-Williams discusses some causes of eath during anesthesia, particularly the status lymphaticus. e concludes that when death occurs under an anesthetic is not by any means always due to the anesthetic. When does occur under such circumstances a careful postmortem ould always be made; and finally, the determination of the are of the anesthetic may be so extremely difficult that the elp of a coroner's jury becomes ludicrous, and some other ethod of conducting an inquiry should be found.

Practitioner, London

December

6 Two Cases of Multiple Congenital Deformities. Sir G. T. Beatson.
7 *Pathogenesis of Arteriosclerosis. E. H. Colbeck.
8 Evolution of the Modern Operation of Hysterectomy. E. S. Bishop.

19 *Radical Cure of Complete Procidentia of the Uterus, with an Account of a New Method of Operation for this Condition. L. McGavin.
20 Forty-six Consecutive Operations for Cholecystitis. H. M. Rigby.
21 Cholelithiasis: Its Early Recognition and Early Surgical Treatment. B. G. A. Moynihan.
22 *Industrial Diseases. A. Scott.
23 Theory and Employment of Bier's Method of Treatment by Passive Congestion in Rheumatoid Arthritis, Tubercle Sepsis and Various Other Conditions (concluded). A. W. Wakefield.
24 Review of Dental Surgery. J. G. Turner.
25 *"Tree Branch" Striations Occasionally Seen in Skiagrams of Tuberculous Lungs. C. Willett-Cunnington.
26 Diagnosis of a Fracture. R. P. Crosbie.

17. **Arteriosclerosis.**—Colbeck attempted to demonstrate (*Lancet*, 1901) that all forms of fibrous hyperplasia originate in increased nutrition, consequent on the partial or complete loss of control that is normally exercised over the nutritional supplies to the fibrous tissue by the more highly specialized cells with which it is associated. He holds that arteriosclerosis, in common with other forms of fibrous hyperplasia, owns a similar origin. The first step is an increase in the functional activity of the musculature of the arteries and arterioles whereby their usual tonus is augmented. Long continued or recurrent hypertonus, whether of heart or vessels, leads, under favorable nutritive conditions, to muscular hypertrophy. But a time comes when the muscle fails to respond to heightened functional activity and increased nutritive supply (hyperemia), owing to inherent limitations for growth. This implies protoplasmic insufficiency, and ultimately degeneration, whereon the associated fibrous tissue, under the stimulus of the hyperemia, proliferates. The process would go on indefinitely were it not that the contraction of the fibrous tissue cuts off its own blood supply.

19. **Procidentia of the Uterus.**—McGavin discusses hysterectomy, ventrosuspension and ventrofixation. Hysterectomy he objects to for various reasons—it is a mutilating operation; it is undoubtedly severe; it frequently does not result in the cure of the whole trouble; interference is sometimes required in women in the child-bearing period; and it not unfrequently leads to a confirmed neurosis. Ventrofixation and ventrosuspension, as at present performed, are prone to fail, owing to the tendency of the fundal ligament to stretch. He thinks it reasonable to suppose that, if the uterus could be brought to such a height as would cause traction to be exerted on the vaginal walls, and so on the contiguous walls of the bladder and rectum, and securely fixed there, not only would the procidentia be permanently cured, but to a very great extent the coexistent cystocele and rectocele would be relieved, if not actually cured also. He then describes an operation based on the following essentials for success: First, the formation of some ligament which should be absolutely unstretchable; second, that this ligament should be intimately incorporated with the uterus itself, on the one hand, and with the abdominal wall on the other; third, that the period of convalescence should be sufficient for the firm consolidation of this ligament; and lastly, that the operation for its manufacture should be one of no great severity.

22. **Industrial Diseases.**—Scott discusses various intoxications, dust inhalation, gases and fumes, micro-organisms, glanders and anthrax, in relation to industrial diseases.

25. **"Tree Branch" Striations.**—Willett-Cunnington discusses the peculiar marking, linear in shape, starting from the situation of the lung root and extending outward in the direction of both the apex and the base of the lung, which are found from time to time in *x*-ray photographs of the chest. He suggests that the linear shadows are cast by lymphatics crammed with products of tuberculous disease—caseated material, in fact—in process of being carried from the more distant parts of the lung toward the lymphatic glands, there to be consumed. A certain amount is left behind, and this the lung tissue is able to cope with, converting it into, or surrounding it with, fibrous tissue. This would explain the ultimate dissolution of the tree-like branches into the discrete nodules, as already described. The fate of the patient would depend on the powers of the glands, which, like furnaces consuming deleterious matter, may become choked in the task, or may successfully perform the work thrust on them.

Journal of Obstetrics and Gynecology of British Empire, London

December

27 *Malignant Disease of the Uterus. Digest of 265 Cases Treated in the New Hospital for Women. L. G. Anderson and K. Platt.
28 Cystic Interstitial Uterine Fibroid Apparently Papillomatous. A. Doran.
29 Cesarean Section in a Case of Twins with Placenta Prævia. R. Jardine.
30 Status Epilepticus in a Parturient Woman. R. Jardine.
31 Rupture of an Incarcerated Retroverted Gravid Uterus. Recovery. J. Campbell.
32 *Physiologic Anesthesia During Labor. R. G. McKerron.
33 Fatal Hemorrhage from the Vagina in a New-Born Child. R. G. McKerron.

27. **Malignant Disease of Uterus.**—Anderson and Platt analyze 265 cases of various forms of malignant disease of the uterus, but find themselves unable to give definite conclusions in regard to the symptomatology of the disease. They state, however, that in the great majority of cases, symptoms were absent until late in the disease, and in all the cases of cancer of the cervix pain was the last symptom of which complaint was made.

32. **Physiologic Anesthesia During Labor.**—McKerron describes a woman's fourth confinement, in which it was decided to give chloroform early, in consequence of the extreme suffering. However, before the anesthetic could be begun, an unusually strong pain came on; at its height the patient gave a loud scream and at once became unconscious. Her breathing was heavy and almost stertorous; her face somewhat flushed; the eyes fixed in a vacant stare; the pupils dilated but equal, the conjunctival reflex completely abolished. She was quite insensible to pain, but in the limbs reflex movements could be elicited. There was no muscular twitching at any time, merely general and complete relaxation. The condition was alarming, and suggested at first the possibility of cerebral hemorrhage, but the fact that there was no paralysis and that the pulse retained its normal frequency and character, was reassuring. The patient remained in this unconscious condition till the birth of the child fifteen minutes afterward. Powerful uterine contractions, accompanied by strong down-bearing efforts, continued to recur every three minutes, but she was as unconscious of them as if under the full influence of an anesthetic. The coma remained unaltered and the conjunctival reflex absent till delivery was completed. Immediately the child was expelled she suddenly woke up, consciousness being regained almost as abruptly as it had been lost. There was no trace of mental confusion, but she remembered nothing, had felt no pain, and was surprised to learn that the child was born. Her recovery after labor was in every way normal.

Journal of Tropical Medicine and Hygiene

December 15

34 *Influence of Tropical Climates on the Functions of the Female Generative Organs in Health and Disease. A. Routh.
35 The Hemogregarines of Snakes (continued). L. W. Sambon.

34. **Female Generative Functions in the Tropics.**—Routh discusses the effect of residence and work in the tropics on the European women as regards menstruation, conception, pregnancy, parturition and the puerperium. Dysmenorrhea at the onset of menstruation is not more common in the tropics than elsewhere. Disorders are mainly in the direction of menorrhagia. In cases of neurasthenia, however, menstrual disorder occurs in almost every case; dysmenorrhea, menorrhagia, leucorrhea, backache, and bearing down become prominent features. Women suffering from dysmenorrhea are made worse by going to the tropics, and those habitually suffering from menorrhagia at home are certain to lose more blood in the tropics. Menorrhagia without organic cause, secondary to portal congestion, is a common result of residence in the tropics. The menopause is a very trying time, causing depression and incapacity for physical or mental work. Conception is not less likely to occur in tropical countries. Abortions are more common, especially those consequent on intrauterine death of the fetus from acute malaria, dysentery and toxemia. Pregnancy does not appear to render women immune against tropical diseases, but there appears to be a predisposition to malaria, dysentery, sprue, and beriberi in the later months of pregnancy. If acute intermittent fever supervenes during pregnancy the fetus may be definitely attacked. Those who have attended women in labor while suffering from malaria and its consequences, agree that labor is lingering and tedious, and that the use of forceps is generally necessary. The child is reared with difficulty and uterine involution is imperfect. Cholera causes abortion in 80 per cent. of those attacked. In highly malarious districts, such as tropical Africa, women who become pregnant should return home or change their environment for their confinement, especially if out of reach of skilled medical aid. In many cases, however, confinements have been found easier in India than in England. Lactation is not so easily performed by Europeans in the tropics and is more exhausting.

Australasian Medical Gazette, Sydney

November

37 Surgical Tuberculosis. B. Poulton.
38 Prospects of the British Medical Profession and Suggestions for Improvements. J. Booth-Clarkson.
39 Paranoia with Some Cases. Dr. Montgomery.
40 Acute Primary Pneumonia. J. A. Cameron.
41 Pyelitis and Toxemia of Pregnancy with Jaundice. T. G. Wilson.
42 An Unusual Malformation of the Pelvic Organs in the Female. H. G. T. Young.

Archives Générales de Chirurgie, Paris

November 25, II, No. 11, pp. 445-551

43 *Remote Results of Operative Treatment of Imperforate Anus or Rectum. (Resultats éloignés des interventions pour imperforations ano-rectales.) E. Hardouin.
44 Tuberculous Affection of Wrist. (Cas de maladie de Madelung.) F. Marsan.
45 Extensive Inguinal Hernia Treated by Radical Operation with Section of the Spermatic Cord or by Restoring the Testicle to the Pelvis. (Volumineuses hernies inguinales traitées par les sections du cordon ou par la cryptorchidie pelvienne artificielle.) Mauclaire.

43. **Ultimate Results of Operation for Imperforate Anus or Rectum.**—Hardouin adds to the cases discovered in the literature several unpublished reports and some from his own experience, his compilation thus including 223 cases of anorectal imperforation. Six different technics were applied in as many groups of cases. Fully 55.2 per cent. of the patients succumbed during the first week after the operation; 44.4 per per cent. during the first month; 22.8 per cent. were lost sight of during the first year, while the intervention proved successful in 13.55 per cent.—the results known for one year and over, and in 5.82 per cent. for twenty years. The results with the Littre method were much more satisfactory than with the others, but even at the best the functional results of operative treatment are disappointing. Out of the total 223 patients only 16 lived to puberty and only 13 into adult life. Stricture is the most formidable complication, but incontinence is frequent and prolapse is occasionally observed. In one case the kidney protruded from the wound. The Littre method is merely to make an artificial anus in the left iliac region.

Bulletin de l'Académie de Médecine, Paris

December 8, LXXII, No. 40, pp. 467-525

46 *Dog Tapeworm in Man. (Nouveau cas de Dipylidium caninum.) M. R. Blanchard, C. Leroux and R. Labbé.

46. **Dog Tapeworm in Man.**—Blanchard reports another case, but adds that the parasite in this instance was derived from a cat. In considering this and similar cases that have been reported, the Academy adopted a resolution urging instruction of the public in the dangers from dogs and cats and in the "means to render these useful domestic animals harmless." The prophylactic measures advocated by Blanchard are to rid the dogs and cats of their intestinal and external parasites and keep their fur clean with insecticide baths and scrub baths. Above all, as a general thing, to refrain from close contact with domestic animals liable to harbor various parasites that may be communicated to man, especially the echinococcus.

Presse Médicale, Paris

December 12, XVI, No. 100, pp. 801-808

48 Therapeutic Applications of Radium. L. Wickham.
49 Electricity in Medicine. (L'étincelle électrique en médecin et la fulguration.) M. A. Zimmern.
50 Progressive Facial Hemiatrophy. H. Claude and A. Sézary.

December 10, No. 101, pp. 809-816

51 Pathogenesis of Gastric Ulcer. (Résistance de l'estomac à l'auto-digestion.) A. Frouin.
52 Tropical Hypochlorhydria. E. Marchoux.

Revue de Chirurgie, Paris

December 10, XXVIII, No. 12, pp. 673-940

53 Transplantation of Members. A. Carrel (New York).
54 Operative Indications in Gallstone Affections. (Indications opératoires dans la lithiase biliare.) E. Quénu.
55 *Operations for Rebellious Valgus Flatfoot. (Traitement sanglant du pied plat valgus invétéré.) A. Caucholx.
56 *Multiple Perforations of Intestine from Gunshot Wounds. (Perforations multiples de l'intestin dans les plaies de l'abdomen par armes à feu.) P. Sourdat.
57 *Hour-Glass Stomach and Its Surgical Treatment. (L'estomac Biloculaire.) Veyrassat.
58 Case of Tuberculous Elephantiasis of Scrotum. C. Dujarier and G. Laroche.

55. **Treatment of Valgus Flatfoot.**—Cauchoix reports four cases of inveterate flatfoot treated by operative measures with excellent results. In two of the patients the flatfoot was corrected by shortening the two tendons of the tibialis posticus, resecting about 2 cm. back of the internal malleolus. The others were treated by a trapezoidal tarsectomy supplemented by shortening the tendons of the tibialis posticus in one case. The article is accompanied by twenty illustrations.

56. **Multiple Gunshot Wounds of the Intestines.**—Sourdat has been able to collect from the literature seventy cases in which a gunshot wound of the abdomen caused from four to nineteen perforations of the intestines. In thirty cases the mesentery was injured also. He gives the details of the entire list, all reported during the last eighteen years. In every case of bullet wound of the abdomen it is safe to assume multiple perforations unless there is positive evidence to the contrary. No matter how numerous the perforations, they should be sought along the entire length of the intestine, with as little evisceration as possible, draining wherever there is any accumulation of matters escaping from the intestine. In the total seventy cases, 70 per cent. of the patients recovered, and in six of the fatal cases the abdominal injury was not responsible for the outcome, consequently the mortality was only 21 per cent.

57. **Hour-glass Stomach.**—Veyrassat gives an illustrated description of the various methods of remedying this condition, nd summarizes the details of the cases in each group. The urgeon has to be guided in his choice of a technic by the novability of the organ. When it is fastened down by adesions, gastroenterostomy seems to be the only resort, and he results are usually satisfactory.

Semaine Médicale, Paris

December 16, XXVIII, No. 51, pp. 601-612

59 *Treatment of Varices by Intravenous Injection of Iodin. B. Schiassi.

59. **Injection of Iodin in Treatment of Varices of the Leg.**—chiassi has revived the principle of inducing complete ob- teration of the superficial veins in the leg by injecting an ritating fluid. He makes a small incision above the condyle the femur and isolates the saphenous vein which he ligates the upper end of the incision and clamps just below, cutng it between the clamp and the ligature. He then injects e fluid into the peripheral stump, through a small glass be with olive tip. He uses iodin as the least toxic and most ritating drug for the purpose, preferring a mixture of 1 rt iodin and 1.6 parts potassium iodid to 100 parts of dis- led water. The injection is made from above toward the ot, very slowly and cautiously, until he has thus injected om 30 to 50 c.c. of the solution. He then ligates the vein low, cuts off the short end above, and sutures the incision. e vein becomes obliterated by a slow endothelial reaction, ich renders scarcely possible any detachment of an embolus. has never had any mishaps with this technic, local or gen- l, at the time or later. The injected iodin spreads through- the superficial veins down to the ankle, and in a week st of the veins are found to be hard cords, completely definitely obliterated, with the subsequent cure of the ricose disturbances. He has recently re-examined the 60 tients on whom he has thus operated, the ultimate find- s confirming his highest anticipations. He calls it the "minimal measure method," *minimo mezzo*, as the operation is so insignificant in proportion to the results attained. The article is illustrated.

Archiv für Verdauungs-Krankheiten, Berlin

December, XIV, No. 6, pp. 629-738

60 *Influence of Certain Drugs on Digestion of Pepsin. (Einfluss einiger Arzneimittel auf die Pepsinverdauung.) M. Ascher.
61 The Mathieu Method of Determining Exact Quantity of Stomach Contents. (Restbestimmung des Mageninhalts nach Mathieu-Rémond.) A. Schüle.
62 *Duodenal Ulcer. (Fall von Ulcus duodeni.) M. Pewsner.
63 *Sufficiency and Insufficiency of the Anastomosis After Gastroenterostomy. (Ueber die nach Gastroenterostomie auftretenden Beschwerden und das radiologische Verhalten des anastomosierten Magens.) S. Jonas.
64 *Reciprocal Relations of Menstruation and Stomach Affections and Their Importance for Diagnosis and Treatment. (Gegenseitige Beziehungen der Menstruation und der Magenkrankheiten.) W. Plönles.

60. **Influence of Drugs on Pepsin Digestion.**—Ascher has experimented with various drugs in therapeutic dosage and has found that the digestion in the stomach is affected by them to a hitherto unrealized extent. Iron is particularly noxious in this respect. He found that bitters, quinin and condurango, while they stimulated secretion, yet rendered the secretion of no avail on account of their ferment-destroying property.

62. **Duodenal Ulcer.**—Pewsner's patient was a man of 53, who complained of nausea, eructations and vomiting. Chronic alcoholic gastritis with digestive hypersecretion, tending to become continuous, was evidently one of the causal factors responsible for the development of the duodenal ulcer in this case. The stomach must have been protected by the mucus secreted from the inflamed stomach wall. The case shows that the motor function of the stomach may persist unimpaired, notwithstanding the existence of a duodenal ulcer. Treatment should be the same as for ulcer of the stomach, with active intervention if this fails.

63. **Roentgen Research on the Stomach After Gastroenterostomy.**—Jonas writes from Holzknecht's Roentgen laboratory at Vienna to describe the findings after gastroenterostomy, with and without disturbances later. The latter are always due to accumulation and retention of stomach content in the pouch left by the gastroenterostomy. If the intestine has been implanted high up in the stomach wall the formation of this pouch must be prevented by wearing a bandage when the patient gets up after the operation. Another important measure is for the patient to lie down, after eating, for a time, assuming a position to favor the emptying of the stomach. Massage answers the double purpose of strengthening the muscles of the abdominal wall and favoring the evacuation of the stomach.

64. **The Reciprocal Relations of Menstruation and Stomach Affections.**—Plönies noted an exacerbation of the symptoms with the onset of the menstrual period in all but 17 per cent. of 450 female patients with various stomach affections. He thinks that the sympathetic and the vagus systems become hyperexcitable during this period, and that the increased vulnerability of the intestinal tract during the menstrual period imposes the necessity for regulation of the diet, especially to ward off relapses. He adds that chronic affections of the digestive tract in children up to puberty are liable to interfere with the normal development of the sexual organs unless the digestive troubles are recognized and combated in time. Menorrhagia without discoverable cause may sometimes be traced to the paretic influence of toxins from a stomach affection, plus the effects of anemia and insufficient nourishment, with chronic metritis as the result. On account of the injurious influence of the latter in turn on the stomach affection and whole system, energetic local treatment is imperative.

Berliner klinische Wochenschrift

December 7, XLV, No. 49, pp. 2177-2212

65 Laryngoptosis and Allied Ptoses. H. Quincke.
66 Roentgen-Ray Investigation of Stomach Affections. (Magenerkrankungen im Röntgenbilde.) V. Schmieden.
67 *The Antitryptic Ferment Test. (Zur Brieger'schen Reaktion.) E. Herzfeld.
68 *A Contralateral Plantar Reflex. H. Steinberg.
69 Opsonins and Their Significance. G. Wolfsohn.
70 *Treatment of Morphin Addiction. (Morphinismus.) F. H. Mueller.
71 Treatment of Severe Ludwig's Angina. A. Schlesinger.

67. **Cachexia Reaction.**—Herzfeld has found that Brieger's test of the antiproteolytic power of the serum indicates cachexia, but not necessarily cancer.

68. **Contralateral Plantar Reflex.**—Steinberg has noticed that the Babinski sign seems to be paralleled by plantar flexion of the big toe, when the sole on the sound side is stroked. He gives six examples to show that this reflex is more sensitive than the Babinski sign, and that it indicates some affection of the cerebral portion of the pyramidal tract, while the Babinski indicates both cerebral and spinal involvement.

70. **Morphin Addiction.**—Mueller declares that nearly every case of morphin addiction is traceable to medical advice in some chronic affection, and he urges that the patient should never be allowed to know the nature of the drug with which pain is alleviated. Morphin should be used only as a last resort, and given internally. If the syringe has to be used, he advises injecting such a dose that a single one suffices, and never giving the syringe to the patient. He says that if these rules for prophylaxis of morphin addiction were printed and given to young physicians on graduation, morphin would have far fewer victims. In treatment, he says that no success need be anticipated unless the patient goes to some institution; he does not advise forcible measures. Even if a complete cure is not realized, a course of treatment will reduce the amount required within comparatively harmless bounds. His main argument, however, is that a person addicted to morphin should be regarded as actually sick, not merely as lacking in will power.

Deutsche medizinische Wochenschrift, Berlin

December 10, XXXIV, No. 50, pp. 2153-2200

72 *Treatment of Neurasthenia. E. Müller.
73 Multiple Sclerosis After Psychic Shock. G. W. Wallbaum.
74 Origin of Urobilin. (Zur Frage der Urobilinentstehung.) W. Hildebrandt.
75 *Suction in Correction of Deformities of the Foot. (Redressement von Fussdeformitäten im Saugapparat.) J. Fränkel.
76 Extraction of Foreign Bodies from the Esophagus. (Entfernung von Fremdkörpern aus der Speiseröhre.) W. Danielsen.
77 Traumatic Hernia. Doepner.
78 Gloves and Substitutes for Gloves in Surgery. (Handschühe und Handschuhersatz.) G. Becker.
79 Arsacetin in Syphilis. G. Heymann.
80 Preventive Treatment of Infections with Lecithin. (Verwertbarkeit des Lecithins zur Toxingewinnung.) M. Wassermann and A. Seitz.

72. **Treatment of Neurasthenia.**—Müller remarks that neurasthenia is the fashion just now, but that it is by no means a new affection. It is diagnosed much more frequently than it really exists. As a rule, it is based on some congenital morbid tendency in the nervous system. As the morbid mental attitude is the main factor, treatment must be mainly by suggestion, and this includes minute examination and the whole arsenal of therapy, as he reviews in detail. The young require not only physical toughening, but toughening of the will, and wise choice of an occupation as they grow up. Vanity and material interests should be regarded less than natural talent and tastes in selecting the occupation for those predisposed to neurasthenia.

75. **Correction of Deformity of the Foot in Suction Apparatus.**—Fränkel announces that a correcting apparatus applied after local hyperemia is induced and continued in a comparative vacuum gives favorable results according to the extensive experiences at Bier's clinic. The suction induces venous stasis and softens and loosens up the joints, restoring conditions such as existed during intrauterine life and thus gradually correcting the deformity by reversing the process by which it was acquired. The foot is placed in a box with a glass window in which the vacuum is produced by a water jet pump. The local hyperemia loosens the tissues so that the mechanical correction proceeds without the slightest pain, no anesthetic being required for the correction either for children or adults He has one box with openings around the side, each with its rubber cuff, which allows half a dozen clubfeet to be treated simultaneously. The spring device for correcting the deformity in the vacuum is illustrated as applied to clubfoot and to talipes cavus and equinus. This device allows movement of the muscles and prevents danger of decubitus, while it can be used as a walking appliance with talipes at any age.

Medizinische Klinik, Berlin

November 29, IV, No. 48, pp. 1823-1856

81 Wide Distribution of Paratyphoid Bacilli and Their Connection with Meat Poisoning. (Verbreitung der Bakterien der Paratyphus B-und Gaertner-Gruppe und ihre Beziehungen zur gastrointestinalen Form der Fleischvergiftungen.) P. Uhlenhuth and E. Hübener.
82 Symptoms in Throat and Larynx with Affections of Heart and Large Blood Vessels. (Kehlkopf- und Rachensymptome bei den Erkrankungen des Herzens und der grossen Gefässe.) E. Baumgarten.
83 Subjective Cacosmia. (Subjektive Kakosmie.) E. Kobrak.
84 Egyptian Desert for Patients with Kidney Disease. (Ein Wüstenlager für Nierenkranke.) Stillkrauth.
85 *Local Anesthesia in the Hands of the General Practitioner. (Die Lokalanaesthesie in der Hand des praktischen Arztes.) Most.

December 6, No. 49, pp. 1857-1898

86 Recognition and Treatment of Perforation Peritonitis. M. Martens.
87 *Chronic Hydrocephalus and Syphilis. (Hydrocephalus chronicus internus congenitus und Lues.) W. Knoepfelmacher and H. Lehndorff.
88 Skiagraphy from a Distance in Examination of Thorax. (Wert der Teleröntgenographie für die Untersuchung der Brustorgane.) M. Levy-Dorn.
89 Early Treatment of Syphilis. (Frühbehandlung der Syphilis.) A. Lederer.
90 *Limitations of Treatment of Neuralgia by Injections. E. Schlesinger.
91 Indications for Quartz Lamp Treatment. (Indikationen für Kromayers medizinische Quarzlamp.) W. Lüth.

85. **Local Anesthesia in the Hands of the General Practitioner.**—Most gives an illustrated description of the principal technics which he advocates; ethyl chlorid for superficial and other operations in which a single incision suffices; Schleich's infiltration method for punctures and simple, superficial excisions in regions free from inflammation, and the Hackenbruch and Braun method for all other interventions, injecting 0.5 per cent. cocain solution all around the focus. The last-named method is of course applicable only when it is possible to obtain access to the entire region around. This technic is particularly useful for operations on fingers or toes. He has applied in one case Bier's new technic of intravenous injection of the anesthetic after the blood has been expelled from the part and is kept out by a constricting band, rinsing the anesthetic out of the veins in the part by flushing with salt solution before removing the constriction. This technic proved very satisfactory for resection of a tuberculous wrist in his case. Local anesthesia has been so perfected in late years, he says, that it has now a surprisingly wide field of usefulness, including many interventions until recently regarded as requiring general anesthesia.

87. **Hydrocephalus and Syphilis.**—The complement fixation test was applied in three cases of congenital hydrocephalus with negative findings, but a positive response was obtained in another. This experience speaks against the assumption of syphilis as a frequent cause for hydrocephalus.

90. **Limitations of Treatment of Neuralgia by Injections.**—Schlesinger has been using for some time physiologic sal solution, just below freezing point, for local treatment of neuralgia. The advantages of the chilled solution are the immediate abolition of the pain, which has a most encouraging effec on the patient, freeing him at one stroke from his long torture. Schlesinger warns that acute sciatica in all cases an the chronic form in the majority of cases, are not suited fo this injection therapy. They are best treated by rest i bed, quinin in small doses, repeated several times a day, an galvanization, not beginning too early with the latter. Th frequent coincidence of sciatica with the uric acid diathes should not be forgotten. Intraneural injections are too da gerous for nerves with a motor element, like the sciatic. I has had peroneus paralysis develop after such treatment, has also been reported from Erb's clinic. Typical sciati generally has an acute onset, the first symptoms being t pain on pressure of the point where the nerve emerges. T pain soon spreads along the whole nerve, and a second painf pressure point develops at the head of the fibula. At first t skin is hypersensitive, but soon it becomes much less sensiti than normal, and there is early atrophy of the musculat from involvement of the trophic fibres of the nerves. In ad tion to this true neuritis, he describes another affection wh is usually ascribed to sciatica, but in reality differs in ma points from it, and especially in the fact that it can be cu

by the injection therapy. It begins gradually, with a little sensitiveness in the hip, vague drawing sensations, which only gradually develop into intense pain. The pain is extremely characteristic; it does not follow the course of a nerve, but spreads out over the surface, as far as the crest of the ilium and beyond, toward the spine. He calls this “the pain or sensitive area.” These pain areas may be as large as the palm of one's hand, and the skin is always abnormally sensitive in contrast to its behavior in true sciatica. This hyperesthesia of the skin ranges from slight sensitiveness to lively pain at the slightest contact. This hyperesthesia in the pain areas not only differentiates this affection, but it excludes the hip nerves as responsible for its development. The areas are not innervated by the sciatic nerve. He believes that the trouble is not a myalgia, as some maintain, but is originally a neuritis of the smaller nerve ramifica-ions in the muscles, and that the pain is caused by the raction on the periosteum from the contracture in the muscles. This is demonstrated, especially, by the localization of the most painful area at the crest of the ilium, at the nsertion of the muscle. This affection is amenable to the njection therapy, no matter whether it is given by the Lange echnic, injection of from 50 to 100 c.c. of 8 per cent. salt solu-ion at one point, with a little cocain, or by the Peritz technic, njection of the same at different points, or by Alexander's, vith 10 c.c. of Schleich's solution, or by Schlesinger's method, njection of 10 c.c. of salt solution just below freezing point. mong the differentiating points of true sciatica is the sign hat the thigh cannot be flexed without intense pain if the nee is stretched (Lasègue's) and Fajersztajn's sign, the ain at the emerging point of the sciatic nerve when the ound leg is flexed at the hip and raised.

Münchener medizinische Wochenschrift

December 8, LV, No. 49, pp. 2521-2568

92 Activation of Ferment by Alcohol, and Anaphylaxis. (Versuch eines indirekten-Fermentnachweises durch Alkoholzufuhr; zugleich ein Beitrag zur Frage der Ueberempfindlichkeit.) E. Heilner.
93 Test for Creatinin in the Urine. (Zur Frage der quantitativen Bestimmung des Kreatinins im Harn.) G. Edlefsen.
94 *Treatment of Tabes by High-Frequency Currents. (Tabes und Hochfrequenzbehandlung.) F. Nagelschmidt.
95 *Dangers to the Cornea from Gasserectomy. (Gefährdung der Hornhaut durch die operative Entfernung des Ganglion Gasseri.) Köllner.
96 Laparotomy for Gangrenous Hernia. F. Hesse.
97 *Treatment of Fistulas with Bismuth Paste. (Zur Behandlung von Fistelgängen mit Beckschen Salbeninjektionen.) Steinmann and Becher.
98 Determination of Urobilin in Urine. (Zum Nachweis des Urobilins im Harn.) E. Strauss.
99 Benzidin Test for Occult Blood. (Zum Blutnachweis mit Benzidinpapier.) Weinberger.
00 *Pocket Manometer. (Ein neuer einfacher Blutdruckmesser.) M. Herz.
01 Importance for Surgery of Histologic Diagnosis of Tumors. (Wert der histologischen Geschwulstdiagnose für das chirurgische Handeln.) E. Fraenkel.
02 Full Correction of Myopia in Children. (Vollkorrektion der Kursichtigkeit im Kindesalter.) O. Neustätter.

94. **Tabes Dorsalis and High-Frequency Currents.**—Nagel-hmidt writes from the Finsen Institute at Berlin to extol e benefits of electric treatment of tabes. He gives the tails of twenty-four cases in which the patients were eated by application of the high-frequency current, with provement in the subjective symptoms although the ob-ctive were not materially modified. He is convinced that ese results can not be attributed to suggestion, as the ins in tabes are usually little influenced by suggestion, en in hypnosis. Some of the patients had been addicted morphin. The ataxia was improved only in cases in which e electricity was used as adjuvant to the Frenkel exercise erapy; under these conditions the improvement far sur-ssed anything observed without it. Incontinence was cured the five cases in which it existed and the sexual function stored in nearly every instance.

95. **Danger to the Cornea from Gasserectomy.**—Köllner ates that keratitis followed total removal of the Gasserian nglion in 25.5 per cent. of the 47 cases on record. He has en examining recently 12 out of a total of 18 patients on iom this operation was performed at Bier's clinic within e last ten years. He found evidences of an affection of the rnea in 10 out of the 12 patients examined, unmistakably the result of injury of the innervation of the cornea during the operation.

97. **Bismuth Paste in Treatment of Fistulas.**—Steinmann reports application of Beck's method of injecting bismuth-vaselin paste in six cases, but without satisfactory results. His experience warns against this treatment in the recent cases, with elevation of temperature, and in those with profuse secretion, and even in the old cases with scanty secretion, he says that the results do not surpass those obtained with ordinary measures. He thinks that for obtaining information before operative intervention and for purposes of demonstration, injection of an iodoform salve answers practically the same purpose with less danger.

100. **Simple Pocket Manometer.**—This simple instrument consists merely of a short glass tube and a rubber tube set in a cuff. The graduated glass tube flares into a bulb at each end. The proximal bulb contains a drop of mercury which is unable to drop out into the rubber tube owing to the interposition of a small, stopper-like, hook-shaped intermediate glass tube. The cuff is held on the wrist with the physician's hand, the rubber tube emerging between his index and second fingers; the graduated glass manometer tube lies lightly, horizontally, on the patient's hand held with thumb up, the tube resting along the base of the thumb. The movements of the drop of mercury in the manometer tube form a very sensitive index of the changes in the pulse. The little instrument is nearly as simple and takes up scarcely any more space than the clinical thermometer.

Therapeutische Monatshefte, Berlin

December, XXII, No. 12, pp. 605-678

103 *Courses of Sulphur Mineral Waters for Children. (Schwefelwasser-Trinkkuren beim Kinde,) O. Heubner.
104 *Anesthesia During Childbirth. (Ueber den Wert der Narkose bei der Geburt.) J. Veit.
105 *Treatment of Whooping Cough. (Zur Therapie des Keuchhustens.) A. Czerny.
106 *General Treatment of Infectious Diseases, Especially Scarlet Fever. (Allgemeinbehandlung von Infektionskrankheiten.) E. Grawitz.
107 Dietetic Treatment of Severe Diabetes. (Zur Technik der diätetischen Therapie schwerer Diabetes-Fälle.) W. Weiutraud.
108 Treatment of Blood Diseases. (Einige Gesichtspunkte zur Therapie der Blutkrankheiten.) E. Meyer.
109 *Treatment of Hypertrophied Prostate. (Prostatahypertrophie und ihre Behandlung.) A. Hildebrandt.
110 Treatment of Eczema. (Zur Ekzem-Therapie.) J. Jadassohn.
111 Mode of Action of Diuretics. (Wirkungsweise der Diuretika.) L. Asher.
112 *Fraudulent Claims for Pharmaceutical Preparations. (Falsch deklarierte Arzneimittel.) H. Thoms.

103. **Sulphur Water for Children.**—Heubner expresses surprise that so little has been written on the use of mineral waters for children. He has found a course of sulphur water extremely beneficial in a number of cases, and has never had any difficulty in getting the child to drink sulphur spring water, a wineglassful, cold, before rising in the morning and another wineglassful from 20 to 30 minutes before breakfast. In some cases another wineglassful (150 gm. or 5℥) is taken on retiring, the course being continued for four or six weeks. The amounts of course are smaller for very young children. The special indications for the sulphur waters were suggested by the efficacy of such courses for adults with chronic catarrhal conditions in the retropharynx and throat. He believes that such conditions are much more common in children than is generally recognized. They induce a syndrome distinguished by persisting loss of appetite, a tendency to vomit readily, the child throwing up what it has eaten almost at once, sometimes during the meal when coaxed or compelled to eat. There is probably a nervous element in this, an excessively sensitive reflex response, but the breath is malodorous, particularly in the morning, and the throat is coated with tenacious mucus. This syndrome may persist for months, being rebellious to all ordinary measures, but yielding to a course of sulphur water. In the rare cases in which the water fails to benefit, the nervous element evidently predominates. He cites a number of instances to show the improvement under the sulphur water after failure of all other measures.

104. **Anesthesia for Labor.**—Veit reiterates that childbirth is a normal physiologic process, remarking that the profes-

sor of physiology might well be the one to train students in the management of delivery. Medicine, like everything else, he adds, has its fashions, and it is the fashion now for the woman to clamor for a painless delivery. The obstetrician accepts her cry that she is "completely exhausted," and he yields and anesthetizes, and peace reigns. The anesthetic *à la mode* at present is the scopolamin-morphin technic, he continues, and yet how much has been published to its discredit! How often it has failed; many times it has prolonged parturition beyond measure; many times it has placed the life of the child, and possibly the mother, in danger! Anesthesia is needed, he declares, only for neurasthenic, neuropathic women, in the first place, and, in the second place, only for those who are delivered by neurasthenic accoucheurs. A large proportion even among the neurasthenic women find their strength increasing with the demands made on it. Krönig's recent statement that 40 per cent. of the deliveries in the fashionable quarter of Berlin require forceps, he thinks can be true only in the practice of extremely nervous accoucheurs. If the mountain climber who complains of mountain sickness as an excuse for stopping could be transported without effort to the summit of the mountain, his "mountain sickness" would vanish as quickly as the "completely exhausted" woman in labor rallies the moment the child is born. Under no other conditions can "complete exhaustion" be transformed in the twinkling of an eye into a wonderfully comfortable sense of wellbeing. He urges the necessity for proclaiming that artificial control of the pains of labor is required only for certain neurasthenic women, believing that normal women will be ashamed to brand themselves as neurasthenic by insisting on it. His own experience, he adds, has confirmed what has been reported from Leopold's, Bumm's and Stöckel's clinics which has shown that it is necessary to be very cautious with the scopolamin-morphin technic, and that the physician must stay by the woman constantly to detect impending danger. He warns further that this technic is applicable only when the delivery is just at its beginning. When the end of the period of dilatation is near at hand, a small injection of morphin, not more than 0.01 gm. (0.15 grain), fully answers the purpose.

105. **Treatment of Whooping Cough.**—Czerny maintains that the nervous element in whooping cough has been too long disregarded and that treatment should be directed principally against this. A change from drugs to hydrotherapy, inhalations or irrigation of the nose often proves effectual. The treatment need not be directed to the organs specially involved in the pertussis process. The isolation of a child with whooping cough is the more efficient the greater the change from its ordinary surroundings. It should not be allowed to see or hear other children with a cough. He believes that the child can be safely isolated by transferring it to a ward where there are no other children with whooping cough. His experience has demonstrated, he says, that the disease is never transmitted from a child kept in bed to the neighboring beds. It requires more skill on the part of the physician to treat whooping cough with suggestion, instead of drugs, but the results will be much more satisfactory except in infants unable to be influenced by the physician's words. Only exceptionally will threatening conditions require a sedative; then comparatively large doses must be given.

106. **General Treatment of Infectious Diseases.**—Grawitz comments that the success with typhoid should encourage general measures in scarlet fever, diphtheria, etc. Many cases formerly supposed to be non-typhoid, are in reality true typhoid, and the same applies to diphtheria, showing that both are much more common than was formerly believed. The attempts to destroy the germs in their primary focus in the throat he denounces as pernicious, believing that it is impossible actually so to destroy them all, while the antiseptics injure the vitality of the tissues and provide more favorable conditions for the germs left unharmed in the depths, promoting absorption of toxins from the necrotic tissues. The elimination of these toxins through the kidneys does direct injury to the kidney tissue as they pass or are retained in it. The present measures in vogue for elimination of the toxins fall far short, he says, of what might be accomplished in this line. It is possible to promote elimination of toxins not only in the urine, stools and sweat, but also by modifying the osmotic interchanges and influencing vasomotor functioning and radiation of heat. The vasodilating action causes the fluids in the tissues to pour out into the blood, thus relieving the inflamed mucosæ and organs, like an incision in an abscess. The toxins in the system can also be diluted to comparative harmlessness by copious intake of water. If the elimination of urine can be kept up to from 3 to 5 quarts a day in typhoid, the course of the disease is always much milder. The heart is not disturbed by this copious intake of fluid when it is given in small frequent doses; the condition of the kidneys is the key to the outcome. This makes it all the more important not to promote the generation of toxins in the throat by local disinfecting measures. Prophylactic administration of some mild disinfectant to act on the urinary passages is an important adjuvant. He emphasizes the importance of training nurses in these principles of general treatment of infectious diseases, especially scarlet fever. In the last ten years the mortality from scarlet fever in his service has dropped from a maximum of 22 per cent. to 0.7 per cent. of 147 cases last year—his total including 1,028 cases. When a scarlet-fever patient with a sore throat is admitted, a hot bath is given at once, followed by an electric light sweat bath (in the absence of special contraindications), after which the throat is gargled and swabbed with normal saline solution or chamomile tea and peroxid of hydrogen, and lemonade is given freely, with other beverages, gruels, etc., with rectal enemas of salt solution or milk, and possibly saline infusion. In the severer forms with continuous high fever, cool baths often prove useful. To ward off kidney trouble, hexamethylenamin is given from the first, from 0.25 to 0.5 gm. (3.75 to 7.5 grains) three times a day for four days, then suspended for four days and then resumed as before. Existing albuminuria is no contraindication. In a recent series of 500 cases only 5 or 6 per cent. of the children with intact kidneys showed any trace of nephritis, and in these it was transient. The food for three weeks should be salt-free, rice, gruels, fruit juices and white bread. The mortality in other local institutions averaged 12 per cent. last year.

109. **Treatment of Hypertrophied Prostate.**—Hildebrandt remarks that it is the prerogative of the prostate to increase in size with age instead of shriveling like all the other organs, and he thinks the hypertrophy is a tumor growth. There are no drugs that will directly reduce its size, but there are few troubles so amenable to simple hygienic and dietetic measures. The patient must learn the causes that promote the enlargement of the gland, so as to be able to avoid them; the food should be light and alcohol should be avoided, as also copious intake of fluids, especially at night. Mild exercise, laxatives, frequent warm baths and rubs are useful, but violent exercise, long journeys and chilling must be avoided and the abdomen must be kept constantly warm. The patient should urinate at the least desire, walking about a little if urination is difficult. Hot sitz baths will frequently bring the urine when all other means have failed. He regards regular aseptic catheterization as the normal method of treating hypertrophy of the prostate, operating only when this proves impracticable, and then removing the entire gland. If the patient is unable to stand this, he does a cystotomy.

112. This article will be discussed editorially.

Wiener klinische Wochenschrift

December 10, XXI, No. 50, pp. 1727-1764

113 *Electric Accidents. (Pathologie und Therapie der durc Elektrizität Verunglückten.) S. Jellinek.
114 *Plastic Operations on the Nose. (Nasenplastiken.) E Koschier.
115 Febrile Syphilitic Liver Affections. (Mit Fieber verlaufend Syphilis der Leber.) I. S. Nasarow.
116 Hysteric Condition Resembling Sleep. (Hysterische, schl fähnliche lethargische Zustände.) J. Donath.
117 Serodiagnosis of Syphilis. H. Hecht, L. Detre and E. Brezovsky. Commenced in No. 49.

113. **Electric Accidents.**—Jellinek's thesis reviews the whol field of the pathology and therapy of electric accidents. H

emphasizes the importance of artificial respiration, stimulation, massage and faradization of the heart and neck region, injection of camphor and adrenalin and possibly, as a last resort, a renewed application of the electric current. This last has proved effectual on animals; a flat positive electrode is placed over the heart region, the negative electrode, wrapped in cotton, is inserted in the rectum, and the current allowed to pass for a moment or second. The heart action and the vessels in the neck must be examined after each application. The measures for resuscitation must be kept up until there are signs of certain death; many a life might have been saved if the efforts had not been abandoned too soon. It is extremely important that the appropriate efforts should be begun at once after the accident. The prognosis, in case the victim survives the accident, can be regarded as comparatively favorable.

114. **Plastic Operation on the Nose.**—Koschier has applied in the clinic in two cases Föderl's method of introducing a celluloid frame over which the nose is modeled. The cosmetic results are satisfactory. There are about 25 large perforations to the square inch in the frame, which permits the tissues to grow into the support and thus hold it firm.

Zentralblatt für Gynäkologie, Leipsic

December 19, XXXII, No. 51, pp. 1617-1648

118 Dilatation of Cervix. (Zur Frage der Erweiterung der Gebärmutter.) R. Chrobak.
119 *Cranioclasis and Extraction. (Zur Technik der Kranioklasie und Extraktion.) R. Jolly.
120 *Streptococci in Urine of Parturients. (Bakteriologie des Urins.) M. Henkel and Heye.
121 *Physostigmin in Postoperative Aseptic Paralytic Ileus. L. Goth.
122 Abdominal Hysterectomy for Myoma. Risch.
123 *Gymnastic Exercises While Reclining After Parturition and Major Gynecologic Operations. Schücking.

119. **Technic of Cranioclasis and Extraction.**—Jolly reports three cases in which he was able to overcome the difficulties presented by the after-coming shoulder by applying a blunt hook to the shoulder, hooking the axilla. In two of the cases severing the clavicle had proved ineffectual, but with the hook extraction was readily completed.

120. **Bacteriology of Urine in Parturients.**—The research reported disclosed the presence of two types of streptococci in one case, the hemolytic evidently coming from different foci.

121. **Physostigmin in Postoperative Ileus.**—Goth reports three cases of severe ileus from paralysis of the bowels after major operations. The symptoms indicated a septic affection except that the tongue was healthy looking. Vigorous peristalsis was induced by physostigmin salicylate, injected in the dose of 0.001 gm. (1/64 grain), this dose being repeated in forty-five minutes. Flatus passed in twenty minutes after the last dose. A third injection was given in one case, and in the third a single dose of 0.002 gm. (1/32 grain) accomplished the purpose in less than half an hour. He calls attention to the fact that in two of these cases the omentum was too short to cover over the intestine as desired, and he thinks that this lack of an omentum covering for the intestines may have been responsible for the postoperative paralysis.

123. **Exercises While Reclining After Operations.**—Schücking for some years has been enforcing a series of gymnastic exercises for patients after major operations. The aim is the same as when patients are allowed to get up early, and he thinks the exercises answer the purpose fully as well, while they can be regulated and controlled by supervision of the blood pressure and pulse rate. The heart is relieved as by exercise in walking and standing, but there is no danger of overexertion of the heart or of injury of the pelvic organs. The patient lies on the back, side or abdomen and each group of muscles is exercised with a corresponding interval of repose. The exercises are done very cautiously, at first for half an hour twice a day and later for one hour twice a day. Exercises involving the abdominal musculature alone are not enough. He has never had any mishaps with this technic nor thrombosis in the absence of infection. He has applied these exercises also in anemia and with threatening heart action in puerperæ and for all parturients, and commends them as an important factor in uneventful prompt recovery.

Grèce Médicale, Syra, Greece

August, X, No. 15, pp. 29-32. Last indexed, Sept. 26, p. 1118

124 *The Most Ancient Representations of Hippocrates. (Les plus anciennes figures et effigies d'Hippocrate.) R. Vouros.

November, No. 21, pp. 41-44

125 *Bier's Hyperemic Treatment Described in the Writings of Hippocrates. (La nouvelle méthode hyperémique de Bier prise dans les textes d'Hippocrate.) J. Foustanos.
126 Operative Indications in Tuberculosis of the Kidneys. (Indications opératoires dans la tuberculose rénale.) B. Guisy.

124. **The Most Ancient Representations of Hippocrates.**—The medical profession in Greece is getting out a Hellenic edition of the works of the physicians of ancient Greece, a colossal work in which Dr. Jean Foustanos of Syra, editor of the *Grèce Médicale*, has taken the initiative. This issue of his journal contains eight illustrations, showing the most ancient representations of the "divine Hippocrates," three representing coins of the island of Cos with Hippocrates' profile and the serpent-entwined rod. The coins date from the first and second century A. D., and the inscriptions are in Greek or Latin. The other illustrations are of the Visconti busts in the Vatican and Villa Albani. Besides these he mentions a MS copy of Hippocrates' works in the Paris public library which contains a full-length representation, but probably without historic value.

125. **Hyperemic Treatment in Hippocrates' Works.**—Foustanos gives the Greek text of a passage in one of Hippocrates' works—cited later by Galen—and then gives a literal translation. Both read almost like a chapter from Bier's work on "Hyperemia." Hippocrates advises treating atrophy after immobilization of a limb, etc., by applying one or more bands to the sound part above, the constriction being tight enough to cause congestion of the blood in the part, but not tight enough to cause pain. After removal of the constricting band he orders the part to be rubbed and bathed so as to rejuvenate and promote the growth of the soft parts. The special point of this treatment, namely, that the constriction is not to be applied to the part affected, but to the sound region above, is duly emphasized, both in his works and in Galen's commentary, as also the fact that the constriction must never induce pain. He ascribed the benefit to the extra supply of nourishment from the blood thus retained in the limb. In conclusion, Foustanos appeals to the medical world to render unto Cesar the things that are Cesar's, and to call hyperemic treatment "the Hippocratic method according to Bier," as the latter rescued it from oblivion.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 3, XXIX, No. 145, pp. 1557-1564

127 Infiltration in the Auditory Meatus Sign of Middle Ear Disease. (Foruncoil a sorpresa del condotto auditivo.) De Cigna.

December 6, No. 146, pp. 1565-1580

128 Causes of Death in Cirrhosis of the Liver. (Come e perche muoiono gli epatocirrotici.)
129 Action of Spleen Extract on the Heart Function, Arterial Pressure and Respiration. (Azione che l'estratto splenica esercita sulla funzione cardiaca, etc.) S. Livierato.
130 Chemical Research on Suprarenal Extract. (Studio chimico clinico delle sostanze ipertensive.) G. Comessatti.

December 8, No. 147, pp. 1581-1588

131 Relations Between Total Nitrogen and Colloidal Nitrogen in Children's Urine as Index of Liver Functioning. (Rapporto fra azoto totale cd azoto colloidale nelle orine dei bambini.) A. Brinda.

December 10, No. 148, pp. 1589-1599

132 *Arrest of Hemorrhage in the Liver. (Emostasi epatica.) R. Albanese.

December 13, No. 149, pp. 1597-1612

133 Pure Mitral Insufficiency. E. De Renzi.
134 Efficacy of Parathyroid Extract in Senile Tremor. (Parotiroidina Vassale contro il tremore senile.) L. Tarabini and A. Massaglia.
135 Arteriosclerosis and Atheromasia. S. Lavagna.

132. **Hemostasis in the Liver.**—Caminiti uses magnesium wire for suturing the liver, and Albanese here reports experiments with this method on rabbits and dogs. The catgut suture is made over the absorbable wire drawn through the depths. Four or five pieces of the magnesium wire, about 1 mm. in diameter, are passed through the liver, parallel to the proposed incision. A needle threaded with catgut, doubled, is passed through the parenchyma, passing around beneath the magnesium wire and out on the other side. A series of such

stitches is taken both underneath and above the magnesium wire, which supplies a firm support for the sutures. The results were good in the experiments related, there being no possibility for the stitches to pull out or for hemorrhage, while the magnesium support was absorbed in time.

Policlinico, Rome

December 13, XV, Practical Section, No. 50, pp. 1573-1604

136 Chronic Appendicitis. A. Capogrossi. Commenced in No. 49.

December, Medical Section, No. 12, pp. 525-568

137 Expansibility of Sound and Diseased Apices. (Sulla espansibilita degli apici sani ed ammalati.) V. Maragliano.

138 Opsonic Power of Exudates in Serous Cavities. (Il potere opsonico degli essudati delle cavita sierose.) F. Schupfer. Commenced in No. 11.

139 Tuberculous Endocarditis. (Intorno all' esistenza dell' endocardite tubercolare.) F. Fulci.

Hospitalstidende, Copenhagen

October 28, LI, No. 44, pp. 1233-1264

140 *Albuminometer. (Et nyt Albuminimeter.) L. E. Walbum.

November 4, No. 45, pp. 1265-1288

141 Glandular Fever. (Febris glandularis.) K. Schäffer. Commenced in No. 43.

142 *Depressions in Sacral Region. (Symbolae ad cognitionem gelasinorum sacralium foemineorum.) R. Bergh.

November 25, No. 48, pp. 1345-1368

143 *Peptic Ulcer in the Jejunum. J. Jensen. Commenced in No. 47.

140. **Albuminometer.**—The albuminometer, commended in abstract 74 on page 174 of The Journal, January 9, is illustrated and the results are given of comparative tests with it and other means for measuring the amount of albumin in the urine. It was suggested by Christensen's tannic acid technic and determination of the degree of opacity resulting. This method requires only from ten to fifteen minutes, but has not been much used, notwithstanding its advantages. Walbum has shortened the time still more, and states that with his little apparatus it is possible to make a quantitative urinalysis in two or three minutes. It consists merely of a graduated tube standing in an upright beside the slide of opalescent glass used for comparison of the transparency. A black bar at the rear of the apparatus serves as a background for estimating the transparency. The percentage of albumin in the urine can thus be read at a glance in less than five minutes. Two c.c. of the urine are mixed with an aqueous 10 per cent. solution of trichloracetic acid in the graduated tube, the reagent being added until the fluid reaches the mark 0.1. If the urine is less transparent than the opalescent glass, 25 per cent. salt solution is added to the fluid until the transparency in the tube matches that of the glass. This allows determination of albumin from 0.1 to 1 per 1,000; with a slight modification, proportions up to 10 per cent. can also be determined.

142. **Depressions in Sacral Region.**—Bergh has examined 759 women in the ward for venereal diseases at Copenhagen, looking for the kite or lozenge-shaped figure formed by the depressions under the lowest lumbar vertebra and over the posterior superior spines of the ilia and tip of the sacrum. He found the figure more of a square, and states that it was marked in all but 20 per cent. of the women. In men the figure formed is more of a triangle. He mentions that these depressions are found in the ancient statues of women, but the anatomists seemed to overlook them until comparatively recently. The upper depression is a useful base in pelvimetry.

143. **Peptic Ulcer in the Jejunum.**—Jensen reviews about 53 cases of this affection found scattered in the literature and analyzes them from different points of view. The prognosis is always grave on account of the danger of perforation and frequency of recurrences. This occurred in sixteen out of the thirty patients followed for any length of time, and among the others the reports mention merely that the patients were free from recurrence "to date," which was four years in 1, and from only one to two years in 3 others. In 19 cases the recurrence proved fatal, the patients succumbing to the effects of perforation in 10 instances, to postoperative peritonitis in 5, and to tetany in another. Perforation into the peritoneum occurred in 18 cases. The outlook is better in the more chronic cases, with adhesions, but even in this form the affection is a very serious one. The jejunal ulcer developed in 37 cases after anterior antecolic and in 13 after posterior retrocolic gastroenterostomy; in 1 each after the anterior retrocolic technic, and the posterior antecolic, and once after the Y technic. Classifying the cases in another way shows that the peptic ulcer developed in 37 after anterior and in 13 after posterior gastroenterostomy; in 5 after the Y technic; in 6 after gastroenterostomy with enteroanastomosis, and in 8 cases in which a button had been used. He remarks that a peptic jejunal ulcer is much more dangerous than the gastric ulcer for which the gastroenterostomy was done originally.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

I. The Present Status of the Leprosy Problem in Hawaii. II. The Reaction of Lepers to Moro's "Percutaneous" Test. III. The Possibility of the Mosquito Acting in the Transmission of Leprosy. By Walter R. Brinckerhoff, S.B., M.D., Director, Leprosy Investigation Station, Molokai, Hawaii. Treasury Dept., Public Health and Marine-Hospital Service of the United States. Paper. Pp. 24. Washington: Government Printing Office, 1908.

A Study of the Ocular Manifestations of Systemic Gonorrhea, with Reports of Cases of this Nature. By W. Gordon M. Byers, M.D., Assistant Oculist, Royal Victoria Hospital. (Studies from the Royal Victoria Hospital, Montreal.) Vol. II, No. 2. (Ophthalmology 2.) February, 1908. Paper. Pp. 131. Montreal: The Herald Press.

The Urine and Clinical Chemistry of the Gastric Contents, the Common Poisons, and Milk. By J. W. Holland, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Ed. 8. Cloth. Pp. 160, with illustrations. Price, $1. Philadelphia: P. Blakiston's Son & Co., 1908.

Atlas und Grundriss der Topographischen und Angewandten Anatomie. (Lehmann's Medizinische Atlanten, I.) Von Oskar Schultze, Professor der Anatomie in Würzburg. Cloth. Pp. 224, with illustrations. Price, 16 marks. München: J. F. Lehmann's Verlag, 1909.

Die Mechanische und Psychische Behandlung der Tuberkulösen Besonders in Heilstätten. (Vorlesungen über Tuberkulose, herausgegeben von Georg Liebe, Bd. I.) Von Georg Liebe. Paper. Pp. 267, Price, 5 marks. München: J. F. Lehmanns Verlag, 1909.

Rotunda Midwifery for Nurses and Midwives. By G. T. Wrench, M.D., Late Assistant Master Rotunda Hospital, with an Introduction by the Master of the Rotunda Hospital. Cloth. Pp. 324, with illustrations. Price, $2. New York: Oxford Press, 1908.

Guide to the Clinical Examination and Treatment of Sick Children. Ed. 2. By John Thomson, M.D., Fellow of the Royal College of Physicians of Edinburgh. Cloth. Pp. 629, with illustrations. Price, $3.75. Chicago: W. T. Keener & Co.

Proceedings of the Seventh Annual Meeting of the New Jersey State Conference of Charities and Correction, Held at Jersey City, N. J., February, 1908. Paper. Pp. 292. Trenton, N. J.: MacCrellish & Quigley, State Printers, 1908.

Eine neue Hypothese ueber Ursachen und Wesen Bösartiger Geschwülste. Von Otto Aichel, a.o. Professor der Gynäkologie an der Universität Santiago. Paper. Pp. 36. Price, 1.50 marks. München: J. F. Lehmanns Verlag, 1908.

Practical Bacteriology, Blood Work and Animal Parasitology. By E. R. Stitt, A.B., Ph.G., M.D., Surgeon, U. S. Navy. Cloth. Pp. 294, with illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1909.

The Development of Commercial Ports. I. What the Ports of Europe are Doing. II. Chicago's Commercial Opportunity. Report to the Chicago Harbor Commission. By J. Paul Goode. Paper. Pp. 103.

Fifteenth Annual Report of the Board of Registration in Medicine of the Commonwealth of Massachusetts. For the Year 1908. Paper. Pp. 30. Boston: Wright & Potter Printing Co., 1909.

Annual Report of the Board of Directors and Superintendent of the South Carolina Penitentiary, for the Year 1907. Paper. Pp. 49. Columbia, S. C.: Gonzales & Bryan, State Printers, 1908.

Second Report of the Babies' Dispensary and Hospital of Cleveland. For the Year 1908. Paper. Pp. 68, with illustrations. Cleveland, Ohio: The Babies' Dispensary and Hospital.

Tenth Biennial Report of the Board of Trustees of the Delaware State Hospital at Farnhurst, December 1908. Paper Pp. 58. Wilmington, Del.: The Star Printing Co.

The Mosquitoes of the Philippine Islands. By Clara Southmayd Ludlow, B.S., M.Sc. Paper. Pp. 65. Washington, D. C. 1908.

Quacks and Grafters. By Ex-Osteopath. Cloth. Pp. 126 Price, $1.25. Cincinnati, Ohio: The Lancet-Clinic Press.

The Baby. By Daniel Rollins Brown, A.B., M.D. Cloth. Pp 200. Price, $1. Boston: Whitcomb & Barrows.

The Home for Aged Men in Worcester. Paper. Pp. 23 Worcester, Mass.: The Blanchard Press, 1905.

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Original Articles

THE CLASSIFICATION OF PULMONARY TUBERCULOSIS

AND STATISTICAL REPORTS OF SANATORIUMS

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INTRODUCTION

The results in general of the treatment of pulmonary tuberculosis are most encouraging. It is said to be the most curable of all chronic diseases, and many autopsy statistics are quoted to prove that even under the most unfavorable conditions healing occurs in a large proportion of those affected. There are to-day few physicians of large experience who have not repeatedly observed the healing of pulmonary tuberculosis. In the mind of the laity the former pessimistic view is gradually waning, and in many instances is replaced by the belief that every case of tuberculosis is curable. Some physicians of wide experience even go so far as to say that every case of non-acute pure pulmonary tuberculosis is curable. Neither of these statements, however, can stand in the light of our present knowledge. It is an easy task so to improve the general condition of a patient as to give him all the outward appearances of health; but it is a far different task to get him into such a general and pulmonary condition that after a few months at work he will not relapse.

Pathologic anatomy furnishes abundant proof that pulmonary tuberculosis is curable. The statistics of Naegeli, of Blumer and Lartigau; of Vibert, of Osler, of Loomis, all show how frequent is the spontaneous or natural cure. "In all tubercles two processes go on, the one caseation, destructive and dangerous, and the other sclerosis, conservative and healing. The ultimate result in a given case depends on the capabilities of the body to restrict and limit the growth of the bacilli. In the granulation products and associated pneumonia a scar tissue is formed while the smaller caseous areas become impregnated with lime salts. To such conditions alone should the term healing be applied. When the fibroid change encapsulates but does not involve the entire tuberculous tissue, the tubercle may be termed involuted or quiescent, but is not destroyed. When cavities of any size have formed, healing, in the proper sense of the term, does not occur." (Osler).

Healing is not absolute in the strictest sense of the word so long as the scars enclose virulent bacilli and W. Green has found that until scar tissue or calcification entirely replaces all caseation, virulent tubercle bacilli may still be present. Large foci and even cavities can be so thickly imbedded in scar tissue that the tuberculosis can remain stationary throughout an entire lifetime. This "relative healing" then has the value of an absolute cure. "Many phthisikers do not live long enough to die of their tuberculosis" (Penzoldt). Clinical experience also teaches us that many patients who have had pulmonary tuberculosis recover and live out their natural days.

CLASSIFICATION

The classification of pulmonary tuberculosis has often been attempted, and even to-day no perfectly satisfactory classification has been achieved. A patient may have an acute onset, while later the disease may become subacute and finally chronic, proceeding to complete arrest or to termination with an acute type of pulmonary tuberculosis or with acute miliary tuberculosis. Such variations in the disease render classification difficult.

The following classification of the various forms of tuberculosis occurring in the lungs is satisfactory but insufficient for accurate clinical description of the various stages of the disease treated in sanatoriums:

TUBERCULOSIS OF THE LUNGS

I. Acute miliary tuberculosis.
II. Acute pulmonary tuberculosis.
    1. Pneumonic tuberculosis.
    2. Bronchopneumonic tuberculosis.
III. Subacute pulmonary tuberculosis.
IV. Chronic pulmonary tuberculosis.
    1. Chronic ulcerative pulmonary tuberculosis.
    2. Fibroid phthisis.

Classifications have been based on the origin of the disease (hereditary, congenital, or acquired); on the temperament of the patient (erethismic or torpid); on the age (infantile, developmental, adult and senile); on dyscrasias (gouty, scrofulous, diabetic, alcoholic, luetic, hysterical); on the ease of diagnosis (latent, larval, manifest); on the onset (catarrhal, anemic, dyspeptic, pleuritic, hemoptic, febrile, nervous, dyspneic); on the course (active and stationary and progressive; remitting, intermitting and retrogressive; acute, subacute and chronic); on the extent of the lesions (circumscribed, disseminated, more diffuse; or incipient, limited, moderately extensive and advanced); on the pathologic changes (consolidation, softening, cavity formation; germination, conglomeration, softening, cavity formation; parenchymatous, interstitial, bronchitic and postpleuritic forms); on the degree of susceptibility (decided, yielding, or lost organic resistance); on the secondary infections (pure tuberculosis, stage of mixed infection, or phthisis), and in part at least on prognosis (phthisis incipiens, confirmata et desperata).

The usual form of tuberculosis treated in sanatoriums falls under the head of chronic pulmonary tuberculosis and the classification at present under discussion deals mainly with chronic pulmonary tuberculosis, though acute phthisis and acute pneumonic phthisis, as well as miliary tuberculosis of the lungs can also be classified in it. These varieties occur as complications in patients with the more chronic types.

Pulmonary tuberculosis is a relapsing disease, and the results must therefore be considered under two heads, immediate and ultimate. The immediate results may be manipulated, even unconsciously, but the test of time is rigorous, and "living" and "dead" admit of no personal equation or variation of definition. The ultimate results, therefore, after a sufficient lapse of time show clearly the true results of treatment. The effect on the ultimate results of the convalescent homes, of the agricultural colonies, and of other institutions for the aid of patients on discharge from the sanatorium has not yet been worked out. Their value must be considerable. The immediate results are much more difficult to handle, and comparison of these results from different sanatoriums has, on account of the lack of uniformity, up to this time been impossible or at least of little or no value.

Sanatorium patients must be classified on admission, on discharge, and according to the ultimate results. Many classifications have been suggested, but none so far is fully satisfactory. A classification should take into account, not only the amount of disease in the lungs but the actual condition of the patient. It must consider symptoms, as well as the pathologic and general conditions, for no one alone is sufficient. The pathologic conditions on which some classifications depend are based on the interpretation of the physical signs, which are, as is well known, notoriously uncertain. The personal equation should be eliminated as far as possible. The divisions, or classes, should be as sharply separated as possible and not too numerous, three being the number most widely advocated for many years. Prognosis and classification are closely associated.

A.—Classification on Admission

The classifications used in pulmonary tuberculosis may be said to be based, first, on the pathologic conditions in the lungs; second, on one or more symptoms, or third, on the pathology, the symptomatology and the general condition of the pulmonary invalid.

I.—BASED ON PATHOLOGY

Most classifications have been based on the pathologic process in the lungs; for example, I, fibrosis, II, colliquative necrosis; or, I, infiltration, II, consolidation, III, cavity formation. Brehmer[1] (1889) recognized, I, infiltration, II, cavity formation, and, III, colliquation. More recently Petruschky[2] (1897) has suggested, I, invasion of the lymphatic glands; II, formation of tubercles in the tissues, skin, lungs, etc. (closed tuberculosis), and, III, tissue necrosis (open tuberculosis) which he subdivided into, 1, tuberculosis proper; 2, a transition period of febrile attacks, and, 3, septicemia. While recent pathologic work upholds this in part, the classification really divides pulmonary tuberculosis into two stages, closed and open, the latter of which is subdivided according to symptoms. It is not as satisfactory as Turban's classification, which has been widely adopted.

Turban[3] classifies patients wholly on the physical findings, which, changing as they do, and occurring with such different symptoms render this scheme far from accurate in portraying in what real stage of the disease any patient may be, a point he early acknowledged. By this classification, Stage I includes those patients whose slight lesion does not exceed one lobe or two half lobes. Stage II includes those whose slight lesion extends further than Stage I but at most to two lobes or a severe lesion extending at most to the volume of one lobe. Under Stage III are all not under I and II. "Slight lesion" is synonymous with infiltration and "severe lesion" with consolidation and excavation. Purely pleuritic dulness of slight extent is left out of account. Slight alterations in the breath sounds, for example, harsh breathing or prolonged expiration without change in percussion and without râles, are not to be considered. This properly balances both the extent and intensity of the pathologic changes, two factors, one of which is ignored in most anatomic classifications.[4]

The Hanseatic League[5] has adopted a classification with eight divisions, with slight gradations one from another, for example, I, simple catarrh of one apex; II, of both apices; III, widespread catarrh; IV, infiltration of small extent at one apex and so on. This, like Turban's classification, completely ignores symptoms and the general state of health, and gives no idea of the patient's real condition.

The Imperial Board of Health[6] of Germany has suggested the following classification and has used it in the report, which it publishes, of all the patients treated in Germany:

The side is first indicated

I. Slight, limited to a small area of one lobe, especially at the apex, and not extending below the clavicle nor the spine of the scapula, with or without fine, but without tympanitic râles.

II. Area of the disease of wider extent than I, of less than III.

III. Involvement at least of a whole or of several whole lobes, or signs of cavity formation.

This classification, evidently based on Turban's, is hardly to be preferred to his, but it restricts the first class. Both this and Turban's include in the third class, which is too broad, many patients who do remarkably well. The classification suggested by Burton-Fanning takes into account only the extent and not the intensity of the pulmonary disease.

It has been suggested by the last International Conference at Vienna[7] that the Turban classification of the extent of physical signs should be modified. This modification, known as the Turban-Gerhardt classification, is as follows:

TURBAN-GERHARDT CLASSIFICATION

R=right. L=left.

I. Disease of slight severity, limited to small areas of one lobe; that, for instance, in case of affection of both apices may not extend beyond the spine of scapula and the clavicles; in case of affection of one apex, frontal, beyond the second rib.

II. Disease of slight severity, more extensive than I, but affecting at most the volume of one lobe, or severe disease, extending at most to the volume of one-half lobe.

III. All cases extending beyond II, and all such with considerable cavities.

By disease of slight severity is to be understood: disseminated foci manifested by slight dulness, impure, rough or weak vesicular, vesiculobronchial, or bronchovesicular breathing and fine and medium râles.

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[1] Mittheilungen aus Dr. Brehmer's Heilanstalt, Wiesbaden, 1889, p. 55.

[2] Ueber die Behandlung der Tuberkulose nach Koch, Deutsch. med. Wchnschr., 1897, No. 39.

[3] The Diagnosis of Tuberculosis of the Lung, New York, 1906, p. 42.

[4] Wilkinson: Brit. Med. Jour., June 13, 1902. I. Fraenkel Specielle Pathologie und Therapie der Lungenkrankheiten, II, 713

[5] Die Handhabung des Heilverfahrens bei Verisicherton im Jahre 1896, Hamburg, 1897.

[6] Tuberculosis, Berlin, 1907, vi, 140.

[7] Tuberculosis, Berlin, 1907, vi, 559.

By severe disease: compact infiltration recognized by great dulness, very weak (indeterminate) bronchovesicular breathing, with or without râles.

Considerable cavities to be recognized by a tympanitic note, amphoric breathing, and extensive, coarse, consonating râles come under Stage III.

Pleuritic dulness, if only of a few centimeters extent, is to be left out of account; if it is considerable, pleuritis should be specially mentioned under tuberculous complications.

The stage of disease is to be indicated for each side separately. The case, as a whole, is to be classified according to the more diseased side; for example: R II, L I=Stage II.

The objection to this classification is the unevenness of the distribution; and, while it divides the first group of Turban, which really needs division, the adoption of the summary, discussed elsewhere in this report, divides that group in a very satisfactory manner, and the enlargement of the third group makes the Turban-Gerhardt classification of less value.

II.—BASED ON SYMPTOMS

Previous to the discovery of auscultation and of more recent pathologic knowledge, classifications were based upon the severity of the general and localizing symptoms, for example, early or beginning, middle or confirmed and last or terminal stages. Few classifications have recently been founded purely upon symptoms. Meissen[8] has suggested dividing all patients into afebrile and febrile, which latter he subdivides into those with high fever (101.3° and over) and those with low fever (below this). Von Ruck[9] and Spengler[10] also use fever for the first division.

III.—BASED ON SYMPTOMS AND PATHOLOGY

While Laennec, Bayle, Clarke, Louis and Alison had all based classifications on symptoms and physical signs, the first classification in America based on these data was that suggested by J. W. Gleitsmann in the biennial report of the Mountain Sanitarium for Pulmonary Diseases (1877), the second sanatorium in America for the treatment of pulmonary diseases. He suggested the following:

1. Apical catarrh and infiltration of the smallest extent.
2. Extended infiltrations or small destructions with preserved general constitution.
3. Extended infiltration with hectic symptoms, cavities, constitution broken down.
4. Acute miliary tuberculosis.
5. All such with other diseases (all non-tuberculous diseases).

This classification bears close resemblance to the one recently suggested by the National Association for the Study and Prevention of Tuberculosis.

Trudeau's classification (1887), on which that of the National Association is based, takes into account both the pathology (that is, physical signs) and the local and general involvement. It is as follows:

1. *Incipient.*—Cases in which both the physical and rational igns point to but slight local and constitutional involvement.

2. *Advanced.*—Cases in which the localized disease process s either extensive or in an advanced stage, or in which, with comparatively slight amount of pulmonary involvement, the ational signs point to grave constitutional impairment or o some complication.

3. *Far Advanced.*—Cases in which both the rational and physical signs warrant the term.

The classification suggested to the American Climatological Association[11] by a committee appointed for that purpose is based largely on Trudeau's, but prefixes an incipient stage to what are termed the first, second and third stages. This classification, which was not adopted and has apparently been employed by no one, is as follows:

Incipient.—Slight physical and subjective signs, with history indicative of pulmonary tuberculosis. Sputa, if present, without bacilli.

First stage: Definite physical signs of localized infiltration; total involvement less than half a lobe, whether at one or more points; cough and expectoration with bacilli; constitutional symptoms slight. (In disseminated cases, expectoration and bacilli may be absent with constitutional symptoms more severe.)

Second stage: Infiltration of single or multiple areas approaching or equal in amount to one lobe; or smaller area in stage of softening; cough and expectoration with bacilli; constitutional symptoms severe.

Third stage: Infiltration in excess of one lobe or, if less, in stage of well-developed excavation; more severe constitutional symptoms.

Koeniger's[12] classification (1, slight with one apex; 2. medium severity with one or two apices to a greater extent; 3, severe, one or more whole lobes), leaves too much to the personal equation and depends almost entirely on "extent" alone. Meissen[8] has prefixed a prophylactic stage before Stage I of Turban and added a hectic stage after Stage III of Turban. Von Ruck[9] divides his patients into those with chronic pulmonary tuberculosis and those with phthisis, each of which he subdivides into afebrile and febrile. Each class under "phthisis" he further subdivides into three, first, second and third stages. This classification can not be recommended, as it has too many classes, and being based in part on the amount of expectoration, must be far from accurate. Spengler's[12] classification is much like von Ruck's.

King's[13] classification (of I, early cases with, 1, mild and, 2, those with acute symptoms; II, advanced cases with, 1, favorable or, 2, unfavorable symptoms; and, III, "long-standing cases" (over one year) with, 1, ulceration, and, 2, with fibrosis predominating) leaves too much to the personal equation to be of marked value. There is no generally adopted scheme in England, as Bulstrode's Report[14] shows. There are so many classifications used that it is very difficult indeed to compare the statistics; and some are so complex that they can not be recommended, for example, Campbell[15] divides his patients into those with one or both lungs affected. He makes the three usual divisions under the first (one lung) and tries to classify by the conditions of the two lungs, all the possibilities under five heads under the second.

The best classification so far suggested is that adopted by the National Association for the Prevention and Study of Tuberculosis and based largely on Trudeau's and not on Turban's. The incipient stage is very narrowly defined, in the hope of encouraging early diagnosis. This makes the "moderately advanced" stage include patients differing much more widely than those in the upper ranks of the "moderately advanced" and in the incipient stages. The exact amount of involvement is not stated, but any patient with signs extending below the second rib should be classified as advanced. The classification is as follows:

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[8] Was können die Fachärzte zunätchst zur Bekämpfung der uberkulose thun? Therap. Monatsch., 1897, p. 582. See also chroeder and Blumenfeld. Therapie der Lungensch. Leipzig, 1904, . 125.

[9] Classification for Cases of Pulmonary Tuberculosis and hthisis, Tr. Am. Climat. Assn., 1903, xx, 272. .

[10] Koch's Festschrift, 1903, p. 119.

[11] Tr. Am. Climat. Assn., 1903, xix, 23.

[12] Erfahrungen über Lungentuberkulose und Lippspringe, Therap. Monatsch. 1895, p. 535. (quoted by Turban.)

[13] Seventh An. Rep. Loomis Sanatorium, 1903.

[14] Fifty-fifth An. Rep. to the Local Government Board, 1905-1906; On Sanatoriums for Consumptives and Certain Other Aspects of the Tuberculosis Question, London, 1908, p. 59.

[15] Brit. Med. Jour., 1905, II, 852.

INCIPIENT (FAVORABLE)

Slight initial lesion in the form of infiltration limited to the apices or a small part of one lobe.

No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight).

Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest.

Expectoration usually small in amount or absent.

Tubercle bacilli may be present or absent.

MODERATELY ADVANCED

No marked impairment of function, either local or constitutional.

Localized consolidation moderate in extent, with little or no evidence of destruction of tissue;

Or disseminated fibroid deposits.

No serious complications.

FAR ADVANCED

Marked impairment of function, local and constitutional.

Localized consolidation intense;

Or disseminated areas of softening;

Or serious complications.

ACUTE MILIARY TUBERCULOSIS

B.—CLASSIFICATION ON DISCHARGE

Greater diversity of opinion and of usage exists in the classification on discharge than on entrance. The plan suggested by the German Imperial Board of Health[6] is excellent but impracticable:

1. Absolute healing.
2. Relative healing.
3. Marked improvement and transfer to a more favorable stage.
4. Slight improvement in the same stage.
5. Stationary.
6. Slight deterioration in the same stage.
7. Marked deterioration and passage to a less favorable stage.
8. Death.

Healed, well, cured, apparently cured, arrested, greatly improved, able to work and positive have all been used more or less interchangeably, which renders comparison of results impossible. The classification of positive, negative and died (Turban) is of little real value and is based in part on the individual judgment. Ability to work on discharge unless tested in the sanatorium depends largely on the individual judgment; and this criterion, while necessary by law for the insurance sanatoriums of Germany, is hardly to be recommended for use elsewhere. It is in reality based on economic and not on medical standards. Classifications using such terms as "well," "almost well," "much improved," have much to do with the personal equation.

It seems necessary to employ more classes here than on admission and five are generally used. Trudeau's classification, on which the classification of the National Association for the Prevention and Study of Tuberculosis is based, is almost universally used in America, and is as follows:

1. *Apparently Cured.*—Cases in which the rational signs of phthisis and the bacilli in the expectoration have been absent for at least three months or who have no expectoration at all; any abnormal physical signs remaining being interpreted as indicative of a healed lesion.

2. *Arrested.*—Cases in which cough, expectoration and bacilli are still present, but in which all constitutional disturbance has disappeared for several months; the physical signs being interpreted as indicative of a retrogressive or arrested process.

3, 4. *Improved and Failed.*—Trudeau has not defined these.

5. *Died.*

The classification used by Bowditch[16] at the Sharon and Massachusetts State Sanatoriums does not employ the term "apparently cured" but makes "arrest" include the cases of all patients "in whom active symptoms have disappeared and there is an apparent return to health." This division is too large and needs subdivision.

The National Association for the Study and Prevention of Tuberculosis has slightly modified Trudeau's classification, as follows:

Progressive (unimproved).—All essential symptoms and signs unabated or increased.

Improved.—Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Arrested.—Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.[17]

Apparently Cured.—All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

The term "quiescent" is placed under "improved" in this classification. "Apparently cured" leaves much for the individual standard of judgment when it requires the physical signs to be those of a healed lesion. This admits widely different interpretations. In the statistics from the Adirondack Cottage Sanitarium the cases of all patients who have moderately coarse râles or more than a few fine râles at one apex extending at most to the clavicle or the level of the second vertebral spine have been termed "arrested." The justification of this interpretation of "apparently cured" is borne out by the ultimate results obtained at this institution. The use of the tuberculin test as a test of cure has been suggested by many observers. The results obtained in this way and by clinical methods do not agree, as many patients clinically "apparently cured" react to tuberculin. Nagel[18] discharged 114 of 183 patients as clinically cured, and of these 114 patients 38 per cent. reacted to tuberculin. Careful clinical observations determine with sufficient accuracy whether or not a patient is "apparently cured." Burton-Fanning[19] has advocated subdividing "arrest" into two classes: those able and those unable to work. Burton-Fanning's "recovery" implies fitness for work.

C.—CLASSIFICATION FOR ULTIMATE RESULTS

The real test of any treatment is of course the division of all patients into two classes, living and dead. The division of the first class is difficult, but "living" should be subdivided, for it is manifestly unfair to class those tottering on the brink of the grave with patients who for years have been well and who work under ordinary conditions of life. Here ability to work is of most value, for it is difficult to obtain a physician's report on the general or pulmonary condition or even on the examination of the sputum.

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[16] Tenth Ann. Rep. Sharon Sanatorium.

[17] The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

[18] Beitr. z. Klin. d. Tuberk., 1906, v, 451.

[19] The Open-Air Treatment of Pulmonary Tuberculosis, Chicago, 1905, p. 61.

At the Adirondack Cottage Sanitarium the terms "well" and "living" have been used. "Well" includes all patients known to be enjoying good health without a relapse for a period of two years, while "living" includes many patients who but for the time limit would be classed as "well," and also many about whose state of health the present information is not sufficiently definite.

The National Association for the Study and Prevention of Tuberculosis defines "cured" as follows: "All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life. As previously stated, an absolute cure can be determined only after death. At the Adirondack Cottage Sanitarium it is impossible to use this term "cured," for sufficient information can not be obtained.

THE CLASSIFICATION ADVISED

After careful consideration of all these factors, the following classification to be used on admission, on discharge, and for ultimate results, is probably the best. The classification of the incipient stage as defined by the National Association has been rearranged but very slightly altered. The definition of "moderately advanced" has been very slightly altered. The other definitions have been changed very slightly, but under ultimate results the term "well" has been inserted.

I.—Classification on Admission

Incipient

Slight or no constitutional symptoms (including particularly gastric or intestinal disturbance or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours.

Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

Slight infiltration, limited to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications.

Moderately Advanced

No marked impairment of function, either local or constitutional.

Localized consolidation, moderate in extent, with slight or no evidence of cavity formation.

No serious complications.

Far Advanced

Marked impairment of function, local and constitutional.

Marked consolidation of an entire lobe;

Or disseminated areas of beginning cavity formation;

Or serious complications.

Miliary Tuberculosis

II.—Classification on Discharge

Apparently Cured

All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion.

Arrested

Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.[20]

Improved

Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Unimproved or Progressive

All essential symptoms and signs unabated or increased.

Died

III.—Classification of Ultimate Results.

Cured

All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Well

Patients who fulfill all the conditions required under "cured," but about whose sputum no definite information can be obtained.

Arrested

See "On Discharge."

Improved

See "On Discharge."

Progressive

See "On Discharge."

Dead

DEFINITION OF TERMS

Since the adoption by the National Association of their classification it has been clearly recognized among the workers in the different sanatoriums in America that, while this schema was almost universally employed, there was still great diversity in the way in which patients were classified.[21] Consequently, the American Sanatorium Association believed that the terms used in this classification should be defined exactly, and a committee was appointed to present a report to the association. I was a member of this committee and wish to acknowledge my indebtedness to the different members of the committee[22] for many suggestions that are contained in the following definitions. The best classification for purposes of comparison of results is that which to the greatest extent excludes the variation due to individual standards of judgment. These definitions are accordingly submitted, not with the idea that they are ultimate or final, but simply for the purpose of suggesting a working basis for physicians in different sanatoriums. Many minor points are of course far from satisfactory, but no classification is perfect.

Terms Used in Definition of "Incipient"

1. *Slight Constitutional Disturbance.*—Slight loss of appetite, of strength, of weight; lassitude; possibly slight acceleration of pulse or possibly slight elevation of temperature. The impairment of health may be so slight that the patient does not look or feel sick in the ordinary sense of the word.

2. *Slight Elevation of Temperature.*—Maximum temperature after rest never over 99.5 to 100 by mouth (or 100.5 per rectum).

3. *Slight Acceleration of Pulse.*—Maximum pulse-rate not over 90.

4. *Small Amount of Expectoration.*—Not over 30 c.c. in 24 hours.

5. *Absence of Tubercle Bacilli.*—Each monthly examination (if the sputum be negative) to consist of a careful microscopic examination, with a mechanical stage, of two smears, devoting at least three minutes to each smear, made from selected particles (at least six from different parts) of the sputum on each of three successive days. The morning sputum should always be obtained, or, better, the minute bits

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[20] The length of time mentioned is, of course, somewhat arbitrary, but is intended to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.

[21] Stubbert recognized in 1901 that the various stages should be more accurately defined and attempted to do so (Am. Climatological Assn., 1901, xvii, 161).

[22] H. L. Barnes, L. Rosenberg, Estes Nichols, H. S. Goodall.

that some patients in an arrested stage raise at very infrequent intervals. It is not yet deemed wise to insist on digestion and centrifugalization or on inoculation of guinea-pigs.

6. *Infiltration.*—Physical signs: slight prominence of the clavicle, lessened movement of chest, narrowing of apical resonance with lessened movement of base of lung, slight or no change of resonance, distant or loud and harsh breathing, with or without some change in the rhythm (that is, prolonged expiration), vocal resonance possibly slightly increased; or fine or moderately coarse râles present or absent. If diagnosis be positive, any one of these.

7. *Apex.*—That portion of the lung situated above the clavicle and the third vertebral spine.

8. *A Small Part of One Lobe.*—An area of one or two intercostal spaces, or an area not exceeding 60 to 80 square centimeters in extent, according to the size of the patient. (An attempt is here made to include an area of a lobe not greater in extent than that included in two intercostal spaces.)

Terms Used in Definition of "Moderately Advanced"

9. *Marked Impairment of Function, Either Local or Constitutional.*—Local: Marked dyspnea on exertion, limiting seriously the patient's activity. Constitutional: Marked weakness, anorexia, tachycardia.

10. *Moderate Extent of Localized Consolidation.*—An area of one-half lobe or less, but may involve both apices; marked dulness, bronchial or decidedly bronchovesicular breathing; markedly increased vocal resonance; râles usually present. These signs are to be sharply limited as to area instead of gradually shading into normal physical signs.

11. *Evidence of Destruction of Tissue.*—Presence of tubercle bacilli or elastic fibers in the sputum or the presence of the physical signs of a cavity. There are no absolutely certain physical signs of cavity but a combination of any four of the following signs is to be taken as indicative of a cavity: 1, cracked-pot note; 2, amphoric breathing; 3, intense whispering pectoriloquy; 4, a veiled puff or post-tussive suction; 5, bubbling or resonant râles. "Physical signs of softening" do not admit of any definition, apart from that of cavity formation, and the term should not be used.

12. *Serious Complications.*—These should be limited to tuberculous complications, such as meningitis, pharyngitis, laryngitis (except slight thickening in the posterior interarytenoid space, and superficial ulceration of a vocal cord), enteritis, peritonitis, nephritis, cystitis, orchitis, adenitis (unless very slight), etc.

Terms Used in Definition of "Far Advanced"

13. *Intense Localized Consolidation.*—This term should be replaced by "marked consolidation of an entire lobe." "Marked consolidation" indicates dulness merging into flatness, bronchial or tubular breathing and other signs of consolidation as defined in 10.

Terms Used in Definition of "Apparently Cured"

14. *Constitutional Symptoms.*—These include elevation of temperature, loss of weight, loss of strength, night sweats, chills, tachycardia, cyanosis, loss of appetite, amenorrhea, etc.

15. *Physical Signs of a Healed Lesion.*—These may embrace every physical sign of infiltration or consolidation (see 6, 10), with the exception of râles, which must be permanently absent, except possibly a few fine râles at the base, probably atelectatic in origin, and at one apex or over a small part of one lobe. Râles in the latter two places are to be heard only during the cough or the inspiration which follows the cough at the end of a prolonged expiration.

Terms Used in Definition of "Improved"

16. *Constitutional Symptoms Lessened or Entirely Absent.*—By this term is meant an improvement in the general condition as shown either by a gain in both weight and strength or by reduction of previous febrile temperature to normal without loss of strength.

Terms Used in Definition of "Unimproved" or "Progressive"

17. *Essential Symptoms and Signs.*—These include, among others, weight, strength, appetite, night sweats, hemoptysis, pleurisy, dyspnea, temperature, pulse-rate, dulness, changes in vocal resonance and respiratory movement, râles.

Terms Used in Definition of "Cured"

18. *Ordinary Conditions of Life.*—This term as used implies that the patient is able to live in an environment where he is able to support himself without the assistance of others, or to live in his former surroundings and pursue his former occupation.

19. *Temperature.*—The best method and the best time to take the temperature is still unsettled. It should be recognized, however, that when no note is made of the fact, the oral temperature is indicated and that the temperature should not be taken for one-half to one hour after meals. The thermometer should be kept in the mouth, which has been kept closed for at least five to ten minutes, for five minutes to detect the slighter rises of temperature.

The "normal" temperature is still a mooted point, but far more is known in regard to the oral than the rectal temperature. The range for each patient varies somewhat, but it is unwise to consider any patient's disease "arrested" or "apparently cured" when the maximum temperature for three or more days averages over 99 F. Absorption from an old focus may cause rise of temperature when the disease is quiescent, but no one can separate such a condition from a slow advance of the disease, imperceptible by our present methods of examination. A rise for a single day to 99.5 F., or even higher, when some definite factor (coryza, tonsillitis, etc.) is unquestionably the cause, should be disregarded in making up the average on discharge. It would undoubtedly be wise to insist on a two-hourly temperature record were this possible, but in any case the temperature should be taken whenever possible after rest (that is, complete relaxation, mental and physical, in a sitting or reclining posture) for at least one hour. Quiet reading or conversation need not be forbidden some patients.

Under the definition of the physical signs of a healed lesion, it will be noted that a few râles at the base, probably atelectatic in origin, or a few râles following the expiratory cough are included. While it is true that this admits some degree of individual judgment into this definition, it is hardly wise to insist on the complete absence of fine râles before classifying a patient as apparently cured. It must, however, be recognized that the results on discharge from a sanatorium are of far less importance than those that relate to the ultimate results. It is much more difficult to exclude the individual standards of judgment in the former, while in the latter this can be much more readily done. As far as I am aware, there are only one or two sanatoriums in America where the expiratory cough is used systematically and the presence of râles excluded in this way. It will be noted that under the definition of "cured" no mention has been made of physical signs. This mean that under this term there will be grouped a large number of patients in whom the disease becomes only permanently arrested, and. in fact, as Squire has remarked an absolute cure can be determined only after death These facts should be constantly borne in mind in connection with this classification. While I am of the opinion that it would be best to insist on the absence of al râles in any patient classified as apparently cured, stil I do not feel that at present this can be insisted on.

Some have objected altogether to the use of the ter "apparently cured" and believe that only "arrested should be used. Classifications are chiefly of value in e abling distinctions to be made between definite classe and while some patients with numerous râles may do a well as others without râles when both patients ha practically no symptoms, still a strong difference does exist between these two classes, and it should be noted in the classification on discharge. Again, a few hold that any patient with expectoration of any amount, no matter how slight, no matter whether tubercle bacilli have been absent from it on repeated examinations for months, should not be classified as apparently cured. This is not right, for a patient may have a slight hypersecretion of mucus from that part of his bronchial tree that has been seriously affected; and to state that for this reason he is not apparently cured seems manifestly unfair.

A number of interesting points arise in regard to the practical application of any classification. In the first place the question of time is exceedingly difficult to incorporate into any classification. For instance, it is doubtful whether a patient who has a few signs of infiltration above one clavicle and who has had symptoms for a year, should be placed in the same class with a patient with the same extent of physical signs, the same severity of symptoms, but whose history dates back for only one month. At the present time it does not seem practical to divide these patients into two classes. Another point that must be duly considered is the fact that a patient may apply for admission to a sanatorium and present signs and symptoms that would cause him to be classified among those in a moderately advanced stage. He may recover completely and lose symptoms and physical signs, but after a lapse of some months may apply for readmission, presenting signs and symptoms that would cause him to be classified among those in the incipient stage. In another instance a patient may spend some months in a sanatorium, but, not wishing to return to his home for one reason or another, may apply for admission into a second sanatorium. This patient, if he has improved considerably, would have to be reclassified on admission into the second sanatorium. These are points of practical interest which must be considered in connection with any classification. While they detract from the value of a classification, they do not seriously affect it when they are clearly borne in mind. The percentage of error is of little importance when it is allowed for.

METHODS OF PHYSICAL EXAMINATION

Any classification must necessarily depend in part on physical signs; and, as long as different examiners follow different methods of examination, the extent of the physical signs will vary and the usefulness of any classification intended for comparison will be greatly limited. To overcome this difficulty the patient should be stripped to the waist and râles should be said to be absent only when they are absent after the patient exhales, coughs at the end of exhalation and then takes a full, deep, fairly quick breath through his mouth. A stethoscope must be used for this examination.

STATISTICAL REPORTS OF SANATORIUMS

It is well recognized that without some definite system of classification it is impossible to compare accurately the reports from different sanatoriums, but the adoption of a uniform scheme for a classification is not sufficient. The sanatorium workers, in order to facilitate comparison of various results in different parts of the world, should adopt a uniform system of statistical report; and only in this way can the real effect of climate be estimated. The best statistical report is the one suggested by Turban with several modifications.

TABLE 1—TURBAN'S REPORT

No.	Condition.		Extent of Physical Signs (Turban).		Duration of Disease.	General Condition.	Digestion.	Range of Pulse 7 days on Admission, 2 days on Discharge.	Av. Max. Temp. 7 days on Admission, 2 days on Discharge.	T. B.			Complications.	Tuberculin. Variety, No. of Days and Doses. Highest Dose in Grams.
			Both Lungs.	Each Lung.							Previous.	Residence.		
2473	On admission.	Mod. Adv.	I	R	24 months.	Favorable....	Unimpaired..	80-104	99.1	O	+	+	....	B. F. 215 days 55 doses .030 gm.
	At discharge...	Arrested.	III	R^2L^2	32 months.	Favorable....	Unimpaired..	86- 92	98.7	+	....	....	....	
2474	A D	Incipient. Ap. Cured	I O	R	8 months. 14 months.	Favorable.... Favorable....	Unimpaired.. Unimpaired .	70- 90 76- 80	98.9 98.8	O O	+	O		
2475	A D	Mod. Adv. Ap. Cured	I I	L R	3 months. 8 months.	Unfavorable. Favorable.	Unimpaired.. Unimpaired..	82-100 88- 96	98.9 99.0	O O	O	O	Tub.-arthritis ankle.	

TABLE 3—RESULTS OF SPUTUM EXAMINATIONS OF PATIENTS

Class.	Extent of Physical Signs According to Turban.	Treatment.	A R D + + +	A R D + + O	A R D + O O	A R D O + +	A R D O O +	A R D O + O	A R D O O O	P A R D + O O O
Incipient..	I	Without Tu.	....	4=13%	4=13%	....	....	3=10%	15=48%	5=16%
Incipient..	I	With Tu.........	5=22%	4=17%	1= 4%	....	....	1= 4%	9=39%	3=13%
Moderately advanced..........	I	Without Tu.....	1= 9%	4=36%	1= 9%	....	....	....	4=36%	1= 9%
Moderately advanced.....	I	With Tu.........	4= 44%	3=33%	....	....	....	....	2=22%	
Moderately advanced..........	II	Without Tu.	6= 22%	6=22%	3=11%	3=11%	....	1= 4%	6=22%	
Moderately advanced..........	II	With Tu.........	6= 37%	4=25%	3=19%	....	1=6%	1= 6%	1= 6%	2= 7%
Moderately advanced....... ..	III	Without Tu.	1= 14%	3=43%	2=29%	....	....	....	1=14%	
Moderately advanced..........	III	With Tu.........	6= 60%	1=10%	....	....	....	....	1=10%	2=20%
Far advanced..................	III	With Tu.........	1=100%							

NOTE.—O=Tubercle bacilli absent. +=Present. A=Admission. R=During Residence. D=On Discharge. P=Previous to Admission.

When T. B. were present on admission, no note is made with regard to previous examinations.
When T. B. were present previous to admission and also at any time during residence, they are marked as present on admission.

Every sanatorium should use this scheme for reporting its individual cases. It is shown in Table 1.

The scheme explains itself. It contains the condition of the patient on admission and discharge, the extent of the physical signs in each lung, as well as the presence or absence of the signs of cavity,[23] the duration of the disease, the general condition, the state of the digestion, the range of the pulse, the average maximum temperature, the presence or absence of tubercle bacilli on admission and discharge as well as previous to admission and during residence. The presence or absence of complications, and whether or not the patient has been subjected to tuberculin are also noted. The adoption of this tabulation will present clearly the facts from which the annual reports of the various sanatoriums are compiled. Few sanatoriums, however, up to this time have adopted a satisfactory summary of results of treatment. I devised some time ago the summary shown in Table 2.

TABLE 2—SUMMARY

			Hygienic-dietetic Treatment Without Tuberculin. Patients who Stayed Over 90 Days. Average Residence, 209 Days.								Hygienic-dietetic Treatment With Tuberculin. Patients Who Took Tuberculin More Than 90 Days. Average Residence, 250 Days.					
Class.	Extent of Physical Signs According to Turban.	T. B. Found at Any Time.	Cases.	Appar. Cured.	Arrested.	Improved.	Progressive.	Died.	Class.	Extent of Physical Signs According to Turban.	T. B. Found at Any Time.	Cases.	Appar. Cured.	Arrested.	Improved.	Progressive.	Died.
Incipient........................	I	O	15=20%	10=67%	4= 27%	1= 7%			Incipient........................	I	O	9=15%	5=56%	1= 11%	3=33%		
Incipient........................	I	+	16=21%	3=19%	12= 75%	1= 6%			Incipient........................	I	+	14=24%	4=29%	8= 57%	1= 7%	1= 7%	
Moderately advanced......	I	O	4= 5%	1=25%	2= 50%	....	1=25%		Moderately advanced......	I	O	2= 3%	....	2=100%			
Moderately advanced......	I	+	7= 9%	....	7=100%				Moderately advanced......	I	+	7=12%	....	6= 86%	1=14%		
Moderately advanced......	II	O	5= 7%	2=40%	2= 40%	1=20%			Moderately advanced......	II	O	1= 2%	....	1=100%			
Moderately advanced......	II	+	22=29%	....	13= 59%	5=23%	4=18%		Moderately advanced......	II	+	15=25%	....	11= 73%	3=20%	1= 7%	
Moderately advanced......	III	O	2= 2%	....	2=100%				Moderately advanced......	III	O	1= 2%	....	1=100%			
Moderately advanced......	III	+	5= 7%	....	5=100%				Moderately advanced......	III	+	9=15%	....	4= 44%	3=33%	2=22%	
Far advanced..................	III	+							Far advanced..................	III	+	1= 2%	....	....	1=100%		

There were also 15 patients who stayed less than 90 days. There were also 23 patients who took tuberculin for less than 90 days.

NOTE.—In this summary patients who had T. B. in the sputum previous to admission are counted as +, as well as those who had T. B. at any time during residence.

This summary divides all patients into the three classes advised by the National Association for the Study and Prevention of Tuberculosis, and, further, each of these is subdivided into the different classes according to the extent of physical signs. Turban's classification has been used for this purpose, and attention is called to the fact that the three original classes, incipient, moderately advanced, and far advanced, have nothing in common with Turban's classification, which deals only with the extent of physical signs. Finally, each of these stages is divided again into two classes, according to whether the lesion has ever been open (tubercle bacilli present at any time) or has always been closed. This summary, it is believed, will remove the grounds for several criticisms of the classification adopted by the National Association. Both "moderately advanced" and "far advanced" classes are too broad, it is urged and rightly, and as much difference if not more exists within these groups than between them or between the "moderately advanced" and "incipient" classes. This summary divides the "moderately advanced" group into six divisions, all of which should be reported on separately. It also divides the "far advanced" group into two or more divisions.

The results of the sputum examinations recorded in most reports is also far from satisfactory, and the scheme shown in Table 3 is suggested. When tuberculin has not been used it is of course unnecessary to divide the patients into those who have and those who have not received tuberculin.

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[23] This datum can usually be indicated by a small c after R or L in the second column under the extent of physical signs.

Congenital Megacolon.—Gaujoux in the *Archives de Médecine des Enfants*, 1908, XI, p. 721, devotes fifteen pages to tabulation of the details of 62 cases of alleged Hirschsprung's disease, aiming to show that actual congenital, idiopathic megacolon is extremely rare, and that it must of necessity prove fatal soon after birth. In most cases presenting the Hirschsprung syndrome, the trouble is the result of undue length of the sigmoid flexure. As the child grows, the parts develop into more harmonious proportions and the anomaly becomes corrected. The tonicity of the anus sphincter should be tested, the capacity of the rectum investigated, the diet regulated and a systematic course of laxatives be instituted, to exclude all other causes before accepting congenital malformation as responsible for the symptoms observed.

TUBERCULOSIS IN PANAMA

INCIDENCE AND ASSOCIATION WITH PLEURAL ADHESIONS *

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Discussing the geographical distribution of tuberculosis, Baldwin, writing in Osler's "System of Modern Medicine," says: "The tropical countries furnish no statistics as to the frequency of tuberculosis, but it is said to be less common than in temperate regions, though more rapid in its course." He gives the percentages for temperate regions estimated by most pathologists, who usually regarded only gross appearances, as varying between 30 and 60 per cent., but thinks that probably the recent estimate of Harbitz of 50 to 70 per cent. for all ages represents an approximation of the truth.

While acting pathologist of the Board of Health Laboratory I examined 287 bodies with special reference to tuberculosis and pleural adhesions. Pleural thickenings, puckered cicatrices and adhesions were not classified as tuberculous lesions; calcified, caseous and fibrocaseous lesions and miliary tubercles were considered tuberculous. The diagnoses for the greater part were based on gross appearances, but sixty-eight lesions from twenty-five bodies were examined microscopically to control the gross diagnoses. Of twenty-four bodies considered tuberculous all but one proved to be so. The gross diagnosis was not correct in this body or else the very small tubercle was missed in preparing the section for microscopic examination. On the other hand, one body with doubtful lesions that were not accepted as tuberculous proved to be tuberculous. Of the sixty-eight esions examined one other erroneous gross diagnosis was certainly made, the lesion being a miliary abscess of he spleen. This body, however, had other lesions that were microscopically tuberculous. It seems fair to assume, therefore, that the gross diagnoses of tuberculosis were approximately correct for the series, and I feel that whatever error there may be is on the side of conservatism.

FREQUENCY OF TUBERCULOSIS

Tuberculosis was present in 213, or 74.2 per cent., of he 287 bodies examined. This percentage is greater han the estimate of Harbitz and considerably greater han the estimates of most pathologists for temperate egions. In the following table is given the frequency ith regard to nationality, age, color, sex, employment ith the Canal Commission, and length of time on the thmus of Panama:

Of the bodies of patients who had come from tropical untries 73.6 per cent. were tuberculous. The greater equency of tuberculosis among Jamaicans was probably due to the greater average age of the patients, 38.6 ars. The average age of the Barbadians was well under years. The frequency of tuberculosis did not appear be affected by color, sex or employment with the Canal ommission. It was greater in those who had been on e Isthmus of Panama more than three months than in ose who had lived on the Isthmus less than three onths. After three months, residence on the isthmus bore no special relation to the frequency. The frequency varied directly, however, with the age of the patients, increasing with increasing age until the sixth decade. The group included between the sixth and ninth decades inclusive is small enough, however, to admit of error; likewise the group in the second decade.

TABLE 1. FREQUENCY OF TUBERCULOSIS IN PANAMA WITH RELATION TO NATIONALITY, AGE, COLOR, ETC.

Nationality (country.)	Autopsies. No.	—Tuberculous.— No.	Per Cent.
Tropical Countries—			
Barbadoes	84	56	66.7
Jamaica	52	44	84.6
Martinique	44	32	72.7
Other West India Islands	48	32	66.7
Colombia	13	11	84.6
Panama	7	7	100
Venezuela	1	1	100
Mexico	1	1	100
Total, tropical countries	250	184	73.6
Spain	16	13	81.3
United States	1	1	100
France	2	2	100
Italy	1	1	100
Finland	1	1	100
Sweden	1	0	0
Unclassified	15	11	73.3
Total	287	213	74.2
Age—			
Second decade	9	5	55.6
Third decade	111	75	67.6
Fourth decade	52	42	80.8
Fifth decade	41	35	85.4
Sixth-ninth decade	20	16	80.0
Unknown	54	40	74.1
Color—White	28	23	82.1
Colored	256	188	73.4
Not noted	3	2	66.7
Sex—Female	7	5	71.4
Male	280	208	74.3
I. C. C. employes	251	186	74.1
Non-employes	12	9	75
Unclassified	24	18	75
Time in Panama—			
Under one month	11	7	63.6
One-three months	48	33	68.8
Four-six months	45	38	84.4
Seven-eleven months	29	22	75.9
One-five years	52	38	73.1
Five-forty-four years	42	37	88.1
Unknown	60	38	63.3
Deaths from tuberculosis	287	21	7.3

Twenty-one deaths in 287, that is, 7.3 per cent., were due to tuberculosis. Percentages estimated for temperate regions, where more resistent white predominate, vary between 10 and 15.

NATURE OF THE LESIONS

A great majority of the lesions were calcified or well encapsulated and appeared to be healed or arrested foci. I can not venture to estimate the proportion of lesions that might have been considered progressive, though the number was relatively small. Cavity formation in the lungs occurred in twenty-four bodies and general miliary tuberculosis in thirteen. These figures include the bodies of those in whom death was due to tuberculosis.

LOCATION OF THE LESIONS

Left lung	73
Right lung	79
Left pleura	80
Right pleura	75
Left peribronchial lymph nodes	64
Right peribronchial lymph nodes	71
Pericardium	2
Extrathoracic lesions	36
Extrathoracic lesions only	3
Abdominal lymph glands	18
Abdominal lymph glands only	2
Intestines (ulceration)	14
Intestines (perforation)	1
Peritoneum (general)	1
Meninges	4
Heart (miliary tubercles)	1
Adrenals (miliary tubercles)	2

The spleen and liver were always involved in general miliary tuberculosis, and not infrequently with pulmonary tuberculosis a few miliary tubercles or caseous

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*Read at the meeting of the Medical Society of the Isthmian nal Zone, August, 1908.

†From the pathologic department of the Board of Health Lab-tory of the Isthmian Canal Zone, Dr. Samuel T. Darling, Chief the Laboratory.

masses could be found. In one instance a large caseous mass about 4 cm. in diameter was present in the liver just at the anterior margin. The liver several times presented also tuberculous cavities from 2 mm. to 1 cm. in diameter with caseous walls and containing greenish-yellow semifluid material. A few miliary tubercles could usually be demonstrated in the kidneys in general miliary tuberculosis, though in three instances no tubercles could be found. In two of these three cases tubercle bacilli were found in the urine. Eleven of the eighteen instances of tuberculosis of the abdominal lymph glands were associated with general miliary tuberculosis and one with cavity formation in the lungs. In one body a chain of calcified lymph glands began in the retroperitoneal glands and extended upward into the thorax, including the hepatic, pancreatic, splenic and peribronchial nodes. There was only one small fibro-caseous nodule in the right lung. The pleuræ were usually involved with the lungs, the lesions being generally subpleural tubercles. The lungs and pleuræ were involved eighty-eight times without involvement of the peribronchial lymph nodes; the latter forty-six times without lesions of the lungs or pleuræ. The lungs and pleuræ showed lesions 163 times altogether; the peribronchial nodes 121 times.

PLEURAL ADHESIONS

There were adhesions between the visceral and parietal layers of the pleura or between the pleural reflections in the fissures in 187, or 65 + per cent., of the 287 bodies. The adhesions varied from delicate fibrous bands to total obliteration of both cavities. The right pleura alone showed adhesions 59 times, the left 40, both 88; that is, there were adhesions of the right 147 times, of the left 128 times.

TUBERCULOSIS AND PLEURAL ADHESIONS

Tuberculous lesions and pleural adhesions were associated in 165 bodies; that is, 77 + per cent. of the 213 tuberculous bodies showed pleural adhesions, and 88 + per cent. of those with adhesions were tuberculous. There were in the whole series 74 bodies with no tuberculous lesions, and among these were 22, or 29.7 per cent., with pleural adhesions. It must be assumed, then, that approximately 29.7 per cent., or 85, of the 287 bodies would have shown pleural adhesions had there been no tuberculosis. But there were 187 instances of adhesions. The difference, 102, or 54.5 per cent., of all bodies with adhesions, should represent approximately the number dependent on tuberculosis.

There are two sources of error in the above calculation:

1. It is conceivable, indeed, quite probable, that in the 63 tuberculous bodies that showed adhesions of supposedly non-tuberculous origin, adhesions of both tuberculous and non-tuberculous nature occurred. The adhesions in many bodies were extensive enough to admit of this conception. They were bilateral in 80 autopsies; one cavity was obliterated in 21, and both cavities in 9. This error, if it could be corrected, would increase the percentage of tuberculous adhesions.

2. It is probable that tuberculosis would have been found more frequently if more delicate methods of examination had been used, such as animal inoculation and microscopic examination of all adhesions and peribronchial lymph nodes. Correction of this error would increase also the percentage of tuberculous adhesions.

In view of these sources of error we must consider 54.5 per cent. a minimum for pleural adhesions of tuberculous origin in this series of autopsies.

The frequency of adhesions in the tuberculous bodies varied with the site of the tuberculous lesions in the thorax, as shown in the following tables:

TABLE 2.—FREQUENCY OF ADHESIONS AND SITE OF TUBERCULOUS LESIONS

Adhesions.	Tb. left.		Tb. right.		Tb. both sides.	
Left only	16	68.6%	5	71.2%	12	91.3%
Right only	17		22		9	
Both sides	13		25		42	
No adhesions	21		21		6	
Total	67		73		69	

TABLE 3.—FREQUENCY OF ADHESIONS AND SITE OF TUBERCULOUS LESIONS

	Tb. lungs (or pleuræ).	Tb. peribron. lymph nodes.	Tb. lungs (or pleuræ) and P. L..
Adhesions	77 (85.5%)	27 (58.7%)	59 (80.8%)
No adhesions	13	19	14
Total	90	46	73

Tuberculosis on the right was associated with adhesions a little more often than tuberculosis on the left, and the adhesions were much more frequently on the tuberculous side. Tuberculosis on both sides was much more frequently associated with adhesions than when the lesions were on only one side, and in two-thirds of the bodies the adhesions were on both sides.

From Table 3 it is seen that tuberculosis of the lungs (or pleuræ) was associated with adhesions in over 20 per cent. more bodies than tuberculosis of the peribronchial lymph nodes only. When lesions were in the lymph nodes only there were adhesions in 58.7 per cent., while in non-tuberculous bodies adhesions occurred in only 29.7 per cent., or about one-half as often. This tends to show that, without gross involvement of lungs or pleuræ, a tuberculous pleuritis may arise simpl from lesions of the lymph nodes. Since also in abou forty bodies adhesions occurred at a distance from tuberculous lesions and even on the opposite side of the thorax, the idea suggests itself that the tuberculous viru may cause a pleuritis at a considerable distance fron actual lesions.

In conclusion, from my study of tuberculosis at au topsy, I can not avoid the opinion that climatic and hy gienic conditions in Panama are quite favorable for th arrest or cure of tuberculous infections, and my clinica experience also has supported this view.

SUMMARY

1. Tuberculous lesions were found in 74.2 per cen of 287 consecutive autopsies.
2. A great majority of lesions were small focal one and appeared to be healed or arrested.
3. Only twenty-one, or 7.3 per cent., of the 287 death were due to tuberculosis.
4. Pleural adhesions were present in 65 + per cen
5. Of the pleural adhesions 54.5 per cent. was pro ably the minimum due to tuberculosis.
6. Adhesions occurred much more frequently wh tuberculous lesions were on both sides of the thorax tha when on one side only, and much more frequently al when the lungs (or the pleuræ) were involved than wh the involvement was limited to the peribronchial lym nodes.

My thanks are due to Col. W. C. Gorgas, chief sa tary officer, for permission to publish this paper.

THE CARE AND TREATMENT OF OPIUM-SMOKERS IN THE PHILIPPINES *

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In the early part of 1907 the Philippine Commission passed the opium law to regulate the sale and use of opium and its derivatives in the Philippine Islands. Before the enactment of this law the smoking of the drug and use of it by other methods was allowed under certain restrictions. The new law, however, put a rigid ban on the use of the drug in any manner, except when under the direct supervision of a registered physician. At the same time the law made the mere possession of the drug or the paraphernalia for its use, by one unqualified, a crime punishable by fine and imprisonment.

The authorities, recognizing the great amount of suffering and even danger to life which would result from the sudden withdrawal of the narcotic, passed an act by which funds were appropriated for the care and treatment of any habitué who would present himself or for those who were found by officers of the law to be using the drug and who desired hospital treatment in place of a term in prison. At the beginning the patients were cared for at San Juan de Dios Hospital, but later, on account of cramped quarters, they were transferred to the San Lazaro Hospital. When the transfer was made the new law went into full effect, and, therefore, many new cases were received at San Lazaro during the irst few days that the work was taken over at that place, resulting in a total of two hundred cases, from which he facts and conclusions of this paper are drawn.

In reviewing the results obtained in treating the drug abit two separate classes of cures can be considered. The first class is that in which the habitué is, after reatment, discharged physically and mentally normal. He eats well, sleeps well, assimilates his food properly, as no longing or desire for opium, and has gone sufficiently long without the drug to demonstrate to him hat its use is not necessary for the continuance of his fe, happiness and well-being. The second class of cures that in which all the results of the first are accomlished and, in addition, the desire for opium is eliminated for the future. Examples of this class are, I lieve, seldom, if ever, fully realized. The man who as once been addicted to the use of the drug will, after scontinuing its use, almost certainly at some future me encounter unpleasant conditions or circumstances at will bring back to his mind the realization of the mmediate relief and freedom the drug can give him. t such a time the man's own inherent strength of will all that keeps him from returning to his old habits.

PLAN OF TREATMENT AT SAN LAZARO

By the treatment as instituted at San Lazaro the relts described in the first class are the only ones we ped to accomplish or claim to have achieved. In carg for the patients a series of three wards was arnged. Ward 1 was the receiving ward, and here the tients were first assigned on entering the hospital. A reful examination of the patient's physical condition s first made, a bath was given him, he was carefully rched for any concealed opium, and was questioned rough an interpreter as to the amount of opium or rphin he had been accustomed to take, his method of ministering it and the length of time that he had been using it. He was kept in this ward, where he was always under close observation of trained male nurses, as long as he was receiving opium or sedatives in any form and as long as his physical condition demanded attention.

Ward 2 might be called the hospital ward, for it was here that all patients were sent on development of serious symptoms or intercurrent diseases. This ward was under the care of graduate female nurses, and the patients here received close attention as to diet, nursing, etc.

Ward 3 may be classed as the convalescent ward. When a patient arrived at that stage at which he was no longer receiving any opium, when his sleep was undisturbed without the use of sedatives, when all gastrointestinal symptoms had disappeared and his appetite had regained its natural tone—in other words, when he seemed to have returned to a normal state, both physically and mentally, he was removed to this ward. No opiates of any kind were given here, and if a patient should develop symptoms calling for the administration of his favorite drug he was first returned to Ward 1 before same was given. Briefly, this ward was a sort of detention station in which the apparently cured patients were confined under observation awaiting dismissal. The only treatment given here was a one-dram dose of the elixir of iron, quinin and strychnin after meals. In regard to the time the patients should be held in this ward after the opium had been discontinued, it was finally decided to make a general rule calling for ten days' detention, provided the patient's physical condition was all right on the expiration of this period.

By this plan the patients were continuously separated into three classes: first, those dangerously ill and requiring close medical attention; second, those steadily recovering from the use of the drug and requiring less attention; and, finally, a class receiving no opium or specific treatment whatever.

PATIENTS

As to the nationality of the patients treated, 197 were Chinamen and 3 were Filipinos. All were of the male sex. Their ages were from 17 to 63 years, with an average of 35 1/3 years. The length of time in which they had been habitués of the drug was from six months to thirty-three years, with an average of seven and one-half years. This average, subtracted from the first average, shows that the average age at which they became addicted to the habit was 27 5/6 years.

A very interesting fact which developed while ascertaining the most popular method of self-administration was the great number who were found to use the hypodermic syringe. Our usual mind-picture of the Chinese opium-fiend is one in which he is reclining on a couch with his alcohol lamp and crude opium in front of him, his pipe in his mouth, and surrounded by the reeking smoke of the burning opium. This picture has, however, to a great extent become a thing of the past. Although the Chinaman may have been slow in accepting most of the new ideas and inventions of the Occident, he has very quickly seen the true worth of the hypodermic syringe and its great advantages over the old opium-pipe. In it he has an instrument whose action is swift and sure. It was found that 29 per cent. of our patients at San Lazaro had used the drug in this manner. On close questioning, however, it developed that all but two or three had got their first taste of the effects of the juice of the poppy by the smoking method. The smallest number was those whose favorite method was the eating of the drug, the percentage of those who used it in this

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manner being 19. They also gave, almost to a man, the history of having first used the pipe.

As to the amounts taken by the habitués I can not vouch for the accuracy of the figures, for it was a matter of great difficulty to gain these facts. However, they are just as obtained through an expert interpreter, and are given as stated:

Greatest amount of opium smoked per day	30 gm.
Least amount of opium smoked per day	2 gm.
Average amount of opium smoked per day	11.25 gm.
Greatest amount of opium eaten per day	17 gm.
Least amount of opium eaten per day	1 gm.
Average amount of opium eaten per day	6.5 gm.
Greatest amount of morphin, by hypodermic, per day	7 gm.
Least amount of morphin, by hypodermic, per day	0.5 gm.
Average amount of morphin, by hypodermic, per day	3.75 gm.

One of the most interesting and surprising facts discovered in examining the new patients as admitted was the good physical condition of those who took the drug by the smoking method. Many of them, although giving the history of having been opium-smokers for from five to ten years, were really of almost robust physique and had been doing hard manual labor every day up to that of entrance into the hospital. In direct contrast to them were the users of the hypodermic syringe. These men were usually greatly emaciated, with sunken eyes, a haggard expression and a muddy skin. In fact, they made up such a decidedly different class, that after a few days' experience I could usually tell a new patient's method of taking the drug by merely observing his physical appearance.

OPIUM-SMOKERS

No specific antidote or substitute treatment was used for opium-smokers. The patient was usually received at the hospital some time in the morning, and until evening he received no medication. About 7 in the evening he was generally found to be in about the same condition as on entrance except for a certain nervousness and an appearance of acute apprehension. At this time the usual patient was given one or two grains of opium in pill form, or one-half grain of morphin by hypodermic. This amount of the narcotic would in most cases insure a fairly good night. In the morning, however, his real troubles began. The first and most troublesome symptom to appear was the gastric and abdominal pain, accompanied by nausea and vomiting. In spite of many different drugs tried, these symptoms continued for from two to five days, almost without abatement, except at the periods when opium was administered. The prescription which seemed to possess the most virtue in relieving these symptoms was one of capsicum, tincture of gentian, and nux vomica. It is only fair to say, however, that the relief gained was very slight and of fleeting character.

There was a surprisingly small amount of diarrhea encountered while treating these patients. In only about 2 per cent. of the cases were the diarrhea symptoms at all alarming; in about 25 per cent. there was slight diarrhea of from three to five stools per day. A great many patients had normal stools throughout the treatment and a few patients were constipated from the time of entering the hospital until dismissal. The diarrhea in those cases which became at all alarming was usually quickly and easily kept under control by the careful gradation of the diminishing doses of opium. Large doses of bismuth subnitrate were found to be of some value, but opium itself, judiciously administered, was the most efficacious, and finally came to be the only treatment used.

Next in severity to the gastrointestinal symptoms were those referable to the nervous system. They were expressed by extreme restlessness, slight delirium and insomnia. In attempting to alleviate these symptoms sulphonal, trional and hyoscin were successively tried, but without any encouraging results being noted. Bromids of sodium and potassium were finally the drugs found to be of most value, and were given in large doses of from forty to fifty grains, usually once in twenty-four hours, about 7 in the evening. This gave the patient some help through the night, during which time he would obtain some rest and recuperation from his day's suffering. As it was absolutely necessary that the habitué, in order to be cured, must pass through a certain amount of suffering, this plan aimed at having the most of it, if possible, occur during the day, at which time it is much easier to bear pain and discomfort. However, the patient's first three or four nights were generally very restless and little sleep was secured. For these first few days he was usually unable to eat anything, but possibly drank some milk, or took small amounts of broth. During this period he received probably three or four grains of opium, or three-quarters to one grain of morphin in each twenty-four hours, the drug being given when it was thought to be needed and not at any stated intervals.

In about 10 per cent. of the cases, symptoms of collapse were noted at times during these first three or four days. These symptoms came on rapidly and were most apparent through the respiration becoming fast and shallow, the pulse rapid and weak, and the pupils of the eyes dilated. The drug *par excellence* for this condition is strychnin, used hypodermically, in doses of from one-twentieth to one-thirtieth of a grain, repeated if reaction is not quickly brought about by the first injection.

On about the third or fourth day the usual patient began to show signs of improvement. His abdominal pains lessened, his appetite began to be heard from, and his recovery from that time on was rapid. The amount of opium or morphin given him was rapidly reduced until at the end of a week from the time of his admission to the hospital it had in most cases been entirely discontinued. Soon after this, he would be transferred to Ward 3, where he would spend ten days in sleep and in gorging himself with food at a rate that made the per capita expense account soar; for, during this period which might be called convalescence, without exception each patient developed a phenomenal appetite.

To sum up, the points of interest developed durin the treatment of this series of cases of opium-smoker were: First, the rapid withdrawal of opium from th habitual Chinese opium-smoker is attended with ver little danger and a surprisingly small amount of suffe ing. Second, in a comparatively short time his syste regulates itself to carry out its functions without the ai of the narcotic. Third, the constipating effect of opiu when taken into the system by smoking is not great, f its withdrawal after long use by this method is attend by very little diarrhea. Fourth, the deteriorating effec of long continued opium-smoking on the physique of t Asiatic is of no alarming importance. In fact, I b lieve that it results in less injury to the physical welfa of the Asiatic than does the continued use of alcoh when taken by the Caucasian. It must be borne in min however, that the above assertions refer only to the C naman who *smokes* opium.

THE USERS OF OPIUM BY INJECTION

In regard to the patients treated who used morphin hypodermically, or opium by mouth, there is very little to say. They were by far harder to treat than the smokers, and their treatment presented no ideas other than those which have been reported in the past. They were gradually reduced in their daily dose and treated symptomatically. Only one matter of interest occurred during the treatment of these patients, and that was the results of our experimenting with the hyoscin substitution treatment. Fifteen patients who used morphin hypodermically were picked out for the experiment, and at 7 o'clock one evening were each given one-quarter of a grain of morphin and one one-hundredth of a grain of hyoscin. This first night the result seemed to be fairly good. The second evening the procedure was repeated, out not so successfully. Some of the patients were very restless all night, others seemed to be dazed, and four were delirious. Despite these facts, however, the dose vas again repeated on the third night. Within fifteen ninutes after the administration of the hyoscin, one-ialf of the patients had developed a wild, talkative delirium, wandering about the ward if not held in bed, bsolutely oblivious to their surroundings, not recognizing their friends or hearing or heeding what was said to hem. Of the remaining patients only two were entirely naffected; two developed the most violent gastric sympoms, expressed by excruciating pains in the stomach nd abdomen and most violent retching and vomiting; he breathing apparatus of one was so disarranged as require artificial respiration; the rest suffered cardiac ollapse with pulse that could hardly be felt at the wrist, ne being affected to such an extent that I felt for a time hat dissolution was imminent. Whether or not these emonstrations were due to an accumulative action of e hyoscin, to an idiosyncrasy for the drug which the hinaman may possess, or what it was, it is sufficient say that no more hyoscin was used on these patients, d I most thoroughly condemn its use as a substitute r morphin in treating this class of patients.

OBSERVATIONS ON CHOKED DISC

ITH ESPECIAL REFERENCE TO DECOMPRESSIVE CRANIAL OPERATIONS *

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AND

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BALTIMORE

During the past four years we have been occupied th some experimental and clinical studies on the ationship between various intracranial processes and oked disc.[1]

Our clinical experience is the outcome of studies made for the most part in the wards of the Johns Hopkins Hospital on about two hundred cases of brain tumor. In addition to these tumor cases there has been an equally large number of examples of what we regard as choked disc occurring in such diverse conditions as apoplexy, cerebral thrombosis and embolism, hemorrhage at birth, meningitis, hydrocephalus, nephritis, acute operative compression, postoperative edema, and the cerebral edemas which have accompanied cerebral contusion in cases of cranial injury. Unquestionably our experiences of greatest value have been acquired through the consecutive study of the often rapid alterations in the eyegrounds which usually follow the diminution of intracranial tension brought about through decompressive measures.

Our experimental investigations, undertaken in the Hunterian Laboratory, though still in progress, nevertheless suffice to justify the statement that through mechanical means alone we can not only produce an acute neuroretinal edema which will rapidly subside, but by a long-continued pressure can bring about a more lasting swelling of the nerve head possessing the histologic features which characterize this lesion in clinical cases.

It is our intention on this occasion, after a brief review of the present theories, to present merely a general statement of our views in regard to the etiology of the process, reserving for a future time a more explicit description of the experimental work; of the retinal changes which occur in tumor cases after decompression; of the relation between so-called albuminuric retinitis and choked disc; and of the effect of choking on the visual fields for form and color.

SUMMARY OF VIEWS CONCERNING THE ETIOLOGY OF CHOKED DISC

Though the matter had been hinted at by Türck in 1853, Albrecht von Graefe seven years later was the first to fix the attention of the medical world on the relationship between encephalic disease and the remarkable changes in the eyegrounds—called by him *Stauungspapille*—which are disclosed by the ophthalmoscope. He was the first to offer an explanation of the phenomenon, albeit his conjecture that the process is attributable to a venous stasis brought about by compression of the cavernous sinus never received wide acceptance. It was opposed, for example, by Sesemann (1869) on the ground that the free anastomoses between the facial and orbital veins would prevent any such vascular stasis, and, indeed, was abandoned by von Graefe himself before his death.

The first opportunity for a reasonable explanation of the process was offered in 1869 through Schwalbe's important discovery of the intercommunication between the subvaginal space of the optic nerve and the intracranial meninges. Thus, independently of one another, Manz and Schmidt-Rimpler, as the result of the injection experiments, showed that fluid could be made to pass from the intracranial chamber into the sheath of Schwalbe, leading to a hydrops vaginalis with ampulla-

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Read in the Joint Meeting of the Section on Nervous and ntal Diseases, and the Section on Ophthalmology of the Ameri- Medical Association, at the Fifty-ninth Annual Session, at cago, June, 1908.

Nomenclature. We have chosen Clifford Albutt's term "choked " as a designation of all grades of the neuroretinal edema and consequences which occur in association with states of intranial tension, realizing that some are still inclined to accept Graefe's division and to distinguish a condition of "optic ritis" with its low grade of swelling from the so-called "choked " when the edema of the papilla reaches a distinctly measur- height—of 2 D. according to Elschnig. With the feeling t the terms "neuritis" or "papillitis" give an erroneous impres- of the process, we have abandoned these designations altoier.

hough in the 3d edition of Gower's classical Medical Ophmoscopy (1890) the author, in collaboration with Mr. Marcus n, evidently adheres to the inflammatory theories and though Gunn in his most recent discussion of the process (Brit. Med. r., Oct. 26, 1908, p. 1126) has apparently been largely won over to the view of its mechanical nature, he nevertheless suggests the term "tumor-papillitis" for the lesion when occasioned by a new growth.

The German *Stauungspapille*—which "choked disc" does not quite translate—is preferable to this, and George E. de Schweinitz has called our attention to Herbert Parsons' suggestion that *Papillœdema*, a term introduced by Elschnig, be used, and we agree that it is the best designation as yet offered, provided it is recognized as including all stages of the process.

like distention of its distal end; and though appearances of inflammation might supervene in the course of time they attributed the chief rôle to the mechanical pressure of the distended sheath which led to an incarceration of the retinal end of the nerve with resultant edema of the disc.

This *Transporttheorie* of Schmidt and Manz met with opposition as well as support on the part of subsequent observers. It led in 1873 to von Wecker's suggestion that the sheath of the opticus should be opened in the treatment of choked disc and the strangulated scleral ring divided. Loring, in 1875, opposed the theory, while Panas a year later, as a result of the study of traumatic cases, upheld it. Hughlings Jackson was the first to report cases of tumor without choked disc, and it was difficult to reconcile this finding with the *Transporttheorie*.

Parinaud (1879) regarded an internal hydrocephalus, whether with meningitis or tumor, as essential to the appearance of choked disc. He asserted that an edema of the brain, which extended to the optic nerve, accompanied the ventricular hydrops, and he was unable, in rabbits, by simple intracranial injection of fluid, to produce a *Stauungspapille.* His views of a spreading cerebral edema have been upheld by Ulrich (1885), Siebricht (1902) and Kampherstein (1904).

In 1881, before the International Congress in London, the inflammatory theory was propounded by von Leber, and the term "papillitis" has since been prevalent in English writings. He thought that in no stage of the process was there a true edema or venous stasis, but that it was due to some toxic irritant which found its way through the cerebrospinal fluid to the nerve-head by way of the vaginal sheath. It was therefore a matter of quality rather than tension or quantity of fluid. This view of a toxic neuroretinitis was strongly upheld in a series of papers by Deutschmann, a pupil of von Leber. Similarly, Galezowski, Brailey, Edmonds, and many others, have expressed the belief that in tumors there is an irritant toxin in the cerebral tissue itself which finds its way to the disc down the optic nerve.

Thus toxic or inflammatory, as opposed to mechanical theories, have up to the present day been the most strongly entrenched views, although other bizarre hypotheses have been offered by a number of writers. Among these may be mentioned Loring (1882), who proposed a view of trigeminal irritation with disturbances of trophic function; Ulrich (1887), who attributed the process to compression of the central vessels of the opticus resulting from an interstitial edema of the brain and nerve (Parinaud), a view supported by Deyl von Grosz, Yamaguchi, and others; Adamkiewicz, who regarded it as a neuroparalytic inflammation of the optic nerve centers and who asserts (1905) that artificial increase of pressure in the skull never leads to a *Stauungspapille*, but only to a stasis of the chorioidal veins; Benedikt (1868), Schweller and Hughlings Jackson, who ascribed the process to a reflex stimulation of the vasomotor nerves of the disc leading to inflammation.

The *mechanical* or Schmidt-Manz theory has received support from the experiments of Schultén, from Bramwell, from Oppenheim, from Hoche,[2] from Merz (1900); and as a result of observation[3] on the retrocession of choked disc after palliative operations by Sänger, Axenfeld, von Bruns, Paton, and a host of other recent observers.

The *inflammatory* or Leber-Deutschmann view has been upheld by Knies; by Gowers, who believes in a descending neuritis; by Elschnig, whose view (1895) that choked disc arises in consequence of inflammation, never from a pure edema, is upheld in 1901 when he adds that an increase of intracranial pressure can never be the cause: by Jacobsohn (1897): by Fleming (1904), who regards the nuclear increase as a certain evidence of inflammation; and by many others[3].

Two things, it seems to us, have added immensely to our knowledge of choked disc: one the electric opthalmoscope, which makes the routine examination of ill or recumbent patients a matter of ease, and the other the decompression operation, which has of necessity modified the views of many who heretofore have clung to the inflammatory theory of von Leber. Misconceptions as to the nature of the process are lamentable for the very reason that the matter rests in its chief import on a therapeutic basis. This is illustrated by the following quotation from a paper published in 1906 by a leading American neurologist:

> The toxic factor in the production of neuritis has long been recognized and it is believed by many to be of importance in the production of headache, mental disturbances and other symptoms. Relief of pressure will, therefore, have little influence on any symptoms of toxic origin.

If our observations will modify, if not completely alter, views such as this, they will serve the purpose fo which they are here set down—namely, to accentuat the importance of the mechanical factors. After all, it is possibly a mere quibble, for the physiologic chemist may claim that behind all edema there is some toxic element, and the pathologist, likewise, that the round-celled infiltration which appears sooner or later with new-formed tissue, leading to shrinkage and atrophy indicates inflammation; but in spite of this it is the mechanical element producing edema which underlies these changes, and hence they demand a mechanica therapy. It is analogous to the effects of a tournique loosely applied about an extremity, which leads firs to edema but in the course of time to infiltration, thickening and contraction of the tissues: on removal of th tourniquet the process will completely subside unles the induration has advanced to the stage of permanen scar-tissue formation.

EXPERIMENTAL OBSERVATIONS

In agreement with the experiences of Schwalbe, Man and others, it was noted by one of us some years ag while engaged in experimental observations on cerebra compression, that when fluid is allowed to enter t subdural space through a canula accurately screwe into a small trephine opening in the skull, a swellin of the optic discs will occur. The degree of tensio necessary to induce this acute edema may be measur by inserting a mercurial manometer in the inlet tu between the pressure flask and the canula.

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[2] Hoche drew the interesting analogy between choked disc and compression myelitis of the cord which, as demonstrated by Schmans, is not an inflammatory process but the result of a simple *Stauungsoedema*

[3] Excellent summaries in regard to the causation of chok disc have been given by Th. Kocher in Nothnagel's Specielle Path logie und Therapie, 1901, ix, 206, and by Alfred Saenger in t Wiener med. Wchnschr., 1904, No. 47. Gower's Medical Ophth moscopy, of course, remains to this day the best monograph English on this and allied subjects. References to the more i portant recent papers accompany Elschnig's chapter in Flata Jacobsohn and Minor's Handbuch der pathologischen Anatomie Nervensystems, Berlin, 1904, ii, 1165.

When the fluid is allowed to enter the cranial cham- er under a pressure in excess of venous pressure, venous ngorgement will be apparent in the retinal veins, and oon a measurable elevation in the optic discs can be bserved. If, by elevating the flask, the pressure is ncreased so as to nearly equal the normal arterial pres- ure there will result a marked engorgement and tortu- sity of the veins with a high grade of swelling in ne disc. Under these circumstances, if the optic nerve exposed by a free opening of the orbit a marked dis- ention of the vaginal sheath with the well-known mpulla-like dilatation of its distal end will be dis- osed. If the fluid through which pressure is being ade is colored the color rapidly makes its appearance nder the sheath of the nerve.

In order to determine whether the retinal edema was consequence of this fluid in the nerve-sheath under creased tension or whether it was due in part also a stasis of the retinal veins, in certain experiments e nerve-sheath was ligated distal to the chiasm with fficient pressure to obstruct the venous return with- it interrupting the circulation through the retinal teries. Under these conditions, though the retinal ins became tortuous and engorged, no appreciable elling took place in the disc. On the other hand, th removal of the ligature and the exertion of suffi- ent pressure on a portion of the dura exposed by a phine opening over the hemisphere, the ampullated stention of the subvaginal space would quickly occur, d the disc promptly become edematous.

In brief, therefore, through the backing up of fluid der pressure—and it is indifferent whether this fluid artificially introduced or be merely the normal fluid ich has been crowded from the subarachnoid space o the vaginal sheath—a neuroretinal edema will ur, whereas venous stasis alone will not produce it.

These transient edemas are naturally difficult of tologic demonstration, inasmuch as the fluid is ab- acted from the tissues in the early process of fixation. have, however, been able, by a long continuation of essure in an animal possessing a large subtemporal, led, cranial defect, to reproduce the typical per- nent lesion of a long-standing choked disc, with norrhages, round-celled infiltration and all, which not only demonstrable with the ophthalmoscope, which has later shown the usual histologic picture. Animals may exhibit different changes in the discs, n under the same degree of fluid pressure: indeed, h discs of the same animal are seldom affected in degree. It has been our experience, furthermore, t when choked disc has been experimentally induced his way the edema first makes its appearance in the contralateral to the hemisphere over which the fluid eing introduced.

ur efforts to produce choked discs through the intro- tion of foreign bodies, with encroachment on the acranial space after the manner of a tumor, have far met with only a certain measure of success, btless owing to imperfect methods. Such a degree welling of the nerve-head as we have occasioned in way has been much slower in making its appear- . has been less pronounced than when fluid was l, and rarely holds for any length of time. In e cases the disc in which swelling was first observed esponds to the hemisphere in which, or over which, foreign body had been introduced and thus was olateral to the lesion.

We feel justified in the conclusion that a simple increase of intracranial pressure without any inflammatory or toxic reaction is capable of producing a typical choked disc.

CLINICAL OBSERVATIONS

Operative and Postoperative Edemas.—In the older methods employed for the removal of the Gasserian ganglion some considerable elevation of the temporal lobe, with resultant local cerebral compression, was necessary for a satisfactory exposure of this structure. In consequence of this temporary compression, a low grade of choked disc was not infrequently found after the operation in a considerable number of patients who were made the object of study a few years ago. In one patient there was a marked choking on the side of the operation, with retinal hemorrhages. The changes were often found immediately after the operation, and in a few cases lasted for several days before they disappeared completely. In no case was there any permanent damage either to the nerve or retina.

According to the method which we now use in approaching the ganglion we have failed to find any evidences of these changes, doubtless owing to the fact that with the present operative procedure but little elevation is needed in comparison with the earlier measures and because the pressure, such as it is, is continued for a comparatively short time. It is natural to suppose that the neuroretinal edema occurring in these patients corresponds with the condition induced experimentally by pressure on an area of exposed dura, the normal cerebrospinal fluid being crowded by the pressure into the adjoining optic sheath. Naturally the choking will not occur when there is a considerable escape of fluid during the course of the operation.

A postoperative choked disc has been seen in a number of cases when, after an exploratory osteoplastic craniotomy, there has been a subsequent extravasation of blood leading to an extradural clot. Also in cases of tumor extirpation, when there has been considerable cerebral contusion with resultant edema and swelling of the brain, the height of a pre-existing choked disc may be increased.

Choked Disc in the Newborn.—The fact has long been recorded that after difficult instrumental deliveries a choked disc, often with retinal hemorrhages, may be found in the newborn infant. This we have been able to verify. We have not only observed the condition in infants after prolonged and difficult labor, but also have ample proof that compression of the skull in supposedly uneventful deliveries is at times sufficient to elevate the discs to a height of from 5 to 6 D. In all infants in whom choked discs have been found, tense fontanelles have been the rule.

Cranial Injuries in the Adult.—It has been our good fortune to observe many examples of injury to the skull associated with edema of the papilla, and, indeed, it is the rule for a choked disc sooner or later to accompany at least all bursting (basal) fractures. The choking may appear early, a matter of a few hours, in case there has been extensive contusion or extravasation of blood, or it may appear late, a matter often of a few days, when the edema of concussion is at its height.

It consequently has been possible for us in many cases to study the eyegrounds before there was any evidence of swelling, and it has been interesting in these cases, since decompression has become a routine treatment for them, to compare the ophthalmoscopic findings with the degree of tension disclosed at operation. Thus, no case in which choked disc was present failed to show increased intracranial pressure: cases in the absence of choked disc, with possibly one or two exceptions, invariably disclosed a brain and cerebrospinal fluid not under unusual tension.[4] Many illustrative records might be cited—two will suffice.

Case 1.—Forty hours after a basilar fracture of the skull a patient was brought to the hospital. During the next two days, despite the apparent improvement in his general condition, the choked discs, which were present on admission, gradually increased in height, and for this reason a decompressive exploration was deemed advisable. A large amount of bloody cerebrospinal fluid, holding numerous small clots, spurted from beneath the dura when the tense membrane was opened. A temporary subtemporal drain was placed with escape of fluid for a few days. The patient's choked disc quickly subsided and his recovery was rapid.

Case 2.—A workman fell from a height on the back of his head. There was profound loss of consciousness with development of marked rigidity in the extremities. The discs were normal and there were no pressure phenomena. Nevertheless an exploratory decompression was performed, exposing dura and brain, which were not tense. The patient died after a few days, with symptoms resembling those of a decerebrate animal. Autopsy disclosed no lesion other than two small symmetrically placed pontine hemorrhages.

Meningitis.—Contrary to the statement handed on in many neurologic and ophthalmologic text-books, we have found that in uncomplicated meningitis choked disc is rare—a matter that speaks emphatically against the view of an inflammatory origin of the process. Others have made similar observations in regard to the infrequency of von Graefe's so-called descending neuritis.

When an internal obstructive hydrocephalus complicates the late stages of meningitis, however, choked disc is almost inevitable. We are inclined to regard its appearance as one of the most useful clinical signs of this complication.

Ventricular punctures have been performed in a number of these patients—oftentimes repeated punctures. On occasion the puncture has been made while the eyegrounds have been under continuous observation, and the subsidence of the vascular congestion, and, not infrequently of the swelling itself, is most striking.[5] With reaccumulation of the fluid the original condition becomes restored.

Choked disc is rare in cases of pyogenic abscess, doubtless because brain is destroyed by the process rather than pressed on. Hence unless there is considerable local edema in consequence of the focus of suppuration there is not likely to be any considerable increase of tension. It is otherwise, however, with tuberculous abscesses, but their symptomatology so closely resembles that of tumors that they will be considered together under the latter heading.

Nephritis.—We are more and more inclined to the view of Bramwell, Russell and others that the headache, vomiting and so-called "albuminuric retinitis"—in other words, the cerebral pressure symptoms of renal disease—are due, in large part at least, to a cerebral edema. Histologic studies of the neuroretinal lesion in nephritis have furthermore served to strengthen the opinion drawn from clinical observations that the lesion accompanying nephritis is merely a modified form of choked disc.

That a retinal picture typical of that characterizing renal disease may occur in association with tumors, particularly those below the tentorium, has long been recognized and has received the authoritative confirmation of Taylor, Gunn, Paton and de Schweinitz.

Eighteen of our 200 cases of tumor showed the typical so-called stellate figures of albuminuric retinitis. In twelve of them there was no clinical suspicion of any renal involvement, and, furthermore, relief of the intracranial pressure, through decompression, in a number of the remaining cases led to a disappearance from the urine of the suggestive renal elements. For example:

A young girl was under observation, owing to headaches and slight choking of the discs. Albumin and a few casts were present in the urine. This condition remained unchanged for a number of weeks; when a convulsion occurred, and it seemed inexpedient to postpone the contemplated decompression longer. At the operation a marked increase of cerebral tension was found; the choked discs rapidly subsided and the albumin and renal elements disappeared from the urine before the patient's departure from the hospital.

On the other hand, in not a few patients whom w have studied in the medical wards a postmortem examination has disclosed advanced renal disease, wit a normal though possibly edematous cerebrum, whereas clinically, definite choked discs had been present wit none of the signs which are supposed to characteriz nephritic retinitis.

In a number of patients with nephritis we have performed lumbar punctures while the eyegrounds wer being observed. When pressure symptoms are presen we have invariably found the fluid to be under increase tension, rising occasionally from 60 to 80 cm. or mor in the manometer tube. Its withdrawal leads usuall to a temporary amelioration in the patient's subjectiv symptoms and to an improved appearance in the eyegrounds. Unless the neuroretinal condition is far advanced in new tissue formation, a straightening of th vessels and a measurable lessening of the edema ca sometimes be observed within a very short period. With the almost inevitable reaccumulation of fluid, th former appearances usually soon return. That this not always the case, however, is evidenced by the tw following histories:

Case 1.—Two days after parturition, eclamptic convulsio with all the symptoms of cerebral compression developed a young woman who had suffered for some years with chron interstitial nephritis. The fundi showed the typical chang of "albuminuric retinitis." An excess of fluid was evacuat by lumbar puncture; the convulsions ceased, and in the cour of a few hours her condition had greatly improved. In le than a week there was a marked change in the fundi. Aft three weeks not a trace of the "retinitis" could be found, a now, a year after the operation, she continues in good heal and her eyes show nothing pathologic.

Case 2.—In a patient with uremic symptoms who show the typical, so-called "nephritic retinitis," a subtemporal compression was performed. This disclosed a very tense du on opening which an abundance of fluid was evacuated. O hope that the cranio-dural defect would obviate the ret of the former degree of pressure was well grounded, for patient's uremic symptoms entirely disappeared and there w a rapid subsidence of the extreme swelling of disc and reti with a most striking change in the appearance of the fun The renal condition, of course, remained unaltered.[6]

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[4] It is true of these operative and traumatic cases, just as in cases of brain tumor, that the swelling involves the discs first on the nasal side and last on the temporal; whereas in clearing the process takes place in an inverse order, the temporal edge coming into view first, while the edema lingers on the nasal side.

[5] One of our earlier experiences of the sort was recorded in an article entitled The Blood-pressure Reaction of Acute Cerebral Compression, Am. Jour. Med. Sc., June, 1903.

[6] This matter of choked disc and albuminuric retinitis, w the detailed report of this latter case, has been made the sub of another communication (Am. Jour. Med. Sc., October, 19

Cerebral Tumor.—In our large series of brain-tumor cases we have been fortunate enough to see a number of patients before any injection or edema of the discs has become apparent, and we have thus been privileged to observe the early stages of the so-called "neuroretinitis" while the patients were awaiting operation, as well as the prompt subsidence of the condition after decompression. Indeed, in doubtful cases (cerebral syphilis, embolism, etc.), the question of operation in the medical wards has come to hinge, not on the patient's subjective improvement or on the change in general symptoms so much as on whether or not there is an alteration for the better in the eyegrounds. It may be said that we have seen no appearances in the discs of these patients that were not manifest in the conditions, clinical or experimental, which we have already cited—in other words, no appearances peculiar to tumor.

We have been unable in our study of the eyegrounds to discover anything of value in determining the size or structure of a tumor. Small benign growths in some situations will, by a mechanical effect, increase the intracranial pressure more than large, malignant, infiltrating ones placed elsewhere. Further, as de Schweinitz has emphasized, the stage of the retinal process is no indication of the duration of the cerebral lesion, nor can we predict in a case of tumor in the absence of choked disc when this is likely to occur. We have seen a sudden choking take place in a patient with a cerebello-pontile tumor known to have been present with no retinal change for eight years; and of course it is a frequent experience to have the first suspicion of a brain tumor arise in consequence of the accidental discovery of a choked disc. The whole question resolves itself into the study of the character of the intracranial pressure and its effect on the cerebrospinal circulation, regardless of the histology, the situation, or the duration of the neoplasm.

A growth may increase the intracranial tension in such fashion as to cause a backing up of cerebrospinal fluid in the optic sheaths in two principal ways, namely, with or without the intermediation of an accompanying internal hydrocephalus.

A tumor so situated as to produce an obstructive filling of the ventricles will cause a general increase in ension, often of high degree and of rapid onset. Under hese circumstances the extracerebral fluid in the subrachnoid spaces, particularly in the basal cisternæ, vill be held everywhere at equally high tension and hoked discs which are practically equal on the two ides may rapidly appear. This is more apt to be the ase in subtentorial tumors, though an obstructive venricular hydrops may ocur with basal tumors anywhere, nd even with tumors of the hemispheres.[7]

Growths about the cerebellum have long had a bad eputation so far as the production of choked disc and esultant blindness is concerned, but it must be recogized that certain tumors, like the endotheliomata of he cerebello-pontile angles, may exist for years with bsent or insignificant pressure symptoms, until the attening of the pons and medulla blocks the iter and eads to an acute ventricular overfilling. We have seen ng-standing tumors of the hypophyseal region do the ame thing, namely, ultimately, lead to a filling of the teral ventricles through pressure and deformity of the hird ventricle, so that a double choked disc may become superimposed on the old atrophic nerve-heads. Still, it is the rule for tumors in this situation to cause an optic atrophy through direct pressure, without the intermediation of a choked disc.

Centrally located tumors would naturally be expected to increase pressure equally throughout the cranial chamber and cause an equal choking of the discs, and this usually is the case. Indeed, if all tumors exerted their pressure effects equally in all directions and at all distances, we believe that the two discs would always show practically equal changes.

Tumors which do not cause a general increase of intracranial tension through hydrocephalus are much more apt to lead to an unequal process in the two eyes. This is particularly true of growths in the hemispheres and of those which are situated, roughly speaking, in the neighborhood of the optic tract—temporal lobe tumors, for example, and those within a short radius of the insula. There is sufficient pressure discontinuity between the basilar arachnoid spaces on the two sides, through the interposition of the third ventricle and infundibulum to cause the fluid pressure in the optic sheath to be considerably greater on the side of the growth than on the opposite side.

The pressure effects of a growth, as is well known, diminish inversely with the distance from the growth, and it is easy to understand that subarachnoid fluid may be pent up in the neighborhood of the chiasm by a tumor of one hemisphere, so that the homolateral nerve can be affected more than the other. Still it must be remembered that tumors springing from one side may grow entirely away from their point of origin and strongly indent the opposite hemisphere—a matter which is particularly true of the frontal lobes, owing to the relatively feeble support of the falx in this situation. The ophthalmoscopic findings in cases of this character are of course misleading, and they indeed cast the chief doubt on the value of choked disc as a means of localization.

However this may be, in 70 per cent. of our cases the papilla on the side of the tumor was the one most involved; in 80 per cent. of the cases seen before choked discs made their appearance the first swelling ultimately occurred in the eye homolateral to the tumor; and in 72 per cent. the ultimate damage to the nerve was greatest on this side.

We have seen some patients in whom the opposite eye has shown the greater degree of swelling. This possibly can be attributed to anatomic peculiarities of the optic sheath, which may be a factor to be considered in some individuals; to the indentation of, or a possible area of cerebral edema of the hemisphere opposite to the growth; or, finally, to the fact that the patient's examination may have been made when the disc primarily most affected is declining in height. As a matter of fact, it is of greater value in determining the location of a tumor to estimate the damage already done to one or the other nerve than to depend simply on the existing height of a swollen disc. With this in view it is our custom to search for the new white connective-tissue changes in the disc and around the vessels, to look carefully for the signs of atrophy, to make a careful plot of the visual fields and to measure the central vision. These things are the best index of what has already taken place in the disc and may prove to be the best localizing (right or left) signs.

As has been pointed out, subtentorial tumors, owing to their situation and the resultant hydrocephalus, which first or last is almost inevitable, will often produce at some time in their course a greater swelling of the discs, and one more rapid in its onset, than tumors situated far forward. Only in exceptional cases has this failed to be the rule in our series. The average height of the discs in cases of cerebellar tumors was 5½ D.; in tumors of the cerebral hemispheres 3½ D. The difference is probably greater than would appear from these figures, since many of the patients with cerebellar lesions have been operated on during a period in which the discs were steadily gaining in height.

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[7] In J. M. Martin's analysis (Lancet, 1897, ii, 83) of 601 mors those of the corpora quadrigemina gave 100 per cent. of oked disc. We have had three of these cases not only showing oked discs but double blindness and deafness.

Tumors may continue to grow and still show a fluctuating degree of neuroretinal edema, often with complete temporary subsidence of the process, even without decompression. This can occur from a variety of causes. There may, for example, be periods of temporary relief to an obstructive hydrocephalus through the occasional escape of fluid. Then, spontaneous hemorrhages into the substance of a vascular tumor may cause a sudden rise of intracranial tension with a resulting elevation in the height of the discs, which subside again as the blood is absorbed. Further, cysts which possess a variable degree of tension not infrequently develop in degenerated areas of a tumor. Finally, an advancing growth may lead to a local cerebral edema in its immediate neighborhood, or indeed in a remote situation, with temporary increase of tension and a swelling of the discs which lessens as this edema passes away.

There is great variability in the length of time a choked disc may persist without leading to infiltration sufficient to produce degeneration with optic atrophy. It depends of course on the degree of severity of the process and this in turn on the degree of increased tension. In one of our patients a marked papillary edema, which had been known to be present for three and a half years, subsided in less than three weeks after a decompressive operation, leaving a central vision of 20/20 in each eye and only a slight constriction of the visual fields for form.

A fresh choking may occur on atrophic discs, whether the atrophy be primary or the consequence of a preexisting choked disc which has disappeared. Marcus Gunn some years ago recorded an instance of this; Yamaguchi and de Schweinitz have recently called attention to a similar occurrence; and we have had opportunities of confirming these observations.

A young man was operated on for the removal of a large cerebral cyst, which presumably was a degenerated glioma. Atrophy of both optic nerves without swelling was present, doubtless a relic of the active stage of the growth some six years before. A large, postoperative, extradural extravasation formed, and the resulting increase in intracranial pressure led to an acute swelling of the discs, which subsided promptly after the evacuation of the clot.

These occasional postoperative extravasations have often given us information of great interest, and the examination of the eyegrounds has usually been the telltale of a process which demanded reopening of the wound.

A young woman was operated on for a focal epilepsy without other symptoms, and a fairly large, infiltrating, cortical glioma was unexpectedly disclosed. There had been no choked disc or other clinical evidences of cerebral pressure, and on reflecting the bone flap no tension of the dura or brain was found. The growth was extirpated and the patient recovered well from the anesthetic, but in the course of a few hours she became unconscious and examination of the fundi revealed an acute choking of both discs. The wound was immediately reopened, disclosing a large subdural clot, which was evacuated.

The surgical experience in the case of this latter patient confirms what Hughlings Jackson was among the first to point out, namely, that a choked disc need not accompany a tumor even of fairly large size. It serves, furthermore, to give the most reasonable explanation for the absence of pressure symptoms, on the ground that an infiltrating tumor need not increase the intracranial tension. We have met with a number of other examples of this same thing.

On the other hand, we believe that a certain low grade of choked disc is not infrequently overlooked. There is one type in particular which is detected with the greatest difficulty, namely, that in which both disc and retina are uniformly edematous and the structures remain clear. For example:

A patient was sent to us whose history and physical condition clearly indicated the presence of a growth in the central region of the right hemisphere. His eyes had been frequently examined by a capable ophthalmologist, who reported that there had never been any observable "retinitis" of either disc. We were rather inclined to believe that the nerves and retinæ were not normal, but we could not be positive of this. A palliative exploration with decompression was performed, and in a few days the complete disappearance of an unsuspected edema from the retina, leaving prominent the discs, the swelling of which subsided more slowly, cleared up our uncertainties.

Thus, without decompression, incipient choked discs may be extremely hard to distinguish from simple hyperemia, and the greatest care must be used to avoid error.

On other occasions we have observed, while the process is in its incipiency, this diffuse obscuration from swelling of both disc and retina, but as the nerve-head increases in height the retinal edema usually disappears. Conversely it has been seen to return as the swelling of the disc subsides. Thus, with a low grade of pressure or with an early process, edema of the retina may be more extensive than when there is a pronounced choking of the disc.

We find it difficult to reconcile these observations with the view that the low grade of retinal edema is characteristic of a true neuritis, for every link connecting the two processes can be made out. Thus, we have seen cases of so-called "descending neuritis" lose every supposed ophthalmoscopic characteristic of that condition and insensibly pass into choked disc; and conversely not a few choked discs have eventually shown the picture of descending neuritis. Though they are not common, we have seen typical choked discs in cases of meningitis, but only when the intracranial tension was found to be greatly elevated. After operation, despite the continuance of meningeal inflammation, the choked disc or, if you will, the descending neuritis, may entirely clear away.

Subdural hemorrhages from bursting fractures of the skull occasionally produce the picture of descending neuritis in one eye and of choked disc in its fellow, while removal of the extravasation may lead to a complete subsidence of both conditions. It hardly seems credible that one is a true neuritis and the other a choked disc, both caused by the same injury, appearing in the same individual and relieved by the same operation.

When choked disc is of high grade, periods of transient blindness may occur lasting from a few seconds to an hour or more. These periods of temporary amaurosis we find, in agreement with Leslie Paton, to have been most common in association with cerebellar tumors. It is Oppenheim's conjecture that a distention of the third ventricle due to an obstructive ventricular hydrops may, by direct pressure, so affect the optic tracts near the chiasm as to cause the early amblyopia and blindness, and it is conceivable that such a process can account as well for these temporary losses of sight. One of our patients was able to induce the condition on assuming a certain posture.

A young married woman for some years had suffered from headache, homonomous hemianopsia and hemianesthesia, which were thought to be hysterical, until a double choked disc finally made its appearance. On sitting up and bending her head well over, her pupils would dilate *ad maximum* and she would slowly become blind. When in this condition, an ophthalmoscopic examination would reveal no appreciable change in the condition of either arteries, veins or degree of swelling. A combined exploration and decompression was performed, with amelioration of her subjective symptoms, disappearance of the choked disc and cessation of the attacks of blindness.

Hughlings Jackson was among the first to lay stress on the fact that central vision may be preserved in almost normal acuity until a late stage of "optic neuritis." Owing to this fact the tragedy of a sudden and unexpected total loss of vision is unfortunately not uncommon. We have, on a number of occasions, been persuaded to operate on patients after such an occurrence, in the hope that some vision might be restored. This has never occurred even though two of these patients were decompressed within a day or two after the blindness set in, and though in one of them a cerebellopontile tumor was successfully removed. Indeed, as has been the experience with others, we have seen cases in which a palliative operation has been deferred so long that blindness from complete atrophy followed the operation as the choked disc slowly subsided.

The study of the visual fields will usually give a much better index of the extent of implication of the nerve than will any tests for acuity, and there are certain features of the color fields in particular which we regard as characteristic of an early stage of implication of the nerve—a matter which must be deferred for another occasion.

HISTOLOGIC AND SURGICAL NOTES

The histologic alterations in the nerve and retina we have found to vary with the extent and duration of pressure and to bear little if any other relation to the character of the associated disease or injury. The greater the swelling and the more enduring the process the more marked the histologic changes have been.

The pathologic findings usually varied from a slight swelling of the disc with overfilling of the veins to great dilation of the subvaginal spaces around the nerve and to complete atrophy and marked degenerative changes in the retina. The microscopic picture corresponds with the gross pathologic changes, consisting in the main of small and large hemorrhages in the nerve-head and retina, cystic and colloid changes, hyaline thrombi, marked separation and tortuosity of the nerve bundles, proliferative changes in the vessels, perivasculitis, round-celled infiltration, fatty deposits in areas where exudates were present, cytoid masses, retinal separation and more or less complete disintegration of the fibers of nerve and retina.

Through the courtesy of Dr. F. H. Verhoeff of Boston we have had the privilege of studying and comparing with him sections of the optic nerves and retinæ taken from a number of undoubted cases of brain tumor and of nephritis in his and our own collections. The histologic changes varied but little in the two conditions, and the essential features of each left little doubt as to their close histologic connection. It seems very probable that the two lesions represent only modified forms of a neuroretinal disturbance originating from the same cause. Sclerotic changes are present in the vessels in nephritis more often than in tumor; this, however, is another sign of the primary disease, and, so far as the retinitis is concerned, is a mere coincidence. It possibly gives the retina less power to resist changes resulting from edema and modifies the picture seen ophthalmoscopically. Thus, since the presence of a stellate figure has been recorded in our series in nearly as many cases of undoubted brain tumor as of undoubted nephritis, we naturally incline to the view advanced by others that it can not be regarded as typifying renal disease exclusively.

Our experience encourages us to advocate, not only in many cases of cerebral tumors but in a number of other conditions, an early decompression. Needless to say, a cranial operation is regarded by many people, both lay and professional, as a serious performance—and perhaps justly so. It is necessary, therefore, that an operation proposed for the relief of the retinal lesion in its incipiency, at a time when it is difficult to make the patient appreciate the serious nature of his trouble, should be one practically without risk, easy of performance, one which requires the shortest possible hospital residence and leaves the least possible external evidence of its having been carried out. We know of no operation other than the subtemporal decompression described by one of us which in so large measure meets these requirements.

Permanent alterations in the fields and loss of visual acuity invariably take place if choked discs are allowed to run their course, and in a very large proportion of cases complete blindness supervenes before death terminates the story, and indeed only too often in cases in which the primary lesion does not lead to a fatality.

Any permanent alteration in the nerve will cause a corresponding change in sight. This often holds true even if the process is interrupted by an operation, but the important point is that the longer the changes persist the greater will be the loss in vision. In a number of patients the choked discs have subsided after operation with complete restoration of normal visual acuity; in a larger number the condition has been checked without further advance, and the sight has remained as before the operation. Unfortunately we have seen a few patients in whom, in spite of the decompression, vision has become worse, and one, indeed, in whom it was lost. These latter patients all had extensive exudates and marked proliferation of connective tissue in the disc and retina, and the further loss of sight was due solely to the contraction of these masses with resultant degeneration of the vulnerable nerve fibers. These cases offer the strongest argument for early decompression; for if the choking has been allowed to advance to this high degree, unavoidable contracture of the new tissue may shut down on the nerve fibers and serve to produce atrophy regardless of any intervention.[8]

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[8] The results of our surgical measures, so far as the changes in the eyegrounds are concerned, do not differ greatly from those given by Leslie Paton in his excellent and concise review of a series of cases observed by himself and Marcus Gunn in the National Hospital, Queen Square (Optic Neuritis in Cerebral Tumors and its Subsidence after Operation, Tr. Ophth. Soc. U. Kingdom, 1905, xxv, 129). Our series of cases has beeen considerably larger than that which forms the basis of his report, and

If we are correct in thinking that increased intracranial pressure—a condition which in its less severe degrees can be relieved by operation—is the cause of choked disc, and with the knowledge that choked disc frequently leads to blindness, the proper course to pursue must seem clear to every one. We do not wish to seem radical in this, for we zealously endeavor to give medicinal therapy and cautious delay their just dues. Still, in many cases it is often the safer course to decompress first and push the drug treatment afterward. One method promises sight, the other possible blindness, and the iodids are much better borne when the patient is free from headache and nausea.

Further, in undoubted tumor cases it is often unwise to wait until the growth can be located before operating. The primary effort should be made to alleviate the patient's physical discomforts and assure the preservation of vision; then one may delay with lessened anxiety. We have had, during the past five years, many patients with unlocalizable tumors, who, as the result of an early decompression, are perfectly comfortable, with either normal sight or vision amply sufficient to allow them to continue with their livelihood. A number of these patients have returned after variable periods with an onset of focal symptoms which have enabled us to determine the situation of the growth; in a few of them the lesion has proved to be accessible and has been successfully removed.

SUMMARY

It is our view that the early injection with stasis of the vessels, the marked edema with projection of the papilla, and the ultimate round-celled infiltration with new tissue formation which leads to atrophy, are merely stages of the same process. We believe that the mechanical views of Schmidt-Rimpler and Manz are largely correct and that the lesion is primarily due to the crowding into and distention of the sheath of Schwalbe by obstructed cerebrospinal fluid, resulting in an edema of the nerve-head, in which toxic elements play an insignificant part.

We believe, with Parinaud and his followers, that an acute internal hydrocephalus in the closed adult skull almost inevitably leads to a choked disc, but we attribute this to the presence of arachnoidal fluid forced into the optic sheath rather than to an edema spreading from the brain to the optic nerve; furthermore, choked disc is often present with tumors which have not led to hydrocephalus and is usually absent in the "essential" hydrocephalus of infancy.

We believe, since a small, benign, slow-growing and remote tumor so situated as to cause hydrocephalus—for example, by pressure on the iter—can lead to a high grade of choked disc, whereas a malignant, rapidly-growing glioma which causes but little pressure, owing to the way in which it infiltrates the brain, may produce no change whatsoever, even though situated near the optic nerve, that toxic products in the cerebrospinal fluid can hardly be held responsible for any stage of choked disc. With others, we have observed cases of sella turcica tumors which have led to optic atrophy from direct pressure without producing choked disc. In these cases, owing to the situation of the lesion, fluid is not crowded into Schwalbe's sheath.

We believe, since choked disc, contrary to many authorities, is rare in meningitis and equally so in abscess unless there is an obstructive hydrocephalus leading to greatly increased pressure, that meningeal inflammation of itself must be looked on as an unlikely source of the lesion. Furthermore, the process is frequently seen after cranial fractures, apoplexies, and not uncommonly after simple operations when the question of an infection can safely be ruled out.

We believe, finally, since there is an almost uniform subsidence of what we consider to be choked disc (barring certain cases complicated by obstructive hydrocephalus) after decompressive operations, whether conducted for the pressure of tumor, cerebral edemas of one sort or another (traumatic, nephritic or vascular), infections, or intracranial hemorrhages, that a mechanical rather than a toxic process must play the chief rôle in the causation of this well-recognized lesion.

ABSTRACT OF DISCUSSION*

ON PAPERS BY DRS. SPILLER† AND CUSHING AND BORDLEY

Dr. H. V. Würdemann, Milwaukee: My experience with the procedure of trephining for this condition is confined to three cases, and I speak mainly from a theoretical standpoint.

As the causes of optic neuritis are so varied, and in the main are general diseases, as syphilis, nephritis, the rheumatic diseases, the grave anemias and diseases of the vascular system and poisons, we are limited in a surgical sense to optic neuritis caused by diseases of the orbit and adjacent sinuses, amenable to the usual surgical treatment, to infectious diseases characterized by spinal and cerebral meningitis (for this lumbar puncture is certainly preferable); and to papillitis occurring in brain tumor, due to increased intracranial pressure, and speedy relief by trephining seems indicated.

Although the pathology of choked disc is usually given as due to increased intracranial pressure, with tension of the optic nerve sheaths, from a theoretical standpoint, I consider that this is true only in the case of intracranial hemorrhage and actual new growths. Certainly, in all cases there is local infiltration of white cells and exudates within the sheaths, but this is only the effect, not the cause, of papillitis, which is in most cases due to general diseases, acting through germs or toxins. The treatment is that of the general disease, together with eliminative measures, more particularly pilocarpin sweats and iodid of potassium in large doses; the same form of treatment is used for papillitis due to drugs or poisons. In diseases of the orbit and adjacent sinuses, certainly local surgery is indicated. In certain infectious diseases, more particularly spinal and cerebral tuberculous meningitis and epidemic cerebrospinal meningitis, lumbar puncture not only relieves the meninges of the excessive amount of toxic cerebrospinal fluid, but likewise the pressure within the optic nerve and the cerebral ventricles, and is here recommended. In intracranial hemorrhages and tumors, optic neuritis is believed to be caused by pressure; the relief of this intracranial pressure has relieved or brought the papillitis to a standstill, preventing the further infiltration of the white cells into the neuroglia and consequent destruction of the optic neurons and preventing the secondary deposition of white clastic tissue, which causes the resultant atrophy of the optic nerve. Therefore, I believe that trephining should be restricted to cases of optic neuritis caused by intracranial hemorrhages and tumors, lumbar punctures being reserved for the other surgical indications, as these operations prevent the patient from becoming blind.

Edward Stieren says that the skull and dura mater should be opened as soon as the diagnosis of increased intracranial

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contains many more cases of early one-stage decompression for unlocalizable growths, which may account for the fact that there is a considerably higher percentage of complete restorations to the normal. It would be superfluous for anyone to attempt to improve on his vivid description of the ophthalmoscopic appearances to be observed during the advance and subsidence of the process

* The discussion appeared in full in the Transactions of the Section on Ophthalmology and in the Transactions of the Section on Nervous and Mental Diseases, 1908.

† The paper of Dr. Spiller appeared in The Journal last week.

pressure is established, medical treatment being instituted afterward.

Horsley advises opening the skull and dura mater in optic neuritis of anemic or toxemic origin. He places considerable responsibility on the medical adviser if blindness results, after the process has been diagnosed, due to failure to arrest it by the simple palliative remedy of opening the dura. The ophthalmoscopic appearance of the disc must be carefully interpreted before the degree of vision after operation is predicted. The greater the secondary changes in the disc and retina as shown by the yellowish-white stippling patches of exudation or opal white atrophic changes, especially if associated with muscular figures, the more will vision be impaired.

Babinski and Chaillous say that the therapeutic value of lumbar puncture in ocular pathology has not been thoroughly studied. A few authors only have incidentally noted its favorable effect in certain affections of the optic nerve. According to the observations of Drualt, papillary edema, as well as other symptoms of the cerebral compression, may disappear after evacuation of the cerebrospinal fluid, but the result is far from being constant. Quincke joined a vertical glass tube to the needle used to make the puncture to enable him to measure the pressure of the cerebrospinal fluid and establish the relation between intracranial hypertension and the symptoms that are attributed to it. In this way, in case of "choked disc," lumbar puncture may aid the diagnosis, and it may be repeated if it causes any improvement.

The relief, sometimes so immediate, of visual trouble following lumbar puncture, favors the theory of Dupuy-Dutemps, who asserts that papillary edema is due to compression of the central vein in its passage through the dural sheath.

Babinski and Chaillous conclude that lumbar puncture should be considered a therapeutic measure in cases of a papillary edema due to traumatism or inflammation while in intracranial tumors it can be only palliative; that it is well to repeat the punctures as often as may seem necessary to avoid the effects of compression, particularly atrophy of the optic nerve.

Lumbar puncture appears to be particularly effective in the clinical type described by Quincke under the name of "serous meningitis." In many cases of meningeal hemorrhage, particularly the traumatic, the method may be indicated when there is no urgent necessity to evacuate the blood. Palliative results are obtained in hydrocephalus. In optic neuritis from cerebral tumor prudence should be used in treatment by lumbar puncture, as in some cases sudden death has followed it. and in others there has been an aggravation of the nervous symptoms, particularly of headache and vomiting. In the uremia of Bright's disease there may be real relief, though only of symptoms. In labyrinthine diseases of the ear lumbar puncture diminishes the vertigo and tinnitus and even the deafness.

In all three cases the effect is obtained by diminution of the tension produced by the excess of cerebrospinal fluid. There is a very reliable clinical sign of this hypertension in optic neuritis of stasis, and the diagnostic and therapeutic value of lumbar puncture in optic neuritis has attracted the attention of neurologists and ophthalmologists.

Dr. Charles H. Frazier, Philadelphia: I shall base my remarks chiefly on an experience with between fifty and sixty decompressive operations. There is no therapeutic measure, physical, medicinal or surgical, which gives greater relief to so apparently hopeless and intensely suffering a class or group of patients as the decompressive operation. This operation should include among its indications traumatism, perhaps epilepsy, meningitis, acute and chronic, with hydrocephalus. As for tumors, we should not be content with purposeful decompression except in those cases in which we have assured ourselves that the tumor is inoperable, inoperable signifying either that the tumor can not be localized or can not be removed. The ease with which the simple decompressive operation can be performed and the immediate relief it affords,tempt surgeons and neurologists to be content with palliation. If the habit becomes prevalent, many operable tumors will be overlooked, and the percentage of operable growths will not increase as fast as it should.

The influence of decompression on beginning or fully established optic neuritis is naturally uppermost in the minds of the members of the ophthalmologic section. With but few exceptions the results in our work in the University Hospital have been good. The prognosis seems to be better in those cases in which the choked disc subsides comparatively slowly. In fact, we have never observed as rapid a disappearance of the choked disc as has been recorded by others.

Surgeons have been accustomed to relieve intracranial tension due to the result of traumatism, and particularly fractures and hemorrhage. There should be a limited number of cases of cerebral edema, resulting from cerebral contusion, in which decompression might relieve intracranial tension sufficiently to tide the patient over; but certain factors may render operation useless, and especially the rapid and diffuse character of the process. Tumors are more localized, grow more slowly, and do not, as a rule, involve the medullary centers. The edema of contusion is more or less widespread, and even though decompression is established, the process continues and eventually through direct or indirect involvement of the circulation of the vital centers, causes death.

In the fifty or more operations which we have had, excluding those for the relief of traumatic conditions, we have lost one patient in twenty-eight of those in whom the lesion was in the cerebrum. In this case the autopsy proved that the patient had multiple sarcomata, involving the medulla and pons as well as the cerebrum. Often we did more than a simple decompressive operation. In more than half the cases this was preceded by an exploratory operation, which, of course, increased the operative risks. In 25 operations for lesions of the cerebellum, we have had 6 deaths; 1 from pneumonia, 1 a typical cerebellar death, and 4 from shock. In the first 8 of the series there were 3 deaths, and in the last 14 only 3 deaths.

As to the general effect of the operation, 70 per cent. of the patients may be said to be considerably relieved, and 10 per cent. have been entirely relieved of the symptoms for the relief of which the operation was performed.

As to the effect on individual symptoms, we find in our histories that as to choked disc only three are recorded as uninfluenced at the time the patients were discharged from the hospital; and some of these already had optic atrophy. As to headache, two are recorded as uninfluenced by the operation; as to nausea and vomiting one; and as to vertigo one. Some of those cases which were referred to as being uninfluenced at the time the patients were discharged, we know from subsequent observations, have improved. I am referring now particularly to the choked disc.

As to the time in which operation should be performed, I believe that in an increasing optic neuritis we should not wait for the development of localizing symptoms or other signs of brain tumor or intracranial lesion. I believe also that we should not hesitate to operate in cases which are apparently hopeless, the patients being in a grave condition at the time they are brought to the surgeon.

In one case, particularly, in which I recall having operated during the past winter, the patient was almost unconscious, delirious for a number of days, and had violent headache in addition to optic neuritis; the situation seemed hopeless. A rapid decompression, however, was followed by almost as rapid a restoration to consciousness and the subsidence of all symptoms except an aphasia, which is gradually disappearing.

Dr. G. E. de Schweinitz, Philadelphia: I endorse all that has been said on the value of decompressing operations for choked disc and join in all the protests made against unreasonable delay in performing these operations. I would say a word, first, in regard to the relation of the refraction of the eye to the development of choked disc, or, to use another and perhaps a better term, "brain-tumor neuritis," or Mr. Marcus Gunn's recently delivered term, "brain-tumor papillitis."* All those who have had the opportunity of observing the effect of the

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*Since these remarks were made, the last volume of Mr. J. Herbert Parsons' "Pathology of the Eye" has appeared. In this he urges the adoption of the term "papilledema" as a substitute for the word "choked disc," that is, the *Stauungspapille* of the Germans.—G. E. de S.

relief of intracranial tension on engorgement of the nerve-head must readily agree that any theory which omits this element is not worthy of serious consideration. Not only is the important relationship of increased intracranial tension to the development of choked disc proved by recent work in brain surgery, but it has received strong experimental proof, notably from Merz in 1901; and his work is confirmed by the researches of Drs. Cushing and Bordley. Therefore, it is difficult to be divorced from the term "choked disc," which is so expressive. It is a well-known fact that so-called brain-tumor papillitis, or choked disc, develops either slowly or not at all in myopic eyes. This, as Mr. Marcus Gunn points out, in all probability depends on the difference in the termination of the optic nerve sheaths in the sclerotic. In hyperopia the termination is more abrupt and in a more conical form than in myopia, in which the sheath spreads itself out more gradually into the sclera, and therefore allows an easier filtration of the fluid which is the cause of the edema. Be this as it may, in the examination of all eyes in the subjects of suspected increased intracranial tension from any cause there should be a full consideration of the refraction of the eye.

In making record of a choked disc, or tumor papillitis, there should be a definite statement, not merely of its height, but of its height above the level of the eyeground. Doubtless this is always perfectly clear to the observer, but it has not always been made clear in the records. This is a point of some importance in noting the results of operative interference on the height of the swelling. Take the case of a patient in Dr. Frazier's ward: Although the surface of the disc is + 5 D., since the trephining there is little or no swelling, or, more accurately, edema elevation, because the patient has a hyperopia of 5 D. at the macula, and the original height of the disc was 3 D. above that level.

It is desirable to make record of the corrected vision of the patient, both before and after operation. Unfortunately, sometimes the acuteness of vision has apparently been recorded with the aid of the patient's correcting glasses, but later records of vision have been made without this aid, or sometimes the procedure has been exactly the reverse. I could give a number of examples showing how failure to note the refraction, both before and after operation, has introduced inaccuracies in the ultimate records of the visual results.

It has been my own experience that the subsidence of choked disc after decompressing trephining is not a very rapid one in many instances, although there have been some notable exceptions, one of which I believe has been reported in the Section on Nervous and Mental Diseases by Dr. Sinkler during this meeting. It seems to me that there should be a sharp distinction between the primary subsidence of the engorgement of the retinal vessels, the size of which sometimes markedly diminishes in the first twenty-four or thirty-six hours after trephining, and the subsidence of the height of the edematous disc, which is usually apparent at a later period. This point, I believe, has been made by von Kruedener in his recent article. My own experience has been that the first decided change in the engorged nerve-head is usually about the seventh day (certain exceptions have been referred to), and from then on the subsidence is quite rapid, so that most of the edema disappears by the end of the fourth or fifth week. This experience agrees with that of Mr. Leslie Paton, recorded in his recent admirable papers on this subject. Moreover, it has seemed to me that the ultimate visual results were better if there was a comparatively slow subsidence of the engorgement edema than if this disappeared very rapidly.

Naturally, the prognosis as to sight is better the earlier the operation is performed. If operation can be performed in one of the first three stages of tumor papillitis (with which stages all of us are familiar), the prognosis *quoad visum* is extremely favorable. If, however, the operation must be delayed until the fourth or fifth stage of choked disc, the prognosis is much less favorable, and, indeed, if it is much delayed, the operation can be of little service in restoring sight. In this connection, however, it should be remembered that sight does not always return immediately after the operation, and the records will show that sometimes it is necessary to wait for a considerable period of time, even five or six weeks, before the best results are attained. Therefore, if possible, the surgeon should always operate during the first, second or third stage of tumor neuritis, but should not hesitate to operate, no matter what the stage is, not only for the relief of intracranial pressure, but for the sake of good visual result occasionally possible, even in apparently most unfavorable cases.

A difficult differential diagnosis is between beginning tumor neuritis and the so-called spurious optic neuritis not uncommonly seen in hyperopic eyes. I suspect that in some cases of reported engorgement edema of the papilla the observer may have been deceived by the presence of a hyperopic neuritis which he mistook for a beginning choked disc due to increased intracranial tension.

Occasionally there is rapid loss of sight after trephining, when one would expect just the contrary result. In two notable instances, after perfectly correct technical operations, both of them on cerebellar tumors, I have seen rapid blindness follow in spite of the prompt relief of intracranial tension. It has seemed to me that a possible explanation of some of these cases was great loss of blood at the time of the operation. The hemorrhage may have caused some change in the ganglion cells of the retina, exactly as such changes may be produced by free loss of blood after hemorrhage from the stomach or bowels. If so, the mechanism of blindness under these circumstances is the same as that which occurs in quinin, methyl-alcohol poisoning and other toxins, as has been so well shown in the researches of Ward Holden and others. I know that there are other explanations of this blindness.

Dr. Peter Bassoe, Chicago (presenting a patient): This patient, a clergyman, 42 years of age, in the fall of 1904 developed symptoms of brain tumor, severe headache, mostly in the morning, associated with vomiting and dizziness, diminution of hearing on the left side, slight impairment of vision and a tendency to fall to the left in walking. I saw him first in November, 1906, and then he presented the following symptoms: Staggering gait, tendency to fall to the left, slight left-sided ataxia, diplopia due to paresis of the left external rectus, nystagmus, which was coarse and slow in looking to the left, fine and rapid in looking to the right; bilateral optic neuritis, very slight on the right side, but marked on the left side, the swelling as measured by Dr. Wilder being 3.5 diopters. The vision in the left eye was 20/30, in the right eye 20/20. There was total nerve deafness on the left side with no evidence of middle ear disease past or present. A diagnosis of left-sided cerebellar tumor was made and operation advised. The operation was performed by Dr. Arthur Dean Bevan, Nov. 22, 1906. A suboccipital cranial resection was made and a tumor was felt in the left lobe of the cerebellum half an inch below the surface. Just how large it was and whether infiltrating or not could not be easily determined. The patient took the anesthetic very badly, and removal of the tumor was not attempted at that time. The dura was not sutured and the bone not replaced, so as to allow a hernia to form. It was not known at that time whether this operation was to be the first step in removal or a merely palliative operation. Three hours later, as soon as the patient came out of the anesthetic, I examined his eyegrounds and I am certain that there was a distinct change, as I then for the first time could see the outline of the left disc. Unfortunately, he was not examined by an ophthalmologist until three days later. Then Dr. Wilder noted that the disc outlines were clearer, but the swelling remained the same, so the change observed by me must have been chiefly in the amount of blood in the veins. On December 13, nearly three weeks after the operation, Dr. E. V. L. Brown measured the highest point of th disc to be a little less than two diopters; so there had been considerable recession in the course of the three weeks. Th left-sided ataxia decidedly increased after the operation. O December 14 a second operation was made and the tumor re moved. It was a cystic glioma of the size of a walnut an shelled out very easily. Since then the patient has made slo but steady progress. The vision was measured a couple o times after the operation and in the left eye one measure 20/40, once 20/30, and is now 20/40; the right eye each tim

20/20. The ataxia has gradually diminished. The patient returned to his work, which he formerly had to discontinue on account of severe headaches, and during the past year he has been able to preach twice every Sunday. The severe headaches have entirely disappeared. The chief trouble now is the ataxia on the left side, which I consider to be due to the cerebellar hernia, which can be readily felt. Dr. Brown yesterday examined the patient's eyegrounds and finds that the left disc is best seen with a + 1 lens. From what I understand, there is now no sign of any atrophy in the disc, and an abundance of small vessels can be seen. The left external rectus paresis, the left nerve deafness and the nystagmus still exist.

Dr. Charles K. Mills, Philadelphia: Trephining for cerebral symptoms dates far back even of the history of modern localization and cranial surgery. During my experience of twenty-five or thirty years, in not a few instances palliative operations were suggested for symptoms, like headache. I recall Dr. Weir in this connection. With regard to what are now called decompressive operations for the relief of optic neuritis, headache, vertigo and nausea, our recent experience, I think, dates distinctly to 1901, when at the Philadelphia Neurological Society I presented a paper on brain tumors, especially with reference to the parietal and prefrontal lobes, followed by a paper by Dr. de Schweinitz on optic neuritis. This was followed by the suggestion of trephining for the relief of optic neuritis by Dr. Spiller, who asked Dr. de Schweinitz whether he considered it justifiable to trephine when choked disc and certain symptoms suggesting brain tumor existed, although the growth could not be localized; that is, whether he considered it justifiable to trephine in the hope of preserving vision and modifying some of the symptoms of brain tumor. In some cases the mere opening of the skull seemed to have been of benefit. An account of this meeting and the discussion is to be found in the *Journal of Nervous and Mental Disease* for May, 1901. Since that time we have had an increasing number of cases in which both radical and palliative operations have been performed.

If optic neuritis is present and increasing, there should be no dallying with sodium iodid or potassium iodid and mercury, no waiting for the development of further symptoms, in many cases no waiting even for focal symptoms, so important is it that these operations should be done promptly.

The rule which we follow at the University of Pennsylvania is, whenever there are any focal indications, however slight, to make the decompressive or palliative operation in a region that would allow of a possible radical operation. It makes some difference, perhaps, but not very much, as to the part of the skull which opened. Over the right temporal lobe or the right prefrontal lobe are favorable positions. We have a habit at the University of Pennsylvania of working in collaboration—Dr. Spiller, Dr. Frazier, Dr. de Schweinitz and others—and in every case in which we have a tumor with optic neuritis we agree on operation as quickly as possible.

Dr. Charles E. Beevor, London, Eng.: When I first began to study neurology the theory held was that neuritis was caused purely mechanically; the choked disc idea was the theory that was advocated; then later on some papers were read, I think at the meeting of the Ophthalmological Society in London, which argued that it was rather due to descending changes in the optic nerve; but I have always felt that the old theory was probably the correct one, and that the cause of the neuritis was really purely mechanical. I was, therefore, greatly interested to learn that Dr. Cushing and Dr. Bordley had come to the conclusion from the experiments that the neuritis is really mechanical.

How soon after the injection of the fluid in dogs do symptoms occur in the optic disc? Is it a question of hours or of days? I understood that this injection of paraffin did not produce the choked disc so easily as injection of fluids. I suppose that the reason of this is that the brain becomes used to, and accommodates itself to pressure, and, therefore, the effects are not so marked.

It has been a mooted question, especially in England, whether the optic neuritis occurs in the eye on the same side as the tumor or on the opposite side. Sir Victor Horsley holds that the neuritis occurs first of all, or is more intense, on the side of the tumor; but in a paper by Leslie Paton, read at the Ophthalmological Society of London recently, he comes to the conclusion that one can not lay much stress on that. My own point of view is that the question of on which side the tumor occurs on is of least importance. For instance, if all the symptoms pointed, say to the left side and the neuritis was more marked on the right side, I should disregard it as a localizing symptom. In a percentage of cases it is more frequently, I think, on the side of the tumor; but not so with sufficient frequency to be useful in the question of diagnosis.

In cerebellar tumor I agree that the neuritis is more marked than in tumor situated further forward; in some lectures before the Medical Society of London I had the opportunity of bringing together three or four cases of tumors in the parietal region, and the extraordinary point there was that the neuritis developed very late. In one of these cases a man had symptoms of a tumor for over a year with hemianopsia and local fits, before optic neuritis developed, whereas in cerebellar tumor optic neuritis develops earlier and is more intense.

In a case of optic neuritis with no other symptoms it is difficult to say whether one ought to operate or not. I am inclined to wait in those cases, because one sometimes does find optic neuritis even in cases of anemia, and then it would be a great mistake to operate. But if the patient has agonizing headache and vomiting and optic neuritis, I think the sooner one operates the better, and one should not wait for localizing symptoms.

I have seen a case of loss of sight after the operation. Before the operation the sight was fairly good and no evidence of any optic atrophy was present; but, of course, intense optic neuritis, as was shown by Jackson some years ago, is perfectly compatible with good sight. It was formerly supposed to be impossible, but it is now recognized that intense optic neuritis can exist without affecting vision. In this case after operation the vision rapidly deteriorated, the patient became completely blind, so that after decompression the vision became worse, instead of improving.

I understood Dr. Spiller to say that in cases of cerebellar tumor occurring in the ponto-cerebellar angle he would prefer decompression to operation. I should not quite agree with that. I think that in those cases, as already shown by Dr. Bassoe's case, one can operate and remove the tumors.

Lumbar puncture has no effect on optic neuritis, so far as I have seen. When the patient is comatose, respiration has ceased, but the heart has not stopped beating, I think we ought to operate, because, as Sir Victor Horsley has shown in the case of gunshot wound experiments, when the intracranial pressure is increased the respiration fails before the action of the heart does; and I have seen cases in which the respiration had failed in cerebral tumors and on operating and relieving the pressure, the patient has recovered consciousness.

Dr. Harvey Cushing, Baltimore: We have frequently seen a decided subsidence of choked disc, within forty-eight hours, and in not a few cases soon after the operation. Of course, the rapidity of subsidence depends entirely on two things: 1, the character and success of the decompression, and, 2, the stage of the process, since in a long-standing edema which has led to infiltration the swelling can hardly be expected to subside as rapidly as in the cases in which there is little more than edema alone. An increase of the neuroretinal edema, which Dr. Spiller has seen in a few cases after trephining, is not improbably due to the increase of cerebral tension due to traumatic edema. We do not entirely agree with him on the question of decompression versus extirpation for lesions in the posterior cranial fossa, for a number of our most successful cases of tumor extirpation have been those in which the lesion was subtentorial. The excellent result in the patient with the cerebello-pontile tumor presented a few moments ago by Dr. Bassoe is an illustration of what may be expected in a large percentage of properly conducted operations in this situation. I wish to warn against promiscuous lumbar puncture in cases of brain tumor, particularly those situated under the tentorium, and also to express an opinion as to the uselessness of ventricular puncture in tumor cases except as a diagnostic measure.

Marcus Gunn's views that papillitis is associated chiefly with hypermetropic eyes and is relatively rare in myopia does not entirely correspond with our own experience. We have had no case of myopia in which there has been demonstrable increase of tension without choking of the discs and have had two cases of hypermetropia with tumors of the hemisphere in which no choking occurred.

Dr. Beevor has asked how soon after injection we have seen a choked disc appear in our experiments. It is a matter of moments rather than of hours or days, and by "choking" we do not mean necessarily merely the signs of injection with venous stasis, but an actual swelling of the disc of three or four or more diopters. In a patient in the Johns Hopkins Hospital we have had, furthermore, a clinical illustration of the rapidity with which a choked disc may appear. An operation had been deferred owing to the absence of a choked disc, when there occurred a sudden loss of consciousness with swelling of the disc up to 7 D. in the course of a few hours. Death followed, and at autopsy a large hemorrhage was found in a glioma of the hemisphere.

I can not agree that it is immaterial where a decompression be done, and have given elsewhere reasons for regarding a subtemporal route as preferable to Saenger's parietal exposure. It is often dangerous to decompress directly over the situation of a tumor, for the dislocation which occurs in consequence of protrusion will not infrequently lead to a rupture of blood vessels entering a vascular growth with marked augmentation of the degree of pressure. I regard as an important measure, the primary subtemporal decompression in a patient who actually has a localizable tumor and one which may possibly be removable; for when patients are in a more or less critical condition, emaciated, with headaches, failing vision, etc., even though the case may be looked on as a favorable one for ultimate possible tumor extirpation, a preliminary decompression, which is the more simple measure, is often a helpful thing in so relieving the general physical condition that the more serious subsequent operation for extirpation can be done much more safely.

A still more important matter which Dr. Bordley and I have tried to bring out in our paper is the prompt decompression in cases of intracranial growth when the lesion is not localizable, for, as all those who have taken part in this discussion have said, the preservation of the eyesight is a matter of chief importance, and with a suitable decompression the tumor in certain cases, after months or perhaps years, may through gradual increase in its size, finally give evidence of its location, and, on exposure, may prove to be removable.

I hope that Dr. de Schweinitz will not give up the term "choked disc," at least in exchange for the term "tumor neuritis." It possibly is only a quibble of nomenclature, but I think that we ought to have some one term which will describe all grades of a condition which we recognize to be one, rather than to attempt to distinguish, as did von Graefe, the two stages, namely, those before and after marked swelling. Believing as we do, that the inflammatory condition is entirely a secondary process, we think that the term "neuritis" and "papillitis" are misleading and that the term which lays stress on the primary factor, namely, edema, is the proper one.

Dr. William G. Spiller, Philadelphia: At the beginning of the winter I asked Dr. Sweet to have one of the students of the third year class of the University of Pennsylvania undertake some experiments on decompressive operations, and a certain amount of swelling of the disc by the introduction of foreign bodies under the dura in dogs was produced. Dr. Shumway made the examinations of the eyes. We were impressed by the amount of endurance exhibited by the dog under pressure of a considerable degree. A large piece of bone in many cases failed to produce choked disc or neuritis; and in other cases produced it only for a short time. These experiments will be reported later. I am convinced that tumor of the motor region—and probably the same is true of tumor of the parietal lobe—often causes choking of the disc, only late. I do not expect in tumor of the motor region of the cortex to find optic neuritis until the tumor has grown to considerable size.

I am somewhat in doubt as to the propriety of decompressive operation when the patient is almost dead. It is probable that it will do no good. and the surgeon may be subjected to unfair and serious criticism after an unfavorable result. We do not, as a rule, operate under such circumstances at the University Hospital.

A STUDY OF THE RESPIRATORY SIGNS OF CHOREA MINOR *

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St. Vitus' dance, Sydenham's chorea, chorea minor, is a distinct clinical entity and while the specific organism or toxic agent has not been definitely isolated, the work in this direction and the natural history of the disease has been and is such as to warrant the deduction now generally admitted, that it is a disease of bacterial or toxic origin. Clinically, chorea minor may be readily differentiated from other conditions resembling it but the differentiation is not always made and hence other conditions are often erroneously diagnosed chorea. This is notably true of the tic conditions. Again the usually observed motor manifestations of chorea may be and frequently are so slight that the true nature of the trouble remains unrecognized. The reason for such errors in diagnosis and for the non-recognition of the disease in its milder forms is to be found in the habit of basing the diagnosis on the presence of abnormal movements about the head and extremities which are usually so prominent in this disease.

"Never found a diagnosis in any disease or condition on the presence of a single sign or symptom," is a working axiom never to be forgotten in diagnosis. There are to-day no pathognomonic signs and symptoms. We are able to recognize prominent signs and symptoms in every disease, but they are always associated with other signs and symptoms if we will but search for them and our diagnosis in any case is most secure when founded on the greatest number of these. No one should be content to diagnose measles by the rash; a brain tumor by an optic neuritis; typhoid fever by the rose spots or tabes dorsalis by the presence of ataxia. Neither should he be content to diagnose chorea minor by the presence of abnormal movements. Abnormal movements about the head and extremities are usually prominent signs of chorea minor but they are not pathognomonic of the disease and they may be so slight as to be overlooked. In chorea minor, the abnormal movements have certain characteristics and when they possess these, we call them choreic or choreiform movements and while they are not pathognomonic of the disease when we really recognize them as such in conjunction with other symptoms just as characteristic, the diagnosis of chorea minor is readily made.

It will help us in the study of the chief respiratory signs of chorea if we consider the characteristics of the true choreic movements. Choreic movements in chorea minor are never confined to one part of the body throughout the disease. they may be one-sided in the beginning but they usually become general; they are never confined to synergicly associated muscle groups, they are indefinite, vary in intensity and frequently

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* From the Neurological Department of the St. Louis University School of Medicine.

occur in individual muscles; they are involuntary, spontaneous, purposeless movements; they are never imitative nor can they be imitated; they are not materially lessened, but are usually increased, by any voluntary effort to control them; they are increased in emotional states, exaggerated when the patient is in the presence of others and less when he is alone or at rest; any voluntary effort exaggerates the choreic movements and voluntary, purposeful movements usually show a variable degree of incoordination and abnormal associated movements are always present.

A study of the abnormal movements of the muscles of the face, tongue and extremities in a moderately developed case of chorea minor will show them to have the foregoing characteristics. Add to these the disturbance in general nutrition, pallor, anemia, loss in body weight; usually the slight though constant elevation in temperature, at least in the early stages; the careless, sluggish, variable attitudes; the vacant, sullen or stupid expression; the morose, depressed or irritable disposition; the flagging attention; the variable heart murmur and we have a clinical picture not to be mistaken for any other. There are other motor signs of chorea minor less constant yet having the same characteristics, such as abnormal movements of the eyeballs, due to choreic twitchings of the ocular muscles; similar movements of the laryngeal muscles in conjunction with choreic involvement of the tongue and lips rendering speech momentarily or longer indistinct, difficult or impossible and of the pharyngeal muscles affecting the swallowing act.

With the constant motor signs of chorea minor must be reckoned, though rarely mentioned, the choreic movements of the trunk and abdominal muscles and just as constant and still less frequently mentioned and nowhere sufficiently emphasized are the abnormal respiratory movements in chorea minor.

A more general recognition of the respiratory signs of chorea minor will prove a decided aid in differential diagnosis, will better enable one to recognize the milder and atypical forms of the disease and in any case will serve to make the clinical picture more complete.

In a previous paper[1] in which I was able to tabulate twenty-two differential points between chorea minor and tic, I referred to the respiratory signs of chorea as follows: "The respiratory function is often disturbed in chorea—the respirations becoming so unequal and irregular, that a normal respiratory excursion rarely occurs and the expiratory phase is often explosive."

It is the purpose of the present communication to emphasize these and other characteristics of the disturbed respiratory function:

1. By reciting my personal observations concerning certain respiratory phenomena in chorea minor.
2. By illustrating these observations, as far as possible, with several respiratory tracings from cases of chorea minor recently studied in the neurologic clinic of the St. Louis University School of Medicine.
3. By referring to the meager periodical and textbook references concerning respiratory phenomena of chorea minor.
4. By deducing from the literature, independently of my own observations and from the motor manifestations of the disease other than the respiratory, the conclusion that certain respiratory phenomena are constant accompaniments of chorea minor.

PERSONAL OBSERVATIONS

In order that respiratory movements may be accurately observed, it is, of course, necessary that the trunk be free from all clothing and while ordinarily one may readily note the character of respiration when the patient is sitting or standing, it is desirable in chorea minor to cause the patient to lie comfortably on his back with head and shoulders slightly elevated and with the trunk and extremities postured in such positions as will afford the greatest degree of bodily relaxation. While other postures than those of complete relaxation as well as ordinary voluntary movements increase the motor disturbance in chorea minor, easy postures are essential in observing respiratory movements in this disease since they reduce the choreic movements in other parts to a minimum and thereby enable one to study better the abnormal respiratory movements.

Having rendered the patient as easy and comfortable as possible the following respiratory phenomena may be observed:

1. Irregular breathing. This is probably due to two factors: (a) Lessened amplitude in some respiratory movements and increased amplitude in others, giving one the impression that no two respiratory excursions are equal. (b) Sudden halts—cogs occurring either during the inspiratory or expiratory phases and most frequently during the latter but rarely more than one cog occurring in any phase. These do not occur in every respiratory movement but are of frequent occurrence and appear to be due to a sudden arrest of the movement in one phase by the development of an incomplete movement of the opposite phase but the original movement usually goes on to completion. These cogs render the respiratory movements distinctly jerky and may well be called choreic inspiratory and expiratory cogs. An inspiratory cog occurs most frequently near the end of expiration and an expiratory cog near the end of inspiration.
2. Now and then a sudden deep inspiration occurs far exceeding in amplitude the usual unequal inspiratory movements and is succeeded by a sudden explosive (forced) expiratory movement, the whole differing essentially from a sighing respiration by its rapidity in its every phase and by the absence of a pause at the end of expiration.
3. Relative decrease in the length of the normal expiratory phases and relative increase in the length or the so-called normal expiratory pauses: so that the time of an expiratory phase may become equal to or less than the time of an inspiratory phase and distinct pauses are of frequent occurrence at the end of expiration.
4. Sudden changes from abdominal to costal, or from costal to abdominal breathing, occur frequently, both being observed at times in a single respiratory excursion giving one the impression for the moment of a combination—a mixture of abdominal and costal breathing and the frequent impression of incoordination—a dissociation in the respiratory movements. When "pure abdominal breathing" occurs in chorea, movements of the whole chest are reduced to a minimum and when "pure costal breathing" occurs the upper abdomen remains practically motionless.
5. The respiratory rate is frequently accelerated and occasionally this may be slower than normal.

Not only may these phenomena be seen even in the mildest cases of chorea minor but one may also become aware of them by palpation and auscultation. When the cogs occur, there seems to be a sudden reversal in the direction of the onrushing air; at any rate, at such moments the respiratory sounds cease abruptly and then begin again.

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[1] The Differential Diagnosis Between Chorea Minor and Tic, Med. Record., 1907.

Certain of the respiratory phenomena just described are seemingly among the earliest manifestations of the disease, are prominent throughout its active stages and in many instances persist in an attenuated degree for a considerable period after the disappearance of all the general and other usually recognized motor manifestations of the disease.

Having studied in a routine way the foregoing respiratory phenomena in chorea minor for several years, it occurred to me in the Spring of 1907, that an attempt might be made to show some of these in a graphic manner—by making tracings in cases presenting themselves at the clinic. Cases seen regularly in dispensary work are usually of the milder type and it is only in such and in convalescing cases that accurate respiratory tracings are possible. When, or as long as, the twitchings of trunk, and extremity muscles are strong enough to cause movements of the trunk, accurate respiratory tracings are, of course, impossible.

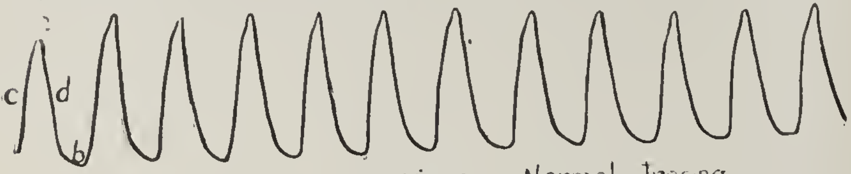

Fig 1 Normal Tracing

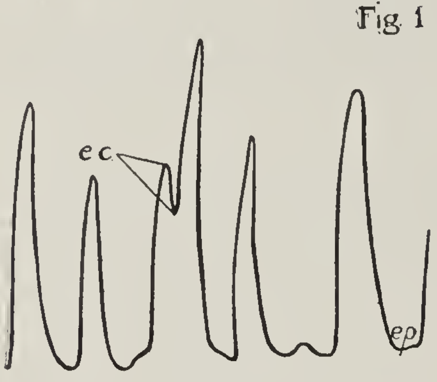

Fig 2

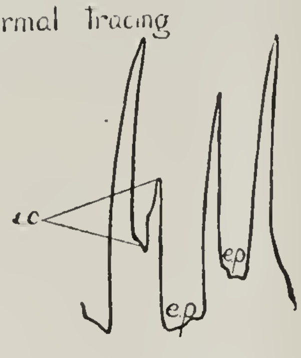

Fig 3

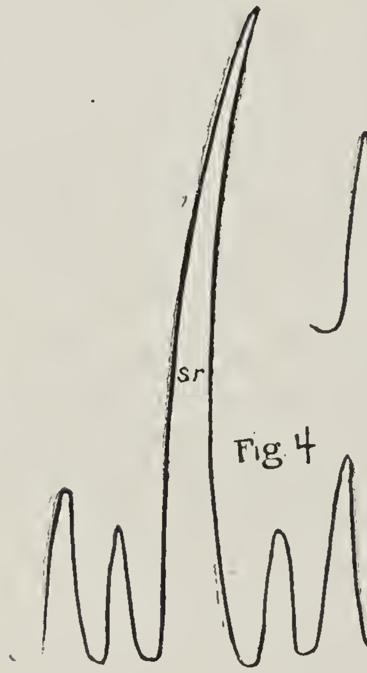

Fig 4

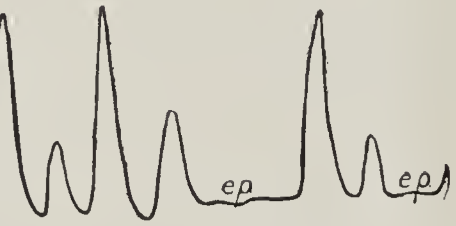

Fig 5

Fig. 1.—Respiratory tracing in normal individual; a, crest of wave representing end of inspiration and beginning of expiration; b, trough of wave representing end of expiration and beginning of inspiration; c, ascending limb representing the inspiratory phase; d, descending limb representing the expiratory phase; the curved line c a d represents a single respiratory cycle.

Figures 2, 3, 4 and 5 are graphic representations of respiratory tracings in chorea minor; e. c., expiratory cog; e. p., expiratory pause; i. c., inspiratory cog.; s. r., sighing respiration.

Tracings were made from six suitable cases at intervals while they were under observation at the clinic, until they were considered fully convalescent and until all of the usually recognized motor manifestations of the disease had disappeared. In four of these cases, tracings were secured three, six, seven and one half and eight months respectively after they had ceased attendance at the clinic, and since which time, in each case, the patient had been considered normal by his relatives. These had been mild cases and when the patients returned to the laboratory that tracings[2] might be made, every one, on superficial examination, appeared to be normal but closer inspection revealed in two of the patients an inconstant systolic murmur at the apex laterally and posteriorly with otherwise normal heart findings. In all there were slight rises of temperature (99 to 99.6 F.); slight fibrillary twitchings in external respiratory trunk and abdominal muscles; choreic tremor in fingers; asssociated movements in hands and disturbed respiratory function presenting some of the characteristics mentioned above.

It may be noted in passing that the persistence of such signs even in the milder cases seems to indicate, 1, that actual recovery may be long delayed in this disease, and this is probably true in the majority of cases; 2, that recurrences which so frequently take place are in reality true relapses.

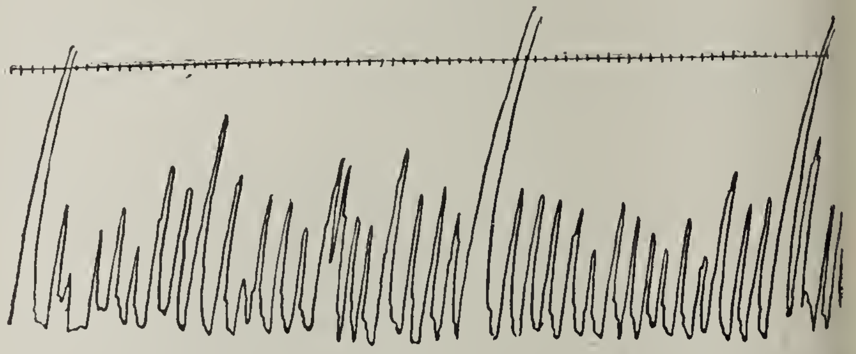

Fig. 6.—Respiratory tracing in Case 1 (J. M.), made June 6, 1907. Showing inequality of respiratory excursions, inspiratory and expiratory cogs, and frequent sighing respirations; respiratory rate 34 a minute.

RESPIRATORY TRACINGS

Before passing to a consideration of the respiratory tracings from cases of chorea minor, it will be well to consider the general characteristics of a tracing from a normal individual. In Figure 1, a tracing from a healthy boy of 11 years is shown and like all others should be read from left to right. A crest (a) represents the end of inspiration and the beginning of expiration; a trough (b) the end of expiration and the beginning of inspiration; the ascending limb (c) represents the inspiratory phase and the descending limb (d) the expiratory phase and the curved line (c a d) a single respiratory cycle.

When a healthy individual is passive and breathing quietly there is but little variability in the amplitude of inspiratory and expiratory movements, that is to say, one respiratory cycle is practically equal to another, furthermore, the expiratory phases are somewhat longer than the inspiratory phases. According to physiologists, the following proportion holds:

Inspiration : Expiration :: 5 : 6

A difference in time between inspiration and expiration is shown in the tracing and while a continuous movement occurs in both inspiratory and expiratory limbs, the movement becomes gradually slower near the end of expiration, but it does not entirely cease so that there is an apparent though not an actual pause at the end of expiration. Normally in quiet breathing only inspiration is a muscular act, expiration is purely passive, hence expiration is somewhat longer than inspiration and its ending less abrupt.

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[2] The earlier tracings in all cases were made by Mr. C. H. Risser, the later ones by Mr. J. T. Swarts in the physiologi laboratory of the St. Louis University School of Medicine and am greatly indebted to these gentlemen for their patience and great care in securing them.

A respiratory tracing represents the movements of the chest only in one diameter and it does not, therefore, depict the respiratory movements of the whole chest but only of that part of the chest to which the transmitting tambour is applied. This fact must be kept in mind when considering the tracings from cases of chorea minor since they but imperfectly depict the abnormal respiratory phenomena so readily recognizable by other means, nevertheless, as will be seen the tracings confirm in a striking manner most of the phenomena before mentioned.

The respiratory tracings in the six cases studied show similarity, and instead of reproducing the tracings from every case, it will best serve the purpose of this communication to exhibit selected tracings from three cases at different stages of the disease. These are shown in Figures 6 to 15 inclusive. In Figures 2, 3, 4 and 5, some of the graphic representations of the respiratory phenomena in chorea minor are reproduced and a consideration of these will partly serve as a key to the tracings in Figures 6 to 15 inclusive. Brief histories of the three cases and the tracings in each case will now be considered.

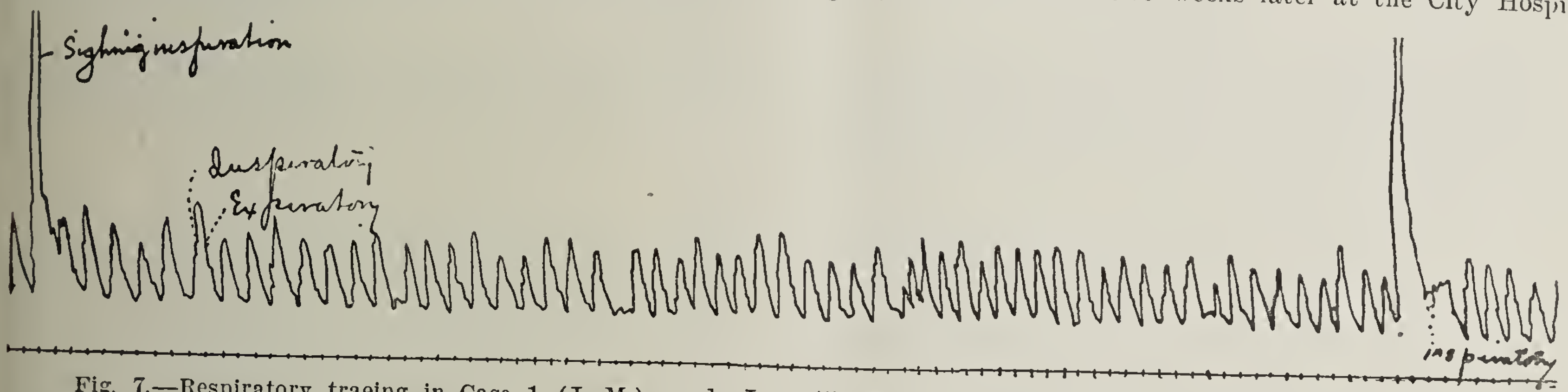

Fig. 7.—Respiratory tracing in Case 1 (J. M.), made June 15, 1907. Lessened inequality in respiratory excursions.

CASE 1.—*History.*—J. M., boy, aged 15, was suffering from espiratory (?) chorea. At no time during the course of the lisease were spontaneous choreic twitchings ever prominent. These were always fibrillary and never sufficient in degree to ring about incoordination in purposeful movements and were most marked about the trunk, abdominal and thoracic muscles.

Examination.—The tongue, facial and ocular muscles were lightly involved; respiratory function was greatly disturbed nd marked associated movements in face, hands and feet vere present. The child was mentally morose and irritable; e had the characteristic choreic facial expression and bodily ttitudes and was poorly nourished and anemic. There was an nconstant systolic murmur, rapid and variable heart rate, nd the temperature ranged between 99 and 100.5 F. The atient's principal complaints were respiratory distress, loss f appetite and weakness when he first came to the clinic, pril 6, 1907. He came irregularly thereafter until June 6, n which date, tracing shown in Figure 6 was made. This racing shows great inequality in the respiratory excursions; nspiratory and expiratory cogs; frequent sighing respirations; precipitate, forced expiratory movements so that expiration and inspiration are often practically equal in time; spiratory rate 34 per minute. Absolute rest in bed was insted on, and the patient returned to the clinic June 15 and ecame a bed patient in Rebekah Hospital. On this date racing shown in Figure 7 was made. This tracing shows ssened inequality in respiratory excursions; cogs; sighing spirations, expiratory pauses and increasing ratio between inspiration and expiration, though in many of the excursions expiration is practically equal to inspiration; respiratory rate 46 per minute. Patient showed rapid improvement under rest in bed and forced feeding, and a tracing made July 8 showed only slight inequality in respiratory excursions, now and then a sighing respiration and expiratory pauses; lessening ratio between inspiration and expiration, slight cogging, respiratory rate 24 per minute. On July 25 patient showed a gain in weight of 8 pounds since entering the hospital, no fibrillary contractions noted about extremity muscles, but these were still present in a lessened degree in trunk, thoracic and abdominal muscles and rather decided choreic tremor in fingers was noted. The tracing made on this date, Figure 8, shows respiratory inequality, abortive cogs and occasional sighing respiration, decided expiratory pauses with increasing ratio between inspiration and expiration; respirations 14 per minute. The patient left the hospital August 3, fully convalescent, and was not seen again until October 22, on which date he returned to the clinic and again complained of weakness and respiratory distress. Since leaving the hospital, he had shown continued improvement, had returned to work and for about six weeks felt perfectly well. Excepting his general condition, which was still excellent, other signs of chorea minor were very similar to those noted on April 6. The tracing in Figure 9 was made October 22, and shows only slight inequality in respiratory excursions; lessened ratio between inspiration and expiration, decided expiratory pauses; and an occasional abortive cog.

Subsequent History.—Patient did not return to the clinic again, but I saw him two weeks later at the City Hospital, and the respiratory phenomena were then pronounced, choreic contractions in tongue, facial, trunk, thoracic, abdominal and extremity muscles were prominent, but not sufficient in degree to cause incoordination in voluntary movements. He left the hospital a few days later, moved to a distant city and his further history is unknown.

CASE 2.—*History.*—Wanda G., aged 13; had a very mild chorea; came to the clinic June 12, 1907. Trouble began three weeks before when changes in disposition, in ability to stand or keep still were noted by the mother. Since then she had become more fidgety, and for the past week had shown awkward movements about left upper and lower extremities.

Examination.—She had the choreic expression and attitudes; there were slight involvement of face and tongue; dilated pupils; recent emaciation; anemia; spontaneous choreic contractions about hip and shoulder girdle, lower and upper extremity muscles on the left and abdominal, trunk and thoracic muscles on both sides. Any voluntary movement caused increased spontaneous movements and slight incoordination; marked associated movements about face and left extremities; respiratory movements choreic in character; temperature 99.5 F., pulse 108, slightly variable rate, inconstant systolic murmur. The spontaneous choreic contractions were so slight as in no way to interfere with graphically recording the respiratory signs and the tracing shown in Figure 10 was made. This tracing shows inequality in respiratory excursions; sighing respirations; respiratory cogs; expiratory pauses and lessened ratio between inspiration and expiration; respirations about 19 per minute. Absolute rest in bed was advised, but as this could not be well carried out at home, patient entered Rebekah Hospital on June 19, where rest in bed and forced feeding were instituted. Rapid improvement was noted, and she was discharged from the hospital, July 22, fully convalescent. The tracing shown in Figure 11 was made on June 19, after six days' rest in bed at home. This tracing shows respiratory inequality; sighing respirations; expiratory pauses; and increasing ratio between inspiration and expiration when compared with Figure 10; respirations 28 per minute. A tracing made July 1, twelve days after entering the hospital, showed slight inequality in respiratory excursions; infrequent cogs; expiratory pauses; and in many expiratory excursions the ratio between inspiration and expiration was practically normal. Another tracing made three weeks later showed slight inequality in the respiratory excursions; one distinct and many abortive cogs, with practically normal ratio between inspiration and expiration; respirations 20 per minute.

Subsequent History.—The patient after leaving the hospital was not seen again until March 7, 1908, about seven and one-half months after convalescence had seemed to be fully established. She had felt well and had been working at sewing in the interim. The tracing shown in Figure 12 was made March 7, 1908, and shows that respirations were still not quite normal as indicated by a sighing respiration; inspiratory and expiratory cogs, but the respiratory movements are practically normal as regards amplitude and ratio between inspiration and expiration.

Case 3.—*History.*—Martha D., aged 11; had a mild chorea and came to the clinic June 21, 1907. Her mother stated that two months ago the girl became irritable, fidgety, complained of loss of appetite, and for about one month she had dragged her left leg peculiarly in walking and refrained from using her left upper extremity.

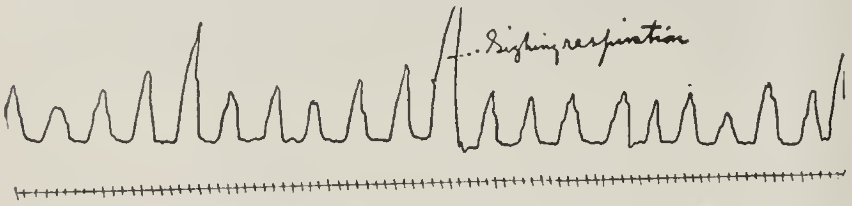

Fig. 8.—Respiratory tracing in Case 1 (J. M.), made July 25, 1907. Respirations 14 a minute.

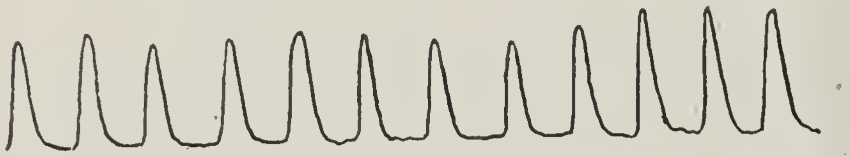

Fig. 9.—Respiratory tracing in Case 1 (J. M.), made Oct. 22, 1907. Nearly normal but showing an occasional abortive cog.

Examination.—Patient was well nourished; visible mucous surfaces pale; choreic expression and attitudes; frequent shifting, wiggling movements of trunk when standing. There was slight choreic involvement of face and tongue and spontaneous movements about the hip, shoulder girdle and muscles of upper and lower extremities on the left, most marked proximally; similar movements of trunk, abdominal and thoracic muscles on both sides. Any voluntary movement with left extremities increased the spontaneous movements, and at such times slight incoordination occurred. There were marked associated movements in face and left extremities; choreic respiratory movements; temperature 99.5 F., pulse 90, slightly variable in rate, and occasionally a soft systolic murmur could be heard best at apex. The spontaneous movements about extremities and trunk were insufficient in degree to interfere with a graphic representation of respiratory movements, and the tracings shown in Figure 13 were made three days later. This shows great irregularity in respiratory excursions; frequent sighing respirations; inspiratory and expiratory cogs; expiratory pauses; decreased ratio between inspiration and expiration; at times purely abdominal breathing; respirations 24 per minute. The tracing shown in Figure 14 was made July 1, 1907, after one week's rest in bed at home. This tracing shows inequality in the respiratory excursions; frequent cogs; sighing respirations; slight expiratory pauses; and in many excursions lessened ratio between inspiration and expiration. Respirations 28 per minute. A tracing made one week later showed great irregularity in the respiratory excursions; cogs; distinct expiratory pauses; increasing ratio between inspiration and expiration; respirations 26 per minute. The tracing shown in Figure 15 was made July 27, 1907, and indicates slight inequality in the respiratory excursions; cogs; expiratory pauses; and in many excursions the expiratory ratio is practically normal. At the time this tracing was made, the patient seemed fully convalescent. The choreic expression, attitudes and incoordination had entirely disappeared.

Subsequent History.—On request, she returned to the clinic March 7, 1908, and the mother stated that the girl had seemed to be normal in every way since her last visit to the clinic; that she had made a good record in school and no complaint had been made by the teacher. The tracing made on this day was practically that of a normal individual as far as amplitude, respiratory excursions and ratio are concerned; it differed from that of a normal individual only in the occasional occurrence of cogs.

All of the respiratory phenomena before mentioned are graphically demonstrated in the tracings from the three cases excepting "the mixture of costal and abdominal breathing as occurring in a single respiratory cycle" and "the dissociation in the respiratory movements." These could not be graphically shown without recording the respiratory movements of two or more diameters of the chest at the same time and I hope to be able to do this later. Without attempting to offer an explanation, just now, for the respiratory phenomena in chorea minor, let us for the moment consider the literature bearing on disturbed respiratory function in this disease.

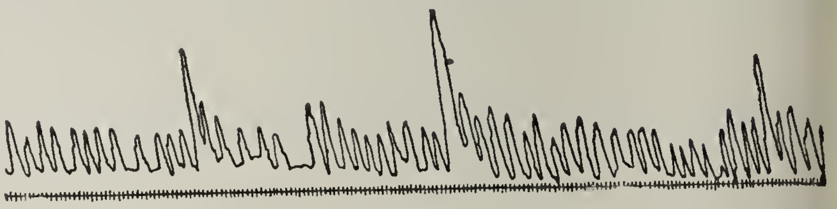

Fig. 10.—Respiratory tracing in Case 2 (Wanda G.), made June 12, 1907. Showing inequality in respiratory excursions, sighing respirations, respiratory cogs, expiratory pauses and lessened ratio between inspiration and expiration; respirations about 19 a minute.

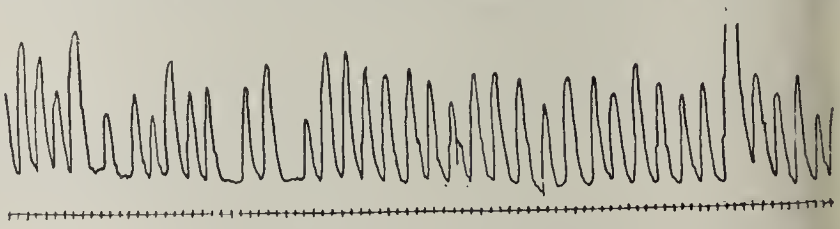

Fig. 11.—Respiratory tracing in Case 2 (Wanda G.), made June 19, 1907, after six days rest in bed. Respirations 28 a minute.

LITERATURE ON DISTURBED RESPIRATORY FUNCTION IN CHOREA MINOR

A consideration of the literature will show that the majority of authors writing on chorea do not even refer to its respiratory signs and those who do, make only meager references and there is a wide diversity of opinion among them. I have been unable to find a single reference concerning the easily recognized respirator signs of chorea minor in recent periodical literature and no one to my knowledge has ever emphasized their importance in diagnosis. Following is a series of quota tions, the earliest reference I have been able to fin being by John Eberle:[3]

Eberle: "Respiration is often anxious and irregular; th voice is altered and articulation is indistinct and stuttering."

Robley Dunglison:[4] "The articlulation is also affected a times so as to occasion stammering, and occasionally th respiratory muscles and those concerned in deglutition are im plicated."

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[3] A Treatise on the Practice of Medicine, 1841.

[4] Practice of Medicine, 1842.

Romberg[5] cites three cases in which respiratory function was profoundly affected, and states that the internal and external muscles of respiration are rarely affected.

Gerhardt:[6] "The movements occur in voluntary muscles excepting those of respiration."

Meigs and Pepper:[7] "The muscles of the external and internal respiratory apparatus are rarely affected."

S. Jaccoud:[8] "The respiratory muscles, those of the larynx, those of the pharynx and sphincters ordinarily escape."

von Ziemssen[9] seems to have been the first to have paid particular attention to the disturbed respiratory function in chorea. He calls attention to the fact that "the participation on the part of the vegetative muscular system is generally denied or is regarded as very rare, but the facts which favor this view are too ambiguous to permit of such interpretation. In he case of such automatic actions as the respiration in which the will is capable of influencing the rapidity and rhythm of he movements, irregularities are often observed in the act whether of inspiration or expiration which can only be inerpreted as choreic."

von Ziemssen was the first to observe chorea of the laryngeal muscles, of which no cases had been published up to that ime. This he found to be "a usual accompaniment of the evere form of the disease and characterized by insufficient orce and duration of the tension of the vocal cords in phoation, owing to a want of coordination and persistence in the uscular act. With the laryngoscope it is very easy to watch e restlessness of the laryngeal muscles, the twitching conactions of the closers, openers and tensors of the cords."

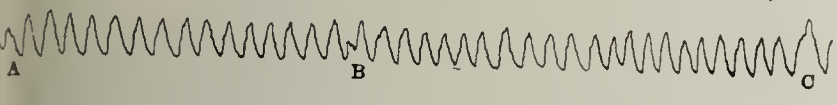

Fig. 12.—Respiratory tracing in Case 2 (Wanda G), made March . 1908. A, inspiratory cog; B, expiratory cog; C, sighing respiraon. Respirations, 17 a minute.

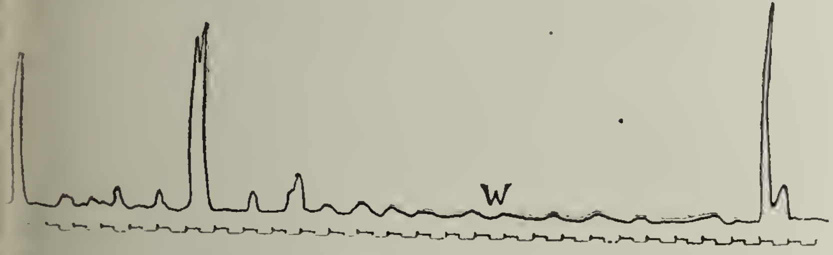

Fig. 13.—Respiratory tracing in Case 3 (Martha D.), made June , 1907. Great irregularity in respiratory excursions; frequent ghing respirations; inspiratory and expiratory cogs; expiratory uses; decreased ration between inspiration and expiration; purely dominal breathing (w) at times; respirations 24 a minute.

Althaus:[10] "The patient can not sing because respiration jerky and explosive, the air is not properly husbanded, and ough great effort is made, there is no result but fatigue m excessive disorder in coordination of the muscles. That e diaphragm and abdominal muscles suffer is shown by unual and irregular respirations."

Bristowe:[11] "The difficulty in speech depends not infrecntly on the spasmodic affection of the larynx and respiray muscles which compels him to draw his breath suddenly rough the laryngeal orifice with a strained sound. In some ses, even when no attempt at speech is being made, odd oaking, grunting sounds are thus from time to time proced.

Rosenthal:[12] "The respiratory movements are irreg r; speech is embarrassed and the pulse is often accelerated. ese phenomena are due to the spasmodic action of the scles, of respiration of the larynx, pharynx and perhaps o of the heart."

Villiam A. Hammond:[13] "Respiration is imperfect."

Trousseau:[14] "Strange sounds are occasionally produced through the voice coming out in inspiration instead of expiration. While the patient expires in the act of speaking, the inspiratory muscles suddenly contract convulsively and cause the air to rush into the larynx so that from this kind of antagonism between the mind that wills the speech and the inspiratory muscles the voice undergoes a strange alteration."

W. H. Broadbent:[15] "In the mildest forms the diaphragm and muscles of the chest and abdomen are affected, causing irregularity in respiration."

Roberts:[16] "Respiratory movements are infrequent, jerky and irregular, the natural relations of the abdominal and thoracic movements being perverted during breathing; sometimes there is a dry nervous cough or grunting sound. It does not often happen that the muscles of the trunk seem to be much affected, but choreic patients are usually unable to sit or lie quietly for any length of time. The muscles of larynx are rarely implicated, those of the pharynx never."

Webber:[17] "Respiration in severe cases is sometimes affected, acquiring a jerky character."

James Ross:[18] "The respiratory rhythm becomes irregular and jerky, and in laryngoscopic examination the vocal cords have been observed to act in an irregular and disorderly manner."

Vogel:[19] "The body is turned about and twisted in every direction. The respiratory muscles, however, do not participate in the jactitation; at least the inspirations are not executed irregularly."

M. Allen Starr:[20] "Occasionally the laryngeal and respiratory muscles are affected and noises are made in the throat."

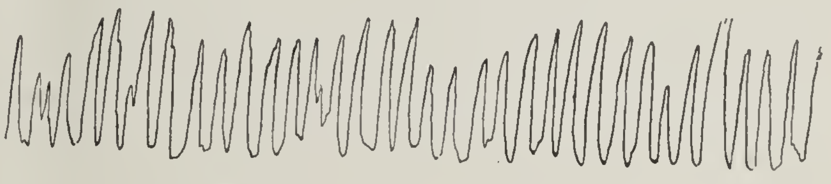

Fig. 14.—Respiratory tracing in Case 3 (Martha D.), made July 1, 1907, after one week's rest in bed. Respirations 28 a minute.

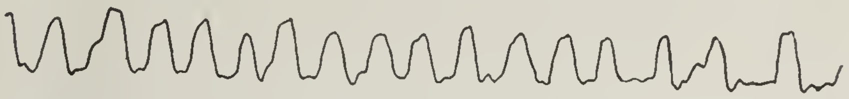

Fig. 15.—Respiratory tracing in Case 3 (Martha D.), made July 27, 1907. Respiratory ratio practically normal; respirations 14 a minute.

Wharton Sinkler:[21] "The muscles of respiration, especially the diaphragm, are sometimes also affected, as well as the voluntary muscles. The respirations are irregular, sometimes short, sometimes deep, with occasionally a few rapid, shallow respirations, and then a long sighing respiration."

J. Lewis Smith:[22] "In rare instances chorea affects respiratory muscles so as to produce a peculiar involuntary barking or squeaking voice by the forcible expulsion of air over the tense vocal cords."

Wood and Fitz:[23] "The respiratory muscles are the last to be affected, but cases have been reported in which hiccough, crowing inspirations, irregular respiration and other evidences of choreic action of the respiratory muscles were abundantly present."

Ch. Féré:[24] "The contortions of the features are associated with disturbance of speech; the articulation is hesitating or stuttering unless there is complete glossoplegia; the sounds are emitted by jerks and are often cut short by short intonations and noisy explosions. Singing becomes impossible be-

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5. Manual of Nervous Diseases, ii, 1853.
6. Lehrbuch der Kinderkrankheiten, 1866.
7. Practical Treatise on the Diseases of Children, 1870.
8. Traité de pathologie interne, ed. 3, 1873.
9. Encyclopedia, xiv, 1877.
0. Diseases of the Nervous System, 1878.
1. Treatise on the Theory and Practice of Medicine, 1879.
2. Clinical Treatise on Diseases of the Nervous System, ii, 1879.
3. Treatise on Diseases of the Nervous System, 1881.
14. Lectures, i, 1882.
15. Chorea, in Quain's Dictionary of Medicine, 1883.
16. Theory and Practice of Medicine, 1884.
17. Nervous Diseases, 1885.
18. Hand-book of the Diseases of the Nervous System, 1885.
19. Diseases of Children, 1890.
20. Chorea, in the American Text-Book of the Diseases of Children, ed. by Louis Starr, 1894.
21. Chorea, in A Text-book of Nervous Diseases by American Authors, ed. by Dercum, 1895.
22. Diseases of Children, 1896.
23. Practice of Medicine, 1897.
24. Spasmodic Neuroses, Twentieth Century Practice, ed. by Stedman, x, 1897.

cause the patients are incapable of regulating or sustaining the expiration. Digestive and respiratory functions are disturbed by the movements of the thoracic muscles."

C. E. BEEVOR:[25] "The muscles of the trunk become affected, causing the patient to rock about while standing up, and the respiratory muscles may act irregularly."

WOLLENBERG:[26] "Speech is in some degree in all cases disturbed, partly due to functional disturbance in the glottis and abdominal muscles. The involvement of the latter is shown plainest in the unequal and jerky expiratory movements (von Ziemssen), in consequence of intermitting expiratory pressure the patient can only enunciate a few syllables or perhaps only one, and then a deep and hasty inspiration occurs. In other cases syllables or numbers are forcibly enunciated in consequence of the explosive contractions in the abdominal muscles. Inspirations, by stronger involvement of the respiratory muscles, especially the diaphragm, are irregular, now superficial, now deep, and between the respiratory phases pauses occur of variable length."

SACHS:[27] "In some a peculiar condition of speech occurs which is in part due to difficulties in articulation and in part to choreic movements in respiratory muscles necessitating rapid breathing."

POTTS-GALLANDET:[28] "The muscles of respiration, especially the diaphragm, are sometimes affected, causing irregular respirations, sometimes shallow, sometimes deep, with occasionally a few rapid, shallow respirations and then a long sighing one."

J. RISSIEN RUSSELL:[29] "The movements of the thorax in respiration are also made disorderly, chiefly owing to the implication of the diaphragm. Inspiratory efforts do not occur in any regular order, either as regards time or depth of movement; thus irregular pauses intervene and one inspiration is deep, perhaps excessively so, while another is shallow or abortive. Incoordination of respiratory movements sometimes shows this in alternation between abdominal and thoracic respiration."

FREDERICK TAYLOR:[30] "In the trunk there are irregular contractions of the thoracic and abdominal muscles and of the diaphragm. The trunk may be twisted around to one or the other side. Respiration is gasping or jerky from sudden descent of the diaphragm or from quick contractions of the abdominal muscles. Speech is irregular and badly sustained and the patient can not sing a long note. This is no doubt largely due to the imperfect action of the respiratory muscles."

TAYLOR AND WELLS:[31] "Speech is often defective (dysarthria), due to choreic action of the muscles used in articulation and also in respiration."

A. McL. HAMILTON:[32] "The patient breathes in a catchy, quick way, and if the body be stripped it will be found that the action of the intercostals is uneven."

W. v. LUEBE:[33] "In contrast to the voluntary muscles, the musculature of heart, bladder and rectum, as well as respiratory and pharyngeal muscles are not involved."

W. A. GOWERS:[34] "The muscles of respiration, especially the diaphragm, frequently share the irregularity observed in the action of the more strictly voluntary muscles; the respirations are unequal; deep and shallow breathing alternates or deep breaths are separated by pauses; thoracic and abdominal breathing may alternate irregularly."

DANA:[35] "The muscles of respiration may be involved so that the rhythm is uneven."

BUTLER:[36] "The speech is indistinct, confused and difficult, and the muscles of respiration may be affected."

FÖRSTER:[37] In severe cases the arms and legs are tossed about, the trunk writhes, the head moves from side to side, the eyes show jerking movements, gasping, inspiratory movements, explosive, writhing or snoring expiratory movements, inarticulated clucking and groaning sounds follow one another in irregular order."

B. K. RACHFORD:[38] "The diaphragm and other respiratory muscles may be occasionally affected, producing irregularity and loss of rhythm of respiratory movements."

HALBERT:[39] "Respiration may be involved when diaphragm and thoracic muscles are involved."

OPPENHEIM:[40] "The respiratory muscles are generally affected, especially the diaphragm; irregular, spasmodic breathing occurs."

H. A. HARE:[41] "The child also frequently gives vent to curious guttural or smacking sounds, due to the action of the muscles of the mouth, pharynx and tongue. These sounds may also be increased by spasms of the diaphragm."

ASHBY AND WRIGHT:[42] "The muscles of respiration do not escape; the child taking a deep sighing inspiration, then perhaps there is a series of shallow irregular respirations."

JAMES TAYLOR:[43] "Irregularity of respiratory movements are conspicuous and spasmodic movements occur. The breath is often taken in rapidly and held for some time, then let go with a loud sigh. The trunk is always involved to some extent, and movements of a writhing nature are characteristic."

J. H. MUSSER:[44] "They may involve the muscles of the face, the arm, the leg or the muscles of the trunk, particularly the diaphragm, giving rise to an irregular jerking inspiration."

T. K. MONRO:[45] The respiratory muscles . . . contract suddenly and irregularly. Speech is often impaired, due to the involvement of the muscles of articulation and respiration, and possibly also to an involvement of the larynx. Speech is apt to be uttered quickly and to be interrupted."

OSLER:[46] "In severe cases the child will make no attempt to speak. The inability to speak is in articulation rather than in phonation. Paroxysms of panting and of hard expiration may occur, or odd sounds may be produced."

FERDINAND FRÜHWALD:[47] At first the twitchings are of short duration; soon, however, they increase in intensity, and in severe cases involve also the lower extremities, the muscles of the tongue and pharynx and rarely the diaphragm."

CHURCH AND PETERSON:[48] "The muscles of the trunk and neck do not escape, and may cause nodding and bendings that are often most apparent when the patient is seated. The diaphragm and thoracic muscles are commonly invaded, causing irregularity of respirations and sometimes spasmodic noises, or . . . peculiar involuntary clucking or smacking sounds."

EDWARDS:[49] "Speech is quicker than normal, and may be aggravated by irregular movements of the glottis and respiratory muscles, resulting in panting, irregular inspiration or expiration or sobbing sounds in which the diaphragm participates."

FRENCH:[50] "The muscles of the diaphragm may be involved, indicating difficulty and irregularity of respiration."

D. J. McCARTHY:[51] "In severe chorea, the movements become much more marked, the respirations become jerky and irregular, the heart action irregular, and the child speaks only with difficulty and with an accentuation of the movements, or at times is unable to speak at all."

TYSON:[52] "Speech is affected sooner or later in one-fourth of the cases, but the extent varies greatly from slight hesitancy to incoherent, the difficulty being in the muscles of articulation rather than in phonation."

L. G. GUTHRIE:[53] "Speech is frequently indistinct and impossible from incoordination, coordination and spasm of muscles concerned in articulation and respiration."

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25. Diseases of the Nervous System, 1898.
26. Chorea Paralysis Agitans Para Myoclonus Multiplex, Vienna, 1899.
27. Treatise on the Nervous Diseases of Children. 1900.
28. Nervous and Mental Diseases, 1900.
29. Chorea, Clifford Alibutt's System of Medicine, vii, 1900.
30. Chorea, in Practice of Medicine, ed. by Gibson, 1900.
31. Manual of Diseases of Children, 1901.
32. Reference Hand-Book of Medical Sciences, 1901, ed. 2.
33. Specielle Diagnose der inneren Krankheiten, ii, 1901.
34. Manual of Diseases of the Nervous System, 1901 .
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36. Diagnostics of Internal Medicine, 1904.
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DEDUCTIONS FROM THE LITERATURE AND FROM THE MOTOR MANIFESTATIONS OF THE DISEASE OTHER THAN THE RESPIRATORY. EXPLANATION. CONCLUSION

If we contrast the statements of those who say specifically that the respiratory muscles are not involved in chorea and of those who say "rarely," "occasionally," "in severe cases," "frequently," "generally," with those who regard disturbed respiratory function as a constant accompaniment of the disease, the conclusion becomes inevitable that the difference in opinion is due to the varying degree of attention heretofore given respiratory signs of chorea. We are warranted, therefore, in drawing this conclusion if we remember that the majority of authors writing on chorea do not even refer to its disturbed respiratory function and that the reason for this fact is certainly not to be found in the nature of the disease but rather in the lack of attention to its respiratory phenomena.

A consideration of the literature, therefore, warrants the conclusion that certain respiratory phenomena are among the constant signs of the disease. This conclusion finds confirmation in the motor manifestations of the disease other than the respiratory. The involvement of the trunk and abdominal muscles are among the earlier manifestations of the disease and among the last to disappear. In early and active stages, the careless, sluggish variable attitudes and shifting, writhing movements of the trunk are due to the spontaneous choreic contractions in these muscles. Careful inquiry concerning the first change noted will elicit statements of sluggish, variable attitudes—"inability to keep still," etc. Inspection of the naked trunk during the early and active stages of the disease will show that the variable attitudes are incident to, or immediately follow, visible and palpable contractions in the muscles just mentioned. After the disappearance of all the general and the usually recognized motor manifestations of the disease, contractions in an attenuated degree persist in these muscles and are among the last of the motor phenomena to disappear. There is unanimity concerning the involvment of the trunk muscles in severe chorea but wide divergence of opinion concerning such nvolvement in mild cases and the period of the disease when such involvement occurs. The consensus of medical opinion at the present time concerning these points is ummed up by Förster as follows:

> It is interesting to note the extension of choreic movements with the development of the disease. While in the beginning nly the distal parts of the extremities, the fingers and toes re involved, the order of extension of the spontaneous movements is proximal; the hand, forearm, arm, shoulder and oot, leg, thigh, trunk are involved one after the other. The more severe the case the more the proximal parts are involved, he milder the case, the more the spontaneous movements are onfined to the distal segments.

This is not the place to dwell on the order of development of choreic movements, though my personal observation of cases seen in the earlier stages and studied hroughout their course would cause me to give just he reverse order of development to that outlined by örster. That the trunk muscles are involved more or ess in all cases of chorea, the degree depending on the everity of the disease, is a point I desire to establish and mphasize. I have paid especial attention to this point n my studies in chorea minor and my observations find onfirmation in the writings of von Ziemssen, Broadbent, Vogel, Frederick Taylor, Church and Peterson James Taylor, C. E. Beevor, and others.

Now if we admit the involvement of the trunk and abdominal muscles even to a slight degree in chorea minor, we must then admit the possible, nay more, the necessary, involvement of some of the respiratory muscles. This follows from the fact that all of the respiratory muscles, excepting those innervated by the seventh, tenth and eleventh cranial nerves, are innervated by the spinal nerves having a common source of innervation with the trunk, abdominal and extremity muscles in the anterior horn cells. That the muscles innervated by the seventh and eleventh cranial nerves are constantly involved to some degree in chorea is a matter of general observation and acceptance and the frequent involvement of the vocal cords is generally admitted. Therefore, unless we assume that the respiratory muscles escape in some inexplicable way, we are forced to admit their constant involvment in chorea minor.

Admitting then the involvement of the respiratory muscles in chorea, can we explain the respiratory phenomena recorded in this paper, and most of them illustrated in the tracings by the spontaneous choreic contractions in the respiratory muscles? Some of them can be explained in no other way and these are the "inspiratory and expiratory cogs," whereas the active and explosive expiratory movements, the expiratory pauses, the sighing respirations, the sudden changes in type, the mixture of types, the incoordination—dissociation and the variable amplitude of the respiratory excursions admit of no such explanation. To explain these, we must assume an irritation or fatigue, and probably both, of the respiratory center itself by the agent causing chorea. The principal respiratory center is in the medulla and is situated between the nuclei of the eleventh and twelfth cranial nerves below and the seventh above, and it would indeed be an inexplicable condition if the respiratory center escaped.

From the beginning, and ever afterward in health, our respiratory movements are associated, synergic and coordinated. The normal individual is incapable of executing other than coordinated respiratory movements. However much he may voluntarily alter their rhythm or however much their rhythm may be altered, as in emotional states, in the beginning of any voluntary, purposeful movement, or reflexly as in coughing and sneezing, there is still harmonious, synergic, coordinating activity exerted by the respiratory center over the muscles engaged in the respiratory act.

We readily account for the Cheyne-Stokes' respiration; the disturbance in respiration frequently met with in inflammatory processes of the brain or its membrane; in tumors, abscesses, traumatisms, shock, insolation; in fevers; in infectious diseases; in intoxications; in the action of drugs, etc., by assuming an involvement in some way of the respiratory center. When we consider the anatomic location of the respiratory center, the physiology of respiratory movements, the motor manifestations of chorea minor other than the respiratory and lastly the respiratory phenomena themselves, the conclusion becomes inevitable that most of them can be explained in no other way than in assuming an involvement of the respiratory center by the agent causing chorea minor.

ABSTRACT OF DISCUSSION

Dr. Frank R. Fry, St. Louis: I believe that Dr. Graves brought out an important point. There are occasional instances in which we have misgivings about cases of chorea, and anything that assists in their diagnosis is welcome and helpful.

Dr. L. H. Mettler, Chicago: We still find that clinical differentiations between this and the tics and certain choreiform manifestations are based to a considerable degree on the localization of the symptoms. We are told often that chorea minor involves especially the peripheral extremities, whereas the tics are more obvious about the face and head, as though that were an important element of distinction. In some old definitions and even in some modern definitions we are informed that chorea minor implicates the voluntary muscles; and the movements are spoken of as remarkable for being involuntary, yet associated with the voluntary parts of the body. The suggestions of Dr. Graves as to the respiratory movements show that the disease is a much wider affection than these clinical differentiations would lead us to suppose.

I have long been teaching that the sensory manifestations, the mental manifestations, as well as the more prominent motor manifestations involving the different parts of the body, point to the fact that chorea minor is something more than a mere cortical trouble, and that the clinical physiopathology of the disease carries us back to what most of us are beginning to recognize, and which ere long all of us will recognize, that we have here a generalized infective process, whether rheumatic or otherwise, and that this infection involves more or less all of the functions of the body, manifesting itself only more prominently in certain ways, as Dr. Graves has brought out. I think that these investigations clearly show us that in this infective process we have a disease which involves more or less the entire nervous system in all of its various functions, and not alone the mere motor areas. Particular parts of the motor function we have, even to the present time, been regarding too narrowly because they were merely most prominent clinically.

Dr. William W. Graves, St. Louis: I fully agree with Dr. Mettler that in chorea minor we are dealing with a disease of rather widespread irritative nature. I believe a study of its respiratory phenomena will emphasize that which now is generally recognized, that chorea minor is really a disease, due to an infectious agent, though not definitely known, as measles, smallpox, scarlet fever or other infectious disease. The entire clinical history of the disease points to this conclusion.

LACTIC ACID AS AN AGENT TO REDUCE INTESTINAL PUTREFACTION

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In a book recently published and entitled "The Prolongation of Life," Optimistic Studies by Elie Metchnikoff, the author has made an attempt to analyze the causes of premature senility. The origin and uses of the large intestine are discussed and an attempt made to account for its purpose. The author argues that protection is afforded to animals which are frequently compelled to make a hasty escape from enemies by allowing the waste products of digestion to accumulate without the necessity of immediate discharge. He seeks to prove this theorem by a number of examples. Birds have neither a large intestine nor a bladder and therefore are unable to retain waste products. Exception to this rule is the ostrich, which, not being able to fly, has developed a large intestine so as to be enabled to continue a lengthy flight. Mammals have, as a rule, a large intestine because their terrestrial habits of life make it expedient for them to protect themselves by flight from some sudden enemy.

THE COLON AND LONGEVITY

Metchnikoff then quotes examples of short-lived mammals. The horse, for instance, has a huge large intestine in which waste products accumulate and the discharges are often the results of food taken several days previously. The same applies to sheep and cattle. All these animals, according to their size, seem entitled to longer lives than they actually possess. On the other hand, birds of prey which live largely on putrefying meat show a small intestinal flora of bacteria, because, as Metchnikoff reasons, there is no intestinal sac in which food wastes accumulate and these animals have consequently long lives. It has been supposed by some authors that an exclusive vegetable diet is not productive of intestinal putrefaction and that putrefaction is due to a meat diet. This may be true in a measure and under certain conditions. Metchnikoff thinks, however, that intestinal putrefaction is primarily due to the presence of a large intestine, and that premature senility is the result of the accumulation of waste products which remain for varying lengths of time in the colon and are there subject to the activity of putrefactive bacteria.

Herter agrees with the view that premature senility is due to putrefaction caused by the activity of anaërobes, chiefly *B. aërogenes capsulatus (B. Welchii)*. The character of the food influences the intestinal flora, causing differences not only in number but in kind. In infants fed exclusively on human milk an anaërobic bacterium described by Tissier (*B. bifidus*) is present in large numbers, especially in the upper part of the intestinal canal. This organism produces too much acid for most bacteria to live in and affords protection against bacteria in general, and especially against pathogenic and putrefactive bacteria, which thrive best in alkaline media.

In the intestines of infants fed on cow's milk, on the other hand, several species of anaërobic bacteria find suitable conditions for development. These bacteria break down proteins with the production of substances which may become injurious to the system, especially if they are allowed to accumulate by large amounts of protein-containing food reaching the colon.

INTESTINAL FLORA

In adult life few bacteria of any kind are found in the normal stomach, being promptly killed by the hydrochloric acid of the gastric juice. In the duodenum there are few, in the jejunum more, and in the colon almost countless numbers. The distribution of *species* also varies according to locality. Aërobes and streptococci are chiefly found in the upper parts of the intestines, but in the colon we find in addition large numbers of anaërobes which are practically absent in the higher intestine. The anaërobes can only thrive after the free oxygen is used up by the aërobes, and if undigested protein reaches the colon they find there favorable opportunity to elaborate from it the poisonous products o putrefaction.

The presence of acid is unfavorable to the growth o putrefaction bacteria, and it is believed that strepto cocci and bacteria of the colon aërogenes group serve useful purpose by the acid they produce and by using up material on which the anaërobic bacteria migh thrive. The streptococci exercise an inhibiting influ ence on bacteria of the colon aërogenes group. Th whole question of the usefulness or uselessness of bac teria in the digestive tract is still debated, though mos authorities seem to agree that the production of acid in the digestive tract is of distinct value.

A proper balance of carbohydrates and proteins, th use of only a moderate amount of protein, the avoi ance of imperfectly-cooked meat, and thorough mastication tend to prevent putrefaction. Acids have been employed as remedies for intestinal putrefaction, but it is difficult to administer them in sufficient amounts to serve the purpose without causing injury by the neutralization of alkali. Intestinal antiseptics are of doubtful efficacy.

LACTIC ACID AND INTESTINAL PUTREFACTION

In his book on the prolongation of life Metchnikoff advises strongly the ingestion of lactic acid bacteria for the prevention of intestinal putrefaction. Food has been preserved empirically from remote times by various means, one of these being the use of sour milk. The introduction of lactic acid bacteria has been attempted by various authors, some claim with eminent success. Thus Cohendy took cultures of a bacillus isolated from the Bulgarian fermented milk Yahourth or Yoghurt and educed intestinal putrefaction materially. He found the Bulgarian bacillus in the feces for several weeks after liscontinuing ingestion. Tissier employed cultures of Kozai's *B. acidi paralactici* with success. Herter has ed dogs with cultures of *B. coli* and *proteus* and found hat putrefactive products increased in the urine. When eeding cultures of lactic acid bacilli, however, he found reduction. Professor Herter has kindly informed me n a private communication that the lactic acid bacilli sed in these experiments were not of the Leishmann ype (*Strept. lacticus*) but probably Hueppe's *B. acidi actici*.

The bacillus recommended by Metchnikoff and named y him *B. bulgaricus* has been studied in his laboratory y Bertrand and Weisweiler. They found that it produces an unusual amount of lactic acid, more in fact han is pleasant to taste. Metchnikoff's bacillus also igests the casein somewhat and decomposes some fat o that the taste is disagreeable. Therefore Metchnioff advises the use of the paralactic bacillus (*Strept. cticus*) in combination with the Bulgarian bacillus.

Recently Herter and Kendall have investigated the ate of *B. bulgaricus* in a monkey. They fed a monkey ith bacillac, a beverage produced from milk with *B. ulgaricus* and a yeast. By feeding them this milk exlusively they were able to maintain an acid reaction hroughout the digestive tract. They failed, however, establishing the predominance of the Bulgarian bacillus in the ileocecal region. In the large intestine the umber of these bacilli was relatively small. "Thus in e region characterized by most active putrefaction the ctic acid bacilli failed to establish themselves in relavely large numbers." The authors assume that the troduction of lactic acid bacteria appears to reinforce e enfeebled action of the normal intestinal lactic acid cteria and to increase the amount of acid produced here it is insufficient or to reintroduce it where it is sent, thus assisting the host to throw off "wild races" bacteria that may have become habituated in the instinal tract.

Wegele has obtained good results by the use of Metchkoff's sour milk. He thinks that the production of ctic acid *in statu nascendi* in the digestive tract is of portance more than the mere presence of lactic acid ter consuming sour milk.

Wejnert claims that the number of bacteria in the ces is markedly reduced by the use of sour milk prered with lactobacilline (*B. bulgaricus, Strept. lactis* and a yeast). He stated that this reduction is more arked by using this milk than by using ordinary sour milk. The evidence is not convincing, and since anaërobic bacteria were not searched for in his experiments the benefit claimed has not been sufficiently substantiated. He found *B. bulgaricus* in the feces but did not state what relation the numbers bear to the number of other bacteria in the feces.

We have seen that in order to produce lactic acid it is necessary to have carbohydrates present. We must remember that many bacteria are able to produce lactic acid from sugars, some species producing but small amounts, others larger amounts and some produce other acids than lactic acid. Lactic acid up to 1 per cent. in milk is palatable and pleasant, but if mixed with volatile acids, such as acetic, formic acid, etc., the taste becomes unpleasant. It is of importance, therefore, to select the kind of lactic acid bacteria with care. *Strept. lacticus*, the organism responsible for the natural souring of milk, produces about the right amount of palatability. In fact milk which has reached the stage of extreme activity of this organism is eaten by many people as a delicacy. When milk has solidified from the coagulation of the casein brought about by *Strept. lacticus* it contains these bacteria in almost pure culture and the lactic acid present is almost pure lactic acid. If milk is kept longer than this, molds decompose the casein, bringing about an alkaline reaction, so that putrefactive bacteria can multiply and putrefy the milk.

BUTTERMILK AND ITS MANUFACTURE

Buttermilk as we procure it in the market may contain various degrees of acidity and fat. If butter is made from sweet cream the buttermilk contains very little acid. Usually butter is made from cream containing 0.6 per cent. or more acid. The amount of fat in buttermilk depends largely on the thoroughness with which the churning process is carried on. The souring of the cream previous to churning is either the natural process or is brought about by the use of starters. In the natural process *Strept. lacticus* is the usual agent producing acidity, but may fail to give good results if excessive numbers of other bacteria are present. If starters are used unpleasant flavors are avoided, especially if commercial starters are used. These consist chiefly of cultures of *Strept. lacticus*, some being actually pure cultures. The cream may be pasteurized previous to inoculation with these cultures and thus the injurious influence of foreign bacteria avoided.

Buttermilk, therefore, is sour milk from which the butterfat has been partially removed. The churning process which breaks up the coagulated casein into extremely fine particles may influence the taste and aroma somewhat. A large proportion of buttermilk is manufactured by inoculating separator milk or skimmed milk with starters and churning after coagulation. During the investigation to be discussed presently ordinary sour milk was tasted by a number of persons who knew nothing of the origin and they invariably declared that they were drinking first class buttermilk. If milk is allowed to remain at room temperature for two to three days, then thoroughly shaken, a pleasant and wholesome beverage results, if proper care is taken to obtain a good grade of milk, as personal experiments have shown.

Should milk be pasteurized or boiled if sour milk is to be prepared by introduction of pure cultures? Our experiments have shown that the cooked taste is not eliminated by bacteria and is often quite prominent if the milk has been boiled. This certainly is a disadvantage. Pasteurization will furnish a more palatable product than boiling. Raw milk, however, is the most palatable. Since pathogenic bacteria are often found in milk it may be safer to pasteurize the milk previous to inoculation. Pasteurization and boiling kills vegetative forms of bacteria so that pathogenic bacteria are killed, but lactic acid bacteria are killed also and have to be supplanted by artificial cultures. Pasteurized and boiled milk also contain the spores of putrefactive bacteria, which, however, are suppressed if lactic acid bacteria are inoculated in sufficient numbers. On the whole, pasteurization is to be recommended unless the milk is produced under strict hygienic precautions.

PREPARATIONS INVESTIGATED

Of late years a number of firms have manufactured and marketed preparations for the home production of soured milk. At the suggestion of the editor of The Journal of the American Medical Association, I, assisted by Mr. T. H. Glenn,[1] have investigated some of these preparations with a view of determining their relative value as starters for sour milk beverages. The preparations were purchased in the open market and samples also were obtained from the manufacturers, in order to determine their stability. Bacteriologic examinations were made from the tablet or capsule directly and also from sterilized milk inoculated with the tablet or capsule. Sour milk was prepared with the respective preparations, following the directions given in the printed pamphlets accompanying the packages. In all, six series of experiments were made by inoculation of flasks containing 500 c.c. milk with the commercial preparation:

1. Inoculation of ordinary raw milk.
2. Inoculation of certified milk, containing 1,000 to 5,000 bacteria per c.c.
3. Inoculation of boiled ordinary milk.
4. Inoculation of boiled certified milk.
5. Inoculation of milk sterilized at 120 C. (248 F.) for twenty minutes.
6. Plating in glucose agar of the commercial preparations.

The amount of acid was determined daily for three successive days of each preparation, excepting the series inoculated into sterilized milk. This series was examined on the third day only. The acidity was determined by titration with a solution of Farrington's alkaline tablets. This method is perhaps not quite as accurate as titration with normal alkali, but for comparative purposes is sufficiently reliable. The sterilized milk was titrated but once in order to avoid every possible chance of contamination. Plates were prepared in 1 per cent. glucose agar from all flasks and a number of colonies transferred from each plate to slant agar, litmus milk and glucose agar. A series of butterfat determinations were made by the Babcock method in order to determine whether any fat was lost during the fermentation. Notes in general were made as to the appearance, consistency, taste and odor of each of the flasks. All fermentations were allowed to proceed at an average temperature of approximately 21 C. (70 F.).

In order to eliminate the personal equation a series of samples were tasted by three physicians independently. The samples prepared for this test were sent in 200 c.c. bottles and each bottle numbered, so that the experimenter did not know what he was tasting. Numerous similar tests were made by asking persons working in the laboratory to give their opinions, all of these tests being made with the same precaution, viz., keeping them in ignorance of what they were tasting.

In addition to the above described experiments I prepared three capsules, one from sour milk, another from a pure culture of *Strept. lacticus*, and a third from a mixture of *Strept. lacticus* with a yeast isolated from one of the market preparations. These capsules were subjected to the same tests as the others. The results of these experiments will be given by taking up a discussion of the findings of each separate preparation first and then by discussing the results as a whole.

The following account of the investigation of commercial preparations is a summary of detailed results of the experiments. Since there was no marked difference between the samples bought in the open market and those obtained from the manufacturers, only one of each will be described. The numbers refer to the various persons who have given their opinions as to taste, etc. When there is no mention of butterfat no change in percentage was noted.

LACTOBACILLINE

This preparation (made by the Franco-American Ferment Co., New York) is put up in small brownish tablets, forty-eight in a box, and also in powder form. It has a decidedly acid taste. Micro-organisms found in the tablets: *B. bulgaricus*, *Strept. lacticus*, an acid-forming staphylococcus, *B. subtilis*, and a yeast. Boiled milk inoculated showed *Strept. lacticus* in overwhelming numbers and large numbers of the yeast cells. *B. bulgaricus* was in relatively small numbers. The degree of acid formed in three days was 0.82 to 0.85 per cent. (lactic acid). The final product had a generally good taste and consistency.

Samples tasted from a preparation made with raw certified milk were commented on as follows:

1. Taste good and creamy.
2. Rather unpleasant, slightly bitter.
3. Disagreeable; not due to acid.
4. Too acid, disagreeable.

The same prepared with boiled certified milk:

1. Generally good, boiled taste.
2. Sweet and somewhat nutty flavor, also like boiled milk.
3. Slight acidity, slight sweetish flavor.
4. Milk scorched, sweetish flavor, not at all like buttermilk.

With inoculated sterilized milk: Taste was not pleasant. The predominating micro-organisms were *Strept. lacticus* and a yeast.

FERMENLACTYL

This preparation (made by the Anglo-American Pharmaceutical Co., Ltd., London, Paris and New York) comes in small yellowish tablets which taste like malted milk, six tablets in a bottle and eight bottles in a box. The organisms found in original preparation: *B. bulgaricus*, *Strept. lacticus*, a yeast and alkali forming bacteria probably *B. subtilis*. Boiled milk inoculated showed *Strept, lacticus* and yeast cells in large numbers. In sterilized milk a staphylococcus, *B. bulgaricus* (not in large numbers), *Strept. lacticus* and yeasts were found. The degree of acid after three days varied from 0.80 to 0.89 per cent.

In certified milk, both raw and boiled, the taste and appearance were good on the whole.

In ordinary raw milk: "Sweet, creamy and pleasant acid" was the verdict of three individuals.

In boiled milk the opinions as to its flavor were unanimous that it was pleasant but the boiled milk taste was present.

In sterilized milk the acidity after three days was onl 0.48 per cent. Micro-organisms present were: *B. bulgaricu* *Strept. lacticus*, a staphylococcus, and yeast cells, *Strep* *lacticus* was the most prevalent.

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[1] This work was done in the Bacteriologic Laboratory of the University of Chicago. I acknowledge my indebtedness to Prof. E. O. Jordan for permission to use laboratory facilities freely.

KEFILAC

This preparation (made by the Kefilac Co., Atlanta, Ga.) comes in large white oval tablets, sixteen in a tin box. Almost tasteless. Micro-organisms in the tablets: *Strept. lacticus*, *B. aërogenes*, a chromogenic torula, alkali forming bacilli (*B. subtilis*), a yellow pigment forming bacterium and a few organisms resembling *B. bulgaricus*. Acid formed after three days, 0.79 to 0.88 per cent. The final product had a generally pleasant taste and consistency. Some gas was formed in the curd.

Opinions as to taste, etc., in ordinary raw milk: Sweet, creamy and pleasantly acid; the verdict of three individuals.

In boiled milk the opinions as to its flavor were the same as in raw milk except that the cooked taste was noticeable.

In sterilized milk *Strept. lacticus* and yeasts were prevalent.

YOGURT

This (made by the Yogurt Co., Battle Creek, Mich.) is put up in both capsule and tablet form. The tablets are soft and crumble readily, are light brown and of a floury taste. The capsules are tasteless. The original preparation contains large numbers of bacteria, among which *Strept. lacticus* was found in large numbers, also *B. subtilis*, *B. aërogenes*, *Oidium lactis* and a yeast. The amount of acid formed after three days was 0.64 to 0.90 per cent. The final product varied considerably, in some cases being quite pleasant and creamy, in others rather disagreeable. Gas was found frequently in the curd.

Opinions as to taste, etc., in certified milk, both raw and oiled, the taste was disagreeable, much gas formed and a reat deal of whey separated after three days. Sometimes a itter taste was noticeable.

In ordinary raw milk:

1. Sweet, creamy and slightly acid flavor.
2. Slight acid flavor, not as palatable as some others.
3. Pleasant acid flavor, tastes like buttermilk.

In ordinary boiled milk:

1. Least acidity of all samples tasted, quite strong, of a peculiar nutty (boiled) flavor.
2. Least acid, somewhat sweetish and disagreeable taste.
3. Boiled milk flavor, not acid, sweetish, disagreeable.

In sterilized milk: Here the taste was quite pleasant and *trept. lacticus* and yeasts were predominant.

LACTONE

This preparation (made by Parke, Davis & Co., Detroit, ich.) comes in small white tablets in a bottle. Organisms ound in the original preparation: *Strept. lacticus*, a gas-orming bacillus (*B. aërogenes*) was found occasionally, not all tablets examined, and a non-gas-forming bacillus. According to directions one-third of a quart of water was added all experiments excepting those in which sterilized milk as used. The butter was consequently reduced to about 75 er cent. of the original content (in one case from 3.4 in the ilk to 2.5 in the buttermilk). The amount of acid formed as from 0.69 to 0.92 per cent. Whey separated readily, alays on the third day and mostly on the second day. In rtified milk, both raw and boiled, the taste was plainly ur, with little flavor.

Opinions as to taste, etc., in raw ordinary milk:

1. Weakly acid, less flavor than any.
2. Weakly acid, no other flavor.
3. Slightly acid, no particular flavor, not at all like buttermilk.

In ordinary boiled milk:

1. Creamy, slightly acid, the peculiar nutty (boiled) flavor.
2. Acid flavor, with slight sweet flavor.
3. Peculiar acid flavor, not like buttermilk at all.

In sterilized milk: Only 0.31 per cent. acid was formed ter three days, few bacteria, bitter taste. *B. subtilis*, *Strept. cticus* (not numerous) and staphylococci.

PREPARATION "X"

This consisted of the dried curd of milk, which had soured the natural process for four days at room temperature. ter being put up in capsules the appearance was yellowish e Yogurt capsules and the taste was somewhat cheesy. The acid formed in milk after three days was from 0.80 to 0.91 per cent. In certified milk, both boiled and raw, the taste and consistency were good and whey separated only in one sample on the third day.

Opinions as to taste, etc., in boiled certified milk:

1. Slightly acid flavor, nutty (boiled) flavor.
2. Purely acid, not unpleasant.
3. Sweetish flavor, too thick.

In sterilized milk: Taste good, like buttermilk. Acidity, 0.85 per cent. Micro-organisms, *Strept. lacticus* and yeasts.

PREPARATION "XX"

This was made by inoculating sterilized milk with a pure culture of *Strept. lacticus* isolated from market milk and a yeast from Lactobacilline. This preparation produced a fine buttermilk taste with an exceptionally delicate flavor and was favorably commented on by five persons. The curd was smooth, no whey separated for three days and the acidity was extremely pleasant. This preparation was substituted for fermenlactyl by a gentleman who had used the latter for several weeks. According to his judgment "XX" was preferable.

NATURALLY SOURED MILK

A sample of this was also tested by three persons, with the following results:

1. Pleasant and creamy with palatable acidity.
2. A little too much acid to be pleasant.
3. Pleasant acid flavor. Tastes like buttermilk.

This preparation was ranked among the four best samples out of twelve by one experimenter. *Strept. lacticus* was present in almost pure culture.

STERILIZED MILK

This was inoculated with a pure culture of *Strept. lacticus*. A good smooth curd was formed and five out of six persons tasting this thought it was genuine buttermilk.

It was interesting to note the varying rapidity of acid formation in these experiments. If certified milk or boiled milk was inoculated the acidity developed more slowly than if raw ordinary milk was used. In raw ordinary milk the high point was reached on the second day or nearly so and then remained stationary. In certified and boiled milk the high point was reached on the third day, while on the second the acid was either little more than on the first day or but slightly higher.

It is evident also that there is a parallelism between the process of fermentation of milk inoculated with the preparations discussed and the natural process. The products in both cases are quite similar. The great prevalence of *Strept. lacticus* is a leading feature. The amount of acid produced by this organism in pure culture is about the same as the amount produced by the use of these preparations.

The preparation of milk by the use of Fermenlactyl and Lactobacilline is rather a difficult matter in the household. In hospitals and laboratories there is little difficulty, but since the use is chiefly intended for the house it seems rather difficult to observe directions closely. The temperature for the successful growth of *B. bulgaricus* is higher than ordinary room temperature so that the benefits claimed for the use of this organism are hard to obtain. In Bulgaria, where the original Yahourth or Yogurt is largely prepared, great care is taken to keep the inoculated milk warm. Previous to inoculation with the Bulgarian ferment (Maya) the milk is boiled down to half its volume and inoculated at a temperature of about 45 C. (113 F.).

SUMMARY

The usefulness of lactic acid or lactic ferments as curative agents for intestinal putrefaction is still problematical. Much evidence in its favor has accumulated of late years and it is to be desired that exact scientific investigations of a decisive character will be undertaken.

The evidence in favor of the use of *B. bulgaricus* as a lactic acid producing organism for the purpose of arresting intestinal putrefaction is not convincing. The association of *Strept. lacticus* with the Bulgarian bacillus leaves doubt which one of the two organisms is the one responsible for the beneficial effects claimed. The Bulgarian bacillus produces a disagreeable taste in milk by decomposing some of the fat and the addition of *Strept. lacticus* is universally practiced to overcome this difficulty.

The experiments which have been reported in regard to finding the Bulgarian bacillus in the feces are incomplete in so far as no statements are made in regard to the number of these bacilli found in relation to other intestinal bacteria, especially in relation to intestinal streptococci.[2]

Assuming that the presence of free lactic acid in the digestive tract is beneficial, it has not been definitely shown that lactic acid is actually produced in considerable quantity by the presence of lactic acid bacteria in the intestines. The evidence is decidedly in favor of the introduction of sour milk, or pure cultures of lactic acid bacteria in connection with a diet in which milk is a prominent feature. Lactic acid forming bacteria are constantly present in the digestive tract, and we have no convincing evidence that the additional introduction of lactic acid bacteria is of benefit.

There is so far no convincing evidence that sour milk prepared with commercial cultures is preferable to naturally sour milk, as far as the therapeutic effect is concerned. It seems advisable, however, to boil or pasteurize milk if good reliable "certified" milk is not obtainable, and if this is done an artificial starter is necessary. For this purpose either one of the above discussed preparations may be used, or one of the commercial butter starters. In those countries where sour milk is generally used the starter consists in a small amount of the previously prepared milk. This can be done with any other starter. A small amount of the prepared sour milk may be used for inoculation of the next lot after this has been boiled or pasteurized.

In spite of Metchnikoff's statement that the presence of yeasts is detrimental, the commercial preparation investigated, excepting only lactone, contain yeasts in large numbers. Undoubtedly some alcohol is produced by these and probably some esters which impart aroma to the sour milk. Yahourth of the Bulgarians, kefir, koumiss, leben and all the other fermented milk beverages contain alcohol-forming yeasts, although the amount produced is very small.

Although the sense of taste is largely a matter of personal judgment and idiosyncrasy, it is a matter of no inconsiderable importance. A product of pleasant taste is surely of higher value than one which is disagreeable, and this point should not be neglected. The results of the samples tasted are fairly consistent and a careful perusal will show that there is a decided preference in some cases. The taste produced by the activity of *Strept. lacticus*, perhaps with additions of an aroma-producing yeast, is without doubt the most preferable and evidence in favor of the use of this organism must of necessity be of great value.

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[2] Recently Sewerin has examined a series of seven samples of Lactobacilline in Germany and was unable to find *B. bulgaricus* in any one

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NIGHT CAMPS FOR THE TUBERCULOUS

THE UTILIZATION OF THE CONSUMPTIVE'S LABOR POWER

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In much of our tuberculosis work in municipal and state fields it seems to me that we are open to the criticism applicable to the man who, without telling the naked how to get food and raiment, constantly exhorted them to be fed and clothed. Without telling the tuberculous man how to find maintenance for himself and, more especially, those dependent on him, we exhort him to take the cure for longer or shorter periods.

Those we do provide with maintenance we frequently demoralize with idleness in our sanatoria. It merits objection, it seems to me, that many in charge of the disposition of funds in state and charitable institutions for the tuberculous frequently pauperize by failing to use the potential energy of the patients of such places by compelling them to make some return for benefits. Yet there is scarcely a sanatorium in the country that could not, with benefit to the patient, utilize 33 per cent. of the total potential energy of those resident in the institution. Some remuneration for the work could justly be made in board or money. This is more true to-day when, with little foresight from the standpoint of prevention, the patients admitted to these places must be those with incipient tuberculosis, who in the main grow fat, vigorous and lazy in a few weeks.

If the statement that *jedermann hat am Ende ein bisschen Tuberculose* be true, then, of course, for every one who knows that he is affected with tuberculosis there are one hundred who never know they have it, yet continue working throughout their lifetime and seem none the worse for it.

Since long before the excellent systematic work outlined by Patterson at Frimley, or even before the differences of Brehmer and Detweiler on the question of exercise, we are familiar with the records of patients who, under advice, or contrary to advice, rode horseback or took active exercise in the open air and yet made excellent recoveries.

I fear that, being overwhelmed by the number of yearly deaths, we are apt to forget, especially in our dispensary work, the important lessons to be learned from such facts as the above.

My attention has been called to this lately in making provision for those whom, by our present ability to make early diagnoses, we find by examining the households of those consumptive patients reporting at the dispensary. These cases are unsuspected by the individuals themselves and are of varying degree of intensity from incipiency to far advancement. The patients have in the past been *en masse* urged to take the cure in a way which is obviously impossible when we stop to think. We have frequently had in the hospital in Pittsburg from three to five members of one family.

I do not wish my remarks to be taken as in any way bearing on febrile cases, although I have frequently known cases of moderate fever up to 100 of evening temperature in which the patients improved only after being given one hour or two of light work daily. The best law to follow, of course, is that patients with tuberculosis should be treated by the physician, as nearly as possible, individually, both psychically and physically as if there were in each case a separate malady.

My reference is more especially to the following groups of cases which every properly run dispensary must yield in comparatively large numbers:

1. Patients not conscious of their lesions, (a) with open lesions, (b) with closed active lesions, and (c) those with closed inactive lesions, who, from their existing social condition, must continue working. In this group are included the majority of those who are found by examining the households of the tuberculous who report at the dispensary. Many of these refuse to stop work; many can not; many need not. I could enumerate instances in great number, but I need not, as all who have to do with the tuberculous are only too familiar with such cases.

2. Patients who are conscious of their lesions but who will not, or from their economic circumstances feel that they can not stop their work. These are too often young women, each the sole support of a widowed mother, or mothers whose absence in the daytime would break up the household. There are also many who can not be persuaded of the seriousness of their sickness; feeling able to work, they are often induced to continue earning in order to save property on which they have already paid a good deal.

3. Patients who are conscious of their lesion, and who are not working but are able to work. Among these are (a) those who have been frightened by what may be called the defects of our modern crusade, (b) those whose disease has been arrested but who have been demoralized by our present sanatorium methods, and (c) many who have grown accustomed to the support of others at home and now refuse to work. These are able to maintain their position through the fear which they are able to infuse into those at home.

From the foregoing groups are many who, if they feel hat they are under supervision, are willing to work. Many can be induced to accept for a time the advanages of sleeping out at night with two meals daily to elp them in recovery. Many under the jurisdiction nd moral suasion of a hospital do better than under he influence of poor home surroundings. There are lso many who are boarding and whom the boardingouse refuses longer to keep, etc.

For all of these we have found a night camp to be a ery feasible and valuable adjunct to the work of the uberculosis League, and recommend it to other municipal organizations interested in this work.

For this work in the past we have utilized simply the eds in the hospital shacks and not a separate department, as the name might indicate. The patients report t the end of the day's work; their temperature and ulse are taken and recorded when they retire to their eclining chairs or bed to rest until supper. After super they are at rest until bedtime, 9 p. m., when they leep out of doors. The time of their return to the ospital varies in compliance with the requirements of heir work. The work is arranged with the employer suit the case as nearly as possible. In the morning hey rise, dress, have their temperature and pulse reorded, have their breakfast and go to work. They rrange for lunch out of the hospital. Chest examinaions are made and recorded as with all cases in the ospital. The advantages to the patient are evident: onstant medical supervision and advice, two nourishing eals daily, compulsory rest and open-air sleeping facilies.

The cost of maintenance is difficult to arrive at under the present management, as it is included with the general hospital per capita maintenance, but it can not be much less than ordinary hospital maintenance. I look on this, however, as of minor importance. The basis of our work has been to cure and prevent as much tuberculosis as possible with the least amount of pauperization of the patients. The patients of the night camp are supposed to pay what they can, which amount we help them to arrive at after gaining a knowledge of their liabilities and earnings. In many cases it is nothing; in no case is it very much.

Of more importance is the economic value of the camp. It saves the labor of the individual to the state, often prevents the necessity of the state or municipality providing for others dependent on the patient, and, best of all the patient himself frequently makes rapid progress and arrest of his disease.

Its sociologic value is of equal importance. We are more and more beginning to grasp the truth that the tuberculosis problem is not concerned with that malady alone, but is a crusade which includes a reconstruction of the whole social fabric of a municipality. In the present instance the night camp preserves the self-respect of the individual. He often attracts the admiration of his associates and furnishes an example of heroism which is growing rarer in this past few years among our tuberculous. It takes real heroism to admit to your associates that you are tuberculous. The night camp, besides, is a very potent instrument in appealing to those most valuable citizens, the charitably inclined. These are so often fooled that they become skeptical of good done with their contributions; but where they see an effort being made to use funds in such a way as this, it has some power in restoring their confidence.

Perhaps of maximum importance is the educational value of the night camp: first, on the patient, who learns the methods of prevention of spread of tuberculosis and disposal of sputum; second, on all with whom he comes in contact when he can be persuaded to follow the teaching with which he is made familiar; and third, in overcoming the sad state of affairs, a product of our method of crusade, the fear of employers and employés of even the careful consumptive. I have faith that through the night camp much will be done to help the hardships which now are so commonly thrust on the consumptive, preventing often his doing the very things asked of him. You and I, his teachers, are too often guilty, unconsciously perhaps, of sharing this popular fear which does so much to defeat our ends.

Clean Milk.—John Ferguson, in the *Canada Lancet*, states that the slaughter of the innocents through the milk can has far exceeded the slaughter wrought by pestilence and war. We must aim for the following conditions: 1. Healthy cows and the feeding, stabling and milking of these carried on according to the best methods. The care of the milk should be such as maintains the purity of the milk until it reaches the consumer. This is certified milk. 2. Healthy cows and as many safeguards as can be thrown around the milk supply, but yet not such as to keep it up to the standard of certified milk. In such cases there is the need for pasteurizing the milk. 3. Unhealthy cattle and careless, dirty methods of handling the milk should be mercilessly condemned and put a stop to wherever found. Milk that has been pasteurized is not so good for the feeding of infants and children, as milk that is secured under the certified plan. It is much better, however, than bacteria-laden milk; and for the time, we must accept the lesser of two evils.

THE ECONOMICS OF THE GRADUATION OF MEDICAL CANDIDATES

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OMAHA

The present article, suggested by the excellent statistics of medical education published annually by The Journal, is a cold-blooded statistical study of certain problems of supply and demand; bearing quite directly on the ultimate bread-and-butter problem of the profession. Let us start with some statistics from the U. S. Census:

Year.	Physicians.	Population of U. S.	Average clientele.
1870	62,383	38,558,371	618
1880	85,671	50,155,783	585
1890	104,805	62,622,250	597
1900	132,002	76,303,387	568
1910	160,000	91,500,000	572*

*Estimate, see below.

Roughly speaking, the ratio of physicians to population is about the same as of white to red corpuscles in the blood, but with a moderate leucocytosis.

In the thirty years from 1870 to 1900, the population nearly doubled. In the same period the number of physicians more than doubled; in fact, it increased to about 212 per cent. of its former number. To put it in another way, the average physician had a clientele which was less than in 1870 by 50 persons, or about 10 families. Not only was the clientele smaller, but it included a larger proportion of persons unable or unwilling to pay for services, and it was healthier, notably in regard to tuberculosis, typhoid and pregnancy and the sequelæ of the last disease. So far as can be judged, fees have not increased except for surgical and other special procedures; but these are expected to and usually do prevent the chronic pelvic and other forms of invalidism which formerly made many persons veritable gold mines for the profession. The purchasing power of the dollar in 1900 was probably just about that of the debased current dollar of 1870.

It is plain that, to maintain the same ratio between the medical profession and the total population, the former must increase at a rate which is the sum of its own death rate and the net rate of increase of the non-medical population. As the population is so many times the number of physicians, the non-medical population may be regarded as practically the same as the total population. For the year 1890 the mortality of physicians was 19 per thousand. For the year 1900 I have not been able to find a definite statement, but the general mortality for males over 25 years old was a trifle over 21 per thousand for the registration area. The percentage of physicians under 25 was 5.4 per cent. for 1890 and almost exactly 5 per cent. for 1900. Since then it has unquestionably decreased both on account of the increased amount of preliminary education required of medical matriculants and the addition of a year to the medical course which has fallen within the present decade for probably the majority of schools, and also because the members of the profession already graduated have been increasing in years, while the relative number of new graduates has fallen, except for a couple of years. Moreover, a death rate estimated by ordinary census statistics is less liable to be complete than when estimated by the returns of a "registration area."

The American Medical Association reports place the death rate for the profession at 14 to 15 per thousand. These are probably defective on account of the liability to lose track of physicians in retirement after they have ceased to practice and to take an interest in medical organizations.

The rate of increase of the general population has gradually fallen as follows:

Years.	Per Cent.
1870-1880	30 +
1880-1890	24 +
1890-1900	22 —
1900-1910	20 — (estimated)

As we are dealing with what are virtually problems in compound interest, an increase of 30 per cent. for 10 years obviously means something less than 30 per thousand for one year. Thus, to keep the average clientele of the physician at the same point, an annual graduation of something less than 5 per cent. would have been permissible in 1870; of about 4.4 per cent. in 1880; of about 4.2 per cent. in 1890; of about 4 per cent. in 1900. As a matter of fact, the graduates of 1880 numbered 3,241, 3.8 per cent. of the total number of physicians, and the average clientele increased by 12 in the next decade. In 1890 they numbered 4,454, 4.2 per cent., and the average clientele fell by 19 in the next decade. But very little dependence can be placed on the results of a single year, nor can the census of physicians for a decennial year be taken as a basis for computations for successive years, and, as a matter of fact, the graduation classes have varied considerably and tended to increase disproportionately until 1904, when the high-water mark of 5,747 was reached.

For comparison with the table of increase of the general population it may be stated that the medical profession increased 37 per cent. from 1870 to 1880, with a decrease in average clientele of over 5 per cent.; 22 per cent. from 1880 to 1890, with an increase in average clientele of over 2 per cent.; 25 per cent. from 1890 to 1900, with a decrease in average clientele of over 3 per cent. So long as the differences in percentage rates are small the clientele will increase or decrease by just about the difference between the percentage increase of the medical profession and the total population — of course, inversely.

The estimate of the numbers of the medical profession in 1910 given at the beginning (160,000) was reached by striking an approximate average betwee the rates of 22 and 20 per cent. increase. On page 60 of The Journal (Aug. 15, 1908), however, there i given a list of the graduates since 1900, whose number gradually rose to 5,747 in 1904 and have since falle to 4,741 for 1908. Even an unprecedented increase i medical matriculants can not cause an increase in grad uates before 1912, and the estimate of 4,700 graduate has been adopted for each of the next two years. B calculating the mortality of the profession at 21 t 1,000 for 1900, subtracting this from the total and ad ing the graduates for 1901, and so on for each su cessive year, the conclusion has been reached that i 1910, the profession will number 154,030. It will b interesting to learn how nearly this estimate coincid with the next census report. If this estimate and th of the total population, 91,500,000, prove to be a proximately correct, the average clientele will have i creased to 594.

From the experience of various European countri we know that, without any particular effort to system tize practice, or falling off of the incidence of diseas one physician can easily care for a population of 1,00 and it may be said that if this ratio could be reache most of the economic problems confronting the medical profession, and many ethical ones which always arise under the temptations of poverty, would be solved, provided, of course, that there were no corresponding decrease in the demand for medical services.

How slowly any such ratio as 1 to 1,000 can be reached under any conceivable practical conditions may be illustrated as follows: If the rate of increase of total population falls only 2 per cent. more, following the analogy of the decades since 1880, we shall have something like 108,000,000 inhabitants in 1920. The annual mortality of the medical profession in 1910 will be about 3,234. More than this number of physicians was graduated in 1880 and it is scarcely possible that, even by continuing to raise the medical standards, coalescing colleges and discouraging matriculants, the average graduation list can be still further diminished so as merely to keep the profession at its present numeric strength. But suppose that this result could be reached; the average clientele would be increased by only about 10 annually or by direct division of the expected population number in 1920 by the present estimated number of physicians the clientele at that time would be almost exactly 700.

Allowing for a decennial increase of population dropping by 2 per cent. for each decade, the medical clientele would reach 811 in 1930 and 925 in 1940. In other words, we are about thirty-five years in advance of the requirements. This means not only individual average hardship for the medical profession, but a serious economic problem for the whole country.

Clinical Notes

A MICRO-ORGANISM WHICH APPARENTLY HAS A SPECIFIC RELATIONSHIP TO ROCKY MOUNTAIN SPOTTED FEVER

A PRELIMINARY REPORT *

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Since the spring and summer of 1906, bodies which I have referred to in my notes as "diplococcoid bodies," and sometimes short bacillary forms, have been found with considerable constancy in the blood of guinea-pigs and monkeys which were infected with Rocky Mountain spotted fever. They have also been seen in the blood of man but not so frequently. Much more time has been spent on the blood of the experimental animals than on that of man in view of the fact that it could always be obtained in fresh condition.

The form most commonly found is that of two somewhat lanceolate chromatin-staining bodies, separated by a slight amount of eosin-staining substance. The preparations of Giemsa, as furnished by Grübler, has been used almost exclusively, and with variations in the echnic the intermediate substance may stain faintly blue.

In spite of the constancy with which these bodies were found, it did not seem justifiable to claim that hey represent the microparasite of the disease, for two easons: (1) the very complex morphology of the lood, especially in febrile states, when various cells and probably their nuclei are subject to unusual disintegration; (2) because of my inability to cultivate a micro-organism of this character from infected blood by the use of ordinary and some unusual culture media, under various conditions of cultivation, or by other means to obtain it in satisfactory concentration.[1]

THE BACILLUS IN THE TICK

Although infected ticks had been examined previously in a more or less cursory manner, their systematic study was not undertaken until recently. In the pursuit of this work advantage was taken of the fact that the disease is transmitted by the infected female to her young through the eggs, as described in a previous report. A repetition of these experiments in the winter of 1907-8, with the help of Dr. Maria B. Mayer, resulted in such transmission in 50 per cent. of the ticks used, the fact being determined by allowing the larvæ to feed on normal guinea-pigs. This second series has not been published heretofore.

Female tick No. 40, a *Dermacentor,* from Montana, had produced fatal infections of spotted fever in guinea-pigs 1740 and 1764. A number of eggs from the first day's laying were crushed individually on cover glasses, fixed in absolute alcohol, and stained with Giemsa's stain. Each egg was found to be laden with astonishing numbers of an organism which appears typically as a bipolar staining bacillus of minute size, approximating that of the influenza bacillus, although definite measurements have not yet been made. Various forms are seen depending on the stage of development and the arrangement in which two or more may be found. It is very common to find two organisms end to end, with their poles stained deeply and the intermediate substance a faint blue, resembling a chain of four cocci. When the chromatin is not yet sharply limited to the poles, the somewhat lanceolate forms so often recognized in the blood are seen. Not infrequently delicate bacilli with a uniform distribution of the chromatin are found. These are all interpreted as stages in the evolution of a bipolar organism. They are present in varying numbers in different eggs, but as a rule they are surprisingly numerous, and in some instances they would certainly count into the thousands. Many faintly staining, apparently degenerate forms are encountered.

Examination of the eggs of three dermacentors from Idaho (different specifically from the Montana dermacentor), which were infected from the guinea-pig, showed the presence of the same forms (Ticks 5, 7 and 9).

Conference with zoologic scientists who have made a particular study of the structure of eggs brought out the fact that such bodies are not known as a constituent of the egg of any species of animal.

Although it has not yet been possible to examine the eggs of ticks which are known to be free from spotted fever, the equivalent control has been made through a comparison of the visceral organs of infected and uninfected ticks. The salivary glands, alimentary sac and ovaries of infected females are literally swarming with exactly similar micro-organisms. On the contrary, they appear to be entirely absent from the viscera of the uninfected tick, both male and female.

AGGLUTINATION REACTIONS

The most striking evidence of the probable etiologic relationship of this organism to spotted fever is found in the positive outcome of agglutination tests. Fortunately it is so numerous in the eggs that a bacterial emulsion of reasonable concentration for agglutination tests can be made by crushing forty to fifty eggs in about 0.05 c.c. of salt solution. The material is so scant that only the microscopic method could be used. The preparations were made as hanging drops, incubated for two hours, dried, fixed with absolute alcohol and stained.

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* From the Pathological Laboratory of the University of Chicago

[1] Mr. P. G. Heinemann assisted in an extensive series of culture experiments in the spring of 1907.

The serum of the normal guinea-pig either causes no agglutination at all, or at the most produces only slight agglutination in proportions of 1 to 1 and 1 to 9. Dilutions higher than this cause no agglutination. In testing the agglutinating powers of immune serums, three animals which had been infected from different sources and had recovered were used. One (1751) had been infected with a dermacentor from Idaho; another (1692), with a strain handed down direct from guinea-pig to guinea-pig for nearly three years without the intervention of ticks, the original infection having been obtained from the blood of man; the third (1757) with a strain kept in the same way since last spring. Graded dilutions, beginning with 1 to 1 and going as high as 1 to 200, were used in the different series, with the striking result that a complete agglutinating power was present in the three immune serums in dilutions up to 1 to 160. It was somewhat less in a dilution of 1 to 200. The highest dilution which will cause clumping has not been ascertained.

No fresh immune serum from man is at hand, but tests were made with three specimens which are about five, seven and nine months old respectively. They have been preserved in the ice chest with the addition of 0.3 per cent. of chloroform. The peculiar phenomenon of failure to agglutinate in concentrated solution was noted with all three. With the oldest serum no agglutination occurred until the dilutions of 1 to 160 and 1 to 200 were reached, when incomplete clumping was produced. With the second there was no agglutination in the dilution of 1 to 1, distinct clumping in 1 to 10, 1 to 20 and 1 to 40, with little or none in higher dilutions. In the serum of five months standing the reaction was absent in the dilutions of 1 to 1, 1 to 10 and 1 to 20, positive but not complete in 1 to 40, 1 to 80 and 1 to 120, with very little clumping in 1 to 160 and 1 to 200. Normal human serum caused clumping in a dilution of 1 to 1, a very slight amount in 1 to 10, and none at all in the higher dilutions.

The failure of the immune serums from man to agglutinate in concentrated solutions, whereas they did so in higher dilutions, is taken as an example of the action of the so-called proagglutinoids. As explained by Ehrlich's theory, this consists in the occupation of the bacterial receptors by inactive agglutinin which exceeds the active agglutinin in its affinity for the bacteria. With higher dilutions of the serum the agglutinoids are so diluted that they do not completely occupy the bacterial receptors, thus affording a point of attack for the active agglutinin, unless the latter has been eliminated by extreme dilution. This is well known as a property of old agglutinating serums.

BACILLI IN INFECTED SERUM

As a means of concentrating the organisms in the serum of the infected guinea-pig the following experiment was performed: Three cubic centimeters of fresh infected serum were diluted with an equal amount of salt solution, and to this was added 0.3 c.c. of an agglutinating serum from the guinea-pig. The mixture was placed in the incubator for two hours and then centrifugated for about ten hours at a speed of 1800 revolutions. All but the merest drop was then pipetted off and stained preparations were made of the sediment. Examination showed the presence of a moderate number of forms which are identical in appearance and size with those often recognized in ordinary smears of infected blood, and also with the "diplococcoid" forms seen in the egg of the infected tick. No such bodies were found in a control tube of normal serum.

The evidence pointing to this organism as the causative agent in spotted fever, though not complete, is of a striking character. In so far as I know it would be an unheard-of circumstance to obtain such strong agglutination with an immune serum, in the presence of negative controls, unless there were a specific relationship between the organism and the disease. In favor of the specific relationship in this case are also the presence of the organism in large numbers in infected ticks and in their eggs, its absence from uninfected ticks, and the presence of similar forms in the blood and serum of the infected guinea-pig.

Morphologically the organism is a bacillus and somewhat pleomorphic as described. Its resemblance to the bacilli of the hemorrhagic septicemias is striking, and in this connection it is important to note that spotted fever is a hemorrhagic septicemia. It has not been cultivated, although work with this end in view is in progress.

I have devised no formal name for the organism discussed, but it may be referred to tentatively as the bacillus of Rocky Mountain spotted fever. A further study of its characteristics may suggest a suitable name.

That a bacillus may be the causative agent of a disease in which an insect carrier plays an obligate rôle under natural conditions may be looked at with suspicion in some quarters. Yet, even without the evidence in this case, it would seem to be unscientific to be tied to the more or less prevailing belief that all such diseases must, on the basis of several analogies, be caused by parasites which are protozoon in character.

Further study of the relationship of the bacillus to the disease is being carried on and will be reported at a future date, together with illustrations and a more detailed account of its characteristics.

A CASE OF FORMALIN POISONING

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History.—Mrs. E. E., aged 33, was admitted to private ward of the Jewish Hospital, Oct. 16, 1907, suffering from ulcerative colitis, and was treated for eighteen days by high rectal irrigations of silver nitrate 1 to 1,000 solution. By mistake, on October 27, at 8 a. m., two ounces of formalin solution to a pint of water (about 12.5 per cent. strength) was used for a rectal irrigation. After receiving this solution the patient cried out that it felt as though a red hot iron had been put in the rectum and that she was dying.

Symptoms.—The pain in the rectum and abdomen was excruciating. There was marked pallor and coolness of the skin and mucus membranes, the face was expressionless. The eye were dull and staring; the pupils were widely dilated and reacted very little. The heart action was delayed, irregular and feeble, the pulse being hardly perceptible. The respiration were irregular and sighing; deep breaths alternating with shallow inspiratory efforts. The mind was dull; cerebration was slow and questions were answered tardily and unwillingly

The temperature was slightly subnormal. The clinical picture was one of collapse.

Treatment.—The patient was given one-half ounce of whiskey and 1/40 grain of strychnin hypodermically. Hot water bottles and blankets were applied to the body. A thorough high rectal irrigation of about a gallon and a half of saline solution was employed at once. As a result, the burning pain in the rectum and abdomen was ameliorated, the pulse became stronger, the temperature returned to normal in about one hour and the mind cleared.

Later Symptoms.—Three and one-half hours later violent retching and vomiting set in. The vomited matter was dark green, of offensive odor, alkaline in reaction, and free from acids and showed the presence of blood both microscopically and by the benzidin test. Diarrhea associated with violent tenesmus kept the patient on the bedpan almost continually for the next twenty-four hours. The stools were dark red in color of a syrupy consistence, had the odor of formaldehyd and contained pus blood, shreds of intestinal mucus membrane, fibrin and mucus in large quantities. The lips and tongue were dry and parched, thirst was excessive, the skin was dry, harsh and wrinkled, and later covered with a cold perspiration. The eyes were dull and the patient suffered from severe headache and vertigo. Marked asthenia was present. After the initial fall, the temperature, pulse and respiration gradually rose till evening, when, eighteen hours after the injection, the temperature rose rapidly to 104.2 F., pulse to 176, and respirations 36. A hypodermoclysis was given and it effectually restored the lowered body fluids, and tided the patient over the period of reaction. As the patient had not voided urine she was catheterized and two ounces of urine loaded with albumin, casts, and blood were obtained. For the next twenty-four hours there was almost complete anuria, the bladder being empty. The small amount of urine obtained contained albumin, blood, and casts.

Blood.—The blood examination which was normal prior to this accident, showed four hours later a leucocytosis of 30,800; polymorphonuclears, 94 per cent.; lymphocytes, 4 per cent.; large mononuclears, 2 per cent.; eosinophiles, 1 per cent. The red cell count was reduced to a little over 3,000,000; the hemoglobin to 65 per cent.; the coagulation time was two and one-half minutes.

Subsequent History.—October 28: The temperature came down to 100 F.; the pulse ranged from 120 to 130, and the respirations were 24. The vomiting and diarrhea, although considerably less, continued; the vomitus and movements still contained blood. The patient was extremely weak and was covered with a cold perspiration; the urine was still scanty.

October 29: The general condition of the patient was much better; the temperature was normal, the pulse was still 120, and the respirations were 24. The occasional vomiting was free from blood and the diarrhea had ceased. She retained some nourishment and voided considerable urine. The right arm and hand became numb and painful, with considerable loss of muscular power.

October 30: The patient felt very comfortable, the vomiting and diarrhea ceased, and she was able to retain considerable ourishment. The temperature and respirations were normal and the pulse, though accelerated, was regular and strong.

From now on the patient gradually and steadily improved, ll the symptoms subsided, the rapid pulse being the last thing o disappear. Her alimentary and urinary tracts cleared up ompletely; she gained in weight, and was discharged on Nov. , 1907 perfectly well.

So far as we can find only four cases of formalin oisoning are reported in literature, and of these four nly one case occurred in this country. This case was n Indiana and was reported by Charles Bock. An imecile, aged 26, swallowed from one to three ounces of 4 per cent. solution of formaldehyd. The gastric rritation was severe and he died thirty-two hours later f cardiac depression. The autopsy showed the gastric ucosa to be highly inflamed and its wall was necrotic, ark, tough and cut like old leather.

Kluber reported a case in which a man drank an unknown quantity of formalin in mineral water; the chief symptoms were similar to those of acute alcoholic intoxication; recovery was complete.

Gerlach, in 1902, reported a case with similar symptoms with recovery which followed the swallowing of from 2 to 2½ ounces of 35 per cent. solution of formalin.

A case corresponding very closely to ours was reported by Zorn. The patient, a man, recovered after drinking half an ounce of a 40 per cent. solution of formaldehyd. The chief symptoms came from irritation of the alimentary tract and kidneys; they were retching, vomiting, vertigo, dyspnea and a burning pain in mouth and stomach; there was diarrhea with violent tenesmus; the secretion of urine was suppressed for twenty-four hours. Recovery was complete in four days.

In conclusion we would state that the determination of the presence of formalin poisoning is made by the odor of formalin in the vomitus and stools and by the following simple tests: Urine plus ammoniated silver nitrate gives a black color. Solution to be tested plus an equal volume of 40 per cent. caustic potash which contains 5 per cent. resorcin gives a red color.

Finally we might also add that from the four cases reported in the literature and our own that the symptoms of formalin poisoning, when taken into the alimentary tract, are variable; that the predominating symptoms are severe irritation of the gastrointestinal tract and kidneys with cardiac depression. The cause of death is usually from the latter. As no antidote for this poison has yet been found, the most rational treatment is to wash out the stomach and intestines with salt solution, both immediately after the poison has been taken and at suitable intervals thereafter; for Zorn has determined that the poison is excreted there. To combat the cardiac depression active stimulation should be given. Hypodermoclysis or saline infusions are needed to raise the blood pressure and to replenish the fluids of the body, which are tremendously depleted by the hydragogue effect of vomiting and diarrhea. If recovery occurs it is usually complete and permanent.

105 Greene Avenue.

FRACTURE OF PELVIS IN HIGH FORCEPS DELIVERY

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The comparative rarity of contracted pelvis outside of large centers of population is frequently the cause of lack of routine methods of examination of obstetric patients by the general practitioner. In the south, extreme deformities are exceedingly rare, and slight abnormalities may easily exist undetected. Many physicians in this part of the country state that they have never seen a case in which they considered symphyseotomy or a Cesarean section necessary or indicated.

The following case is reported as illustrative of these conditions and also because of the rarity of fracture of the pelvis occurring in forceps delivery:

Patient.—Mrs. B., aged 20, was a well-nourished primipara, of average height and weight, and with a good family history.

History.—Labor pains commenced Sept. 27, 1908, at September 29, at 9 p. m., I saw her in consultation with Drs. W. DeLay and W. P. Harbin. Axis-traction forceps had been applied four hours previously without avail.

Examination.—The head appeared to be of normal dimensions: the occiput presented in L. O. I. A. position, and was unengaged at the brim. The surroundings were very unhygienic and no measurements were taken, though the anteroposterior diameter seemed shortened.

Delivery.—Simpson long forceps were applied and delivery was effected in an hour without undue force in the extraction. A feeling of crepitation was experienced while the head was descending, but it made no special impression at the time. The fetus was normal in appearance but was stillborn; its weight was eight pounds. There was a small perineal tear which was repaired. After a thorough examination there was discovered a separation at the symphysis about 1.5 cm. wide. The urethra was torn and displaced to the right with consequent partial incontinence of urine. There was a fracture of the right ascending ramus of the ischium about 3 cm. below the symphysis. The measurement between the anterior-superior spines of the ilium was 25 cm. in the relaxed condition.

Subsequent History.—The hips were bandaged. The patient had a septic temperature for a month and finally an abscess developed between the layers of the abdominal muscles on the left side, just above Poupart's ligament. It was opened and drained, but a sinus persisted. The factured bone united promptly, but about the end of the second month septic pneumonia developed and the woman died Dec. 29, 1908, three months after delivery.

The pubic separation remained, notwithstanding the efforts at bandaging. The fracture was evidently produced by the passage of the head through the outlet, showing that even after a symphyseotomy the possibility of a fracture should be borne in mind in cases of contracted pelvis.

A DEVICE FOR MEASURING FLEXION DEFORMITY IN HIP-JOINT DISEASE

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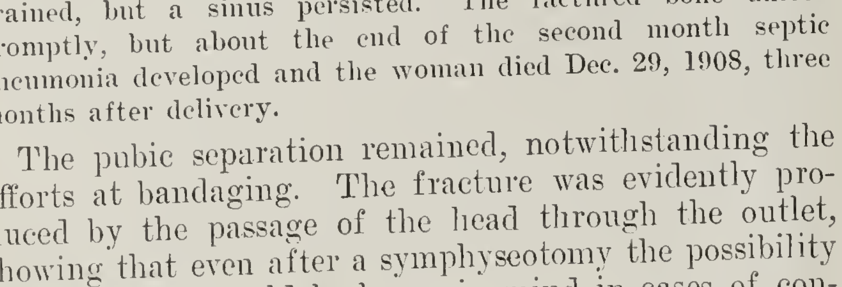
NEW YORK

As the increase or decrease of deformity in this disease is a most helpful guide to the efficiency of treatment, an accurate and easy method of measurement is demanded. It is probably true that months of treatment might often be avoided by the early recognition of an increasing deformity. Failure to appreciate the value of studying the slight variations in the signs of a joint disease has been responsible, probably, for the retention of such gross mechanical treatment as the gypsum cast, with an unwarranted faith that air and eggs will accomplish the rest.



We already have a sufficiently accurate method in the one worked out by Kingsley,[1] but as it necessitates the use of a reference table it is difficult of application.

The device herewith presented transfers this table from the printed page to one side of a tape measure. Instead of reading one side of a triangle in inches and then referring to the table for the degrees of the angle opposite, the degrees of the angle can be read directly from the tape.

Kingsley's table consists of the computations of the angles subtended by a series of perpendiculars in right-angled triangles, the hypothenuse of which is constant. With the patient on the examining table, the leg on the diseased side is held in its position of greatest extension, as indicated by the lumbar spine. A hypothenuse of twenty-four inches is measured from the table, opposite the joint, in the line of the limb, and from its end a perpendicular is dropped to the table and measured. By referring to Kingsley's tabulation the angle at the hip may be found.

Attaching a plumb-bob to a tape line, I measured inches from the tip of the bob and marked each with the angle which such a perpendicular would subtend in a right-angled triangle with a hypothenuse of twenty-four inches. In using this tape some one holds the leg in the deformed position. Twenty-four inches are measured along the leg and the plumb-tape dropped to the table. The angle of flexion is read directly from the tape.

THE USE OF ATROPIN SULPHATE IN ANESTHETIZING BIRDS FOR SURGICAL EXPERIMENTS*

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In 1907 an investigation was begun in this laboratory on the physiology of reproduction in the domestic fowl. It was the plan of this investigation to use in the main experimental surgical methods in the analysis of the problems involved. Such experiments were begun in the fall of 1907. Much of the detailed technic involved in these experiments had to be worked out *ad hoc,* both with reference to the character of the problems studied and to the nature of the material itself.

At the beginning of our operative work on birds a great deal of difficulty was experienced in the matter of anesthesia. Such a difficulty had not been foreseen and for a time greatly hindered the progress of the work. It is difficult for one who has been accustomed to the behavior of mammals under anesthesia to realize how differently birds behave under similar treatment. At the outstart of the work chloroform was used as an anesthetic. After a number of birds had been killed on the table by the action of the chloroform it seemed clear that some change in the technic must be made. Resort was next had to ether. Better results were obtained, but still a great deal of difficulty was experienced.

The difficulty which we have found to be inherent in anesthetizing the domestic fowl may be stated briefly in this way: If any anesthetic is pushed to the point at which the bird is in satisfactory condition for operative procedure, in about nine cases out of ten the bird will die on the table from the effects of the anesthesia before the operation, if extensive, can be completed. If, on the other hand, the anesthetic is given less freely the bird does not lose its reflex excitability. Every time a cut is made or a nerve is pinched with the forceps the bird will struggle. Our experience in anesthetizing birds, which has now covered a large number of individuals, leads us to believe that the only middle ground between these two extremes is afforded by those cases (unfortunately too few) in which the individual idiosyncrasy of the bird toward ether make it take the anesthetic well.

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[1] Boston Med. and Surg. Jour., July 5, 1888.

* From the Biological Laboratory of the Maine Agricultural Experiment Station.

While we have made no detailed physiologic study as to the fundamental reasons underlying this difficulty respecting anesthesia which has been described, it seems reasonably apparent what these reasons are. Connected with the respiratory organs proper of a bird are the relatively enormous air sacs. During anesthesia the ether or chloroform vapor gets into these air sacs either by diffusion or directly as a result of respiratory movements. There is reason to believe that the vapor, once in the air sacs, stays there until it is absorbed by the tissues; in other words, it appears to be the case that the great bulk of an inhaled anesthetic in the case of birds must be eliminated from the body by way of the urinary organs rather than the respiratory organs. Assuming this to be the case there is no difficulty in seeing why forcing an anesthetic in a bird leads to disastrous results. The relatively enormous area for absorption afforded by the air sacs insures that a correspondingly large amount of the anesthetic will be taken up very quickly. This almost immediately affects the vagus center, with the consequent cardiac inhibition, respiratory failure and death.

In attempting to overcome this difficulty a considerable number of experiments were tried with indifferent success. Nearly every method of anesthesia which has been advocated was tried. From the glowing reports in the literature we were led to hope that scopolamin-morphin might prove to be the desired thing. A series of experiments with these drugs, in which various doses ranging from very small to very large were thoroughly tested, failed to yield satisfactory results. We found it impossible to induce satisfactory surgical anesthesia in fowls by injecting scopolamin-morphin. After various failures we finally began the routine use of atropin sulphate in connection with the anesthetic. Our idea was that if at the same time that the anesthetic was given to the bird some substance could also be given which should have the effect of neutralizing partially or completely the poisonous action of the anesthetic without destroying its anesthetizing effect it would then be possible to give the bird sufficiently large doses to attain the desired surgical condition without killing it. Now it is a well-known fact[1] that atropin is antagonistic in its pharmacologic action to substances like chloroform and ether. The suggestion was at once obvious that if atropin were not antagonistic to these other drugs in respect to anesthetic action, the poisoning might be obviated without disturbing the anesthesia by injecting into the organism, when the anesthesia was begun, a certain amount of atropin. The use of this drug in connection with chloroform or ether anesthesia has been advocated,[2] but, so far as we can learn, only to a very slight extent practiced.

This scheme of anesthesia was carried into effect in our work with birds in January, 1908. It may be said at once that the results from its use have been successful beyond anticipation. In our work we have kept birds on the operating table under the influence of the anesthetic for three or four consecutive hours, and at he same time carried on extensive surgical manipulations without the least ill effect from the prolonged inhalation of the anesthetic. Not only do the birds which have been given atropin in connection with the anesthetic survive prolonged and deep anesthesia, but they are in much better condition for the operation than those not so treated. Relaxation is complete and reflex activity disappears. A preliminary injection of scopolamin-morphin (morphin sulphate 1/3 gr., scopolamin hydrobromide 1/75 gr.) we have tried in the place of atropin sulphate. The resulting anesthesia with ether is better than when the ether is used alone, but in our experience it is not so satisfactory as when the atropin is used.

The exact method of procedure which we now follow in anesthetizing birds is as follows: Immediately before beginning the administration of the anesthetic a 1/200 grain atropin sulphate tablet is dissolved in 1 c.c. of warm normal saline solution. The salt solution with the dissolved atropin is then injected subcutaneously in the axilla. Ether is used as the anesthetic. It is administered from a small improvised mask which admits of the condition of the comb being seen during the operation. Depending on how hard the ether is pushed, the bird is ready for operation in from fifteen to twenty minutes after the anesthesia is begun. The dosage of 1/200 grain atropin to a bird may seem large, but we have never been able to see the slightest bad effect from it, provided the administration of ether was begun immediately after the injection of the atropin.

DIAGNOSIS AND TREATMENT OF CATARRHAL PNEUMONIA COMPLICATING INFECTIOUS DISEASES OF CHILDHOOD

ARTHUR STERN, M.D.
ELIZABETH, N. J.

The statistics of the various boards of health in the large cities of the United States show clearly the danger of the pulmonary complications of infectious diseases in childhood. In New York City, during the week ended Jan. 4, 1908, 581 cases of measles were reported to the health department, with 32 deaths, and if it is remembered that the majority of these deaths were due not to the disease *per se* but to the lung complications, it will be seen that these constitute an important factor in the management of the case.

The danger is in direct proportion to the size of the bronchi affected. When only the large bronchi are involved the danger is comparatively small, but as soon as the inflammation extends to the bronchioles, with exudation into the alveoli, the situation becomes serious.

The physical diagnosis of these conditions is not easy. The bronchopneumonia following bronchitis can be diagnosed only if the amount of healthy lung tissue is not large enough to mask the infiltration; in other words, if there are many infiltrated spots spread over the lungs, symptoms of bronchitis may be made out by auscultation, and the extremely rapid respiration will tell more than the ear.

The danger and prognosis in these cases may be just as grave as in cases in which there is perceptible flatness on percussion. Therefore, I always base my prognosis on the pulse, respiration and general facial expression rather than on the percussion and auscultation of the child's thorax. Sometimes, no matter how careful I have been in examining a child, I could hear nothing but signs of a general catarrhal condition of the larger bronchi, and yet the rapidity of respiration already showed the existing deeper involvement.

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[1] Cushny, A. R.: Text-Book of Pharmacology, pp. 285-289.

[2] Cushny: Text-Book of Pharmacology, p. 175. Schäfer, E. A.: Artificial Respiration in its Physiologic Aspects, The Journal A. M. A., Sept. 5, 1908, li, 801, Schäfer says: (*loc. cit.*, p. 03): "Both these dangers are obviated by the hypodermic administration, prior to the operation, of a small dose (1/50 grain) of atropin sulphate. It seems strange that anesthetists do not generally adopt this simple precaution as a routine method."

In the majority of my cases the bronchopneumonic infection was nearly always well developed before I had a chance to see the patients. In measles and whooping cough the physician is generally consulted when additional trouble has been existing several days. If called early, and then only, I have always used syrup of ipecac in teaspoonful doses, repeated often enough to produce copious vomiting and then stopped. It has seemed to me that a large depletion of stomach contents acts, probably reflexly, on the obstructed channels of the lung.

In treatment of children I advocate hydrotherapy. There is such a broad field for cold and hot water in the treatment of the sick child that it seems strange that physicians do not avail themselves of this handy and, if used with common sense, effective remedy.

If the child has high fever I use cold water applications, having the water the same temperature as the room, in the following manner: A long towel is folded so that when wrapped around the child it reaches from the axillæ to the navel. It is then dipped into water, well wrung out, and put around the child; then a flannel cloth, broad enough to cover the towel, is put over that. A fresh application should be made every hour or two, but the child must not be disturbed while it sleeps, a fact which must be impressed on the parents.

In strong children water colder than the temperature of the room may be used. Very often in connection with this I recommend hot baths twice daily, of five minutes duration each time; these I find are always followed by a good rest.

If there is very little rise in temperature, especially in cases of whooping cough complicated with bronchopneumonia, I frequently apply warm water to the chest, putting a piece of oil silk between the towel and the flannel, but here extreme care must be taken to avoid infection of the skin, which happens occasionally when oil silk is used between the layers; and it is necessary to apply a mild ointment or cold cream to the skin of the thorax to avoid furuncles or eczema.

So far as medication is concerned, physicians can not boast of much success in influencing these conditions. Of the modern products the guaiacol and creosote preparations have some value. It is my practice to order, according to age:

	gm.		
℞.			
Creosoti carbonatis	1 to 4	or	grs. xv to ℨi
Sacchari alb.			
Mucilago acaciæ, āā	q. s. 90		℥iii

M. et fiat. emulsio cum aqua destillata.
Sig.: One teaspoonful every two hours.

This is readily taken by the sick child and may be continued at intervals for some time without untoward results.

In desperate cases I have used mustard applications, recommended by Heubner of Berlin, occasionally with surprising results.

I quote from him as follows: Take a pound of mustard flower and to this add a quart and a half of warm water, stir until the odor of mustard is perceptible. A towel is dipped into this mixture, wrung out, and wrapped around the child from the shoulders to the feet, and then a woolen blanket is put over this. The neck must be well covered so that the mustard does not affect the eyes and lungs. The child stays in this dressing for from ten to thirty minutes, or until the skin is red. It is then washed with lukewarm water, after which a bath of five minutes duration in lukewarm water is given. Then a moist warm towel is put around the chest. This procedure may be repeated the next day. Sometimes the result is surprising, and a life despaired of may be saved.

Fresh air is, of course, a *conditio sine qua non*, and while I have not much experience with the cold air treatment of pneumonia, yet I think that the happy medium will apply here as well as in other diseases.

In conclusion I would like to say once more that medication plays an inferior rôle in the treatment of these, if I may call them so, infectious pneumonias of childhood, while hydriatic procedures, as mentioned above, in connection with a generous liquid diet of milk, broths and eggs, will succeed in saving many a child who seems to be at death's door.

224 East Jersey Street.

Therapeutics

ACNE

This troublesome condition or disease, which is so frequent in adolescence and may so many times persist for years, should always be taken seriously. The family physician is more and more frequently consulted early in the disease, and too frequently dismisses the young patient with some recommendation or treatment that is very likely to prove ineffectual. Possibly the increased dust and dirt of our cities causes an increased tendency to the formation of comedones and subsequent acne indurations by quickly coating and sealing the little sebaceous ducts of the face, especially if, as is frequently the case, the patient has a profuse oily secretion.

It is not the purpose of this article to describe all the preparations or local treatments that may or should be used for facial acnes, but to urge, in the beginning of such troubles, a careful investigation of the patient's digestion, general health and habits, as we know that metabolic disturbances (which are so often present during adolescence) and preventable gastrointestinal indigestion are often the primary causes of acne. Also a carelessness and an actual lack of cleanliness, or improper hygiene of the face, is frequently the cause of the development of comedones and acne.

The young boy and young girl, especially in their early teens, are very careless as to the movements of the bowels. Constipation is the bane of America, and its beginning is generally traceable to gross neglect during this period of life. The young child is carefully watched by its mother and the condition of its bowels is known. The boy or girl of 15 is not so watched, and both attending schools, later colleges and seminaries, or hastening to stores or factories, think they have not time to attend to this call of Nature directly after breakfast, the physiologic time for a bowel movement. Young boys and girls go to bed too late, and dislike to arise in the morning until the very last moment, and then have not time to attend to this necessary function.

They also, because of this lack of time, swallow their breakfasts almost without chewing. This is especially true with mushy, gelatinous cereals, and particularly true of oatmeal. Consequently oatmeal in gummy sticky, gelatinous masses, the manner in which it i mostly eaten, although considered one of the most nutritious of foods, becomes the most frequent single cau-of indigestion in this country. Thin, well-cooked oatmeal and oatmeal gruels are splendid nutriments. Oatmeal boluses are pernicious.

The enormous consumption of sweets, candies, ice cream soda and the frequent drinking of soda fountain products is another and increasingly frequent cause of the indigestion that predisposes to acne, and this is another failing of adolescence. Any gastrointestinal indigestion, which includes loss of appetite, perverted appetite, constipation, and abnormal looseness of the bowels, should be corrected and properly treated before it could be hoped to cure or prevent the further development of an acne. Even if there is no actual apparent indigestion, sugars, spices, abnormal amounts of tea and coffee, greasy fried stuffs and hot breads, pancakes, oatmeal and impure syrups should all be removed from the diet.

Many acne patients are anemic, and some girls are chlorotic, and such patients, of course, are improved by the administration of iron or arsenic, or both.

If, in a girl, menstruation is irregular, disturbances seem to be present that predispose to acne, and while it is perfectly correct to tell a mother with a daughter who is apparently well but whose menstruation seems difficult of establishment, or having once begun is exceedingly intermittent, that Nature will take care of this function, it is many times better to correct that function, as having once begun, the girl is certainly better with its perpetuation. A careful investigation into the condition of such a female patient will often show either a malcondition of the blood and lack of proper nutrition, or a disturbance of the thyroid gland, either a hypothyroidism, the most frequent condition, or a hyperthyroidism possibly. In any of these conditions the patient can be improved by proper treatment.

Some patients with acne, especially girls, are suffering from denutrition from over-activity, mental or physical. The parents are largely to blame for this. They stimulate and push the young girl beyond her strength. They re proud of her acquirements, and they want her to xcel in everything, or at least have a knowledge of verything. Then the girl is stimulated by the nevernding school competition. And to cap the climax of he mental activity, she is urged as a proper thing, and he parents, teachers and profession think it is proper, o take a course in physical culture. While physical ulture is needed and wise, the manner in which it is rried out is often the last straw to break down the hysical vigor of a girl who is working up to the limit f her strength. Too many hours of mental work, and o severe "physical culture," are the cause of many a rmanent breakdown in the young girls of America, nd many times a troublesome acne is an indicator of oth nervous strain and physical debility.

Frequently, however, exactly the reverse of this contion occurs, and the flabby, phlegmatic girl or boy ho is unwilling to take sufficient physical outdoor excise develops the unpleasant condition of acne, and e or she should be stimulated to greater activity.

It resolves itself into the axiom, then, that no patient th acne can be well treated or cured without a careful d complete investigation into the whole life of that tient.

Acne is likely to occur, and can never be cured, unless e young boy or girl is taught and carries out the giene of thoroughly cleansing the face before going bed. The oily secretions of the day have accumulated e dust and dirt of the atmosphere, and at night this st dries the secretions and blocks the channels of exit Comedones, indurations, acne nodules and pustules are the result. A patient who has profuse oily secretions of the face should not use hot water on the face. Also it is well never to use cold water on the face. The hot water tends to increase the oily secretion by causing congestion, and the cold water tends, by its reaction, to do the same thing. The easiest, most thorough way of cleansing the face is to remove the dust and dirt with a pure cold cream. A lump of the cold cream the size of a hazelnut or hickorynut is taken in each hand and rubbed gently over the skin. The face is then wiped off with a soft towel and then washed in lukewarm water without soap. In some cases it may be best to inhibit the profuse secretion of the sebaceous glands by bathing the face once or twice a day with dilute alcohol, bay rum or other astringent solution.

As above stated, it is not the purpose of this article to delineate the local treatment of acne, but to urge that more effort be made to prevent the complete development of this disease, which, while not in itself a disturber of the general health, is a cause of acute mental suffering, in the young girl at least.

OBESITY

Moritz, in the *Muench. med. Wchnschr.*, July 28, 1908, advises an exclusive milk diet to reduce obesity, the average patient receiving about two quarts of milk a day. This is divided into a pint at 7:30 a. m., a half-pint at 10 a. m., a pint at 1 p. m., a pint at 4 p. m., and a half-pint at 7 p. m. This quantity should be increased or diminished, depending on the loss of weight. If the loss is too rapid the milk is increased, and if too slow the amount is diminished. The milk may be taken cold or hot, with or without lime water, or some soured milk preparation may be substituted for the sweet milk.

This method of treatment is so simple that it would seem advisable to give it a trial in almost any instance. In kidney insufficiency it would be good treatment. In cardiac insufficiency, with a tendency to dropsy, it would not be good treatment, on account of the amount of liquid the patient would receive, it being better to reduce the liquids when there is cardiac or circulatory insufficiency.

If the bowels do not move freely on this milk diet some laxative should be coincidently administered.

It is also supposable that some patients who must work actively would become very weak on this milk diet, and such patients should be allowed some meat once a day or one or two eggs a day.

TAPEWORM

Schilling, in the *Therap. Monats.*, April, 1908, gives his treatment, which is as follows:

℞.	gm. or c.c.		
Oleoresinæ aspidii	8		ʒii
Pulveris jalapæ	.50	or	gr. viiss
Syrupi	30		fl.℥i

M. et Sig.: Take one-half, with water, at the time directed, and the remainder in half an hour. [Shake well.]

Schilling advises the administration of a cup of black coffee fifteen minutes before the administration of the male fern. For the next few hours the patient should fast, and if the worm is not expelled in three or four hours he advises an enema of a quart of warm water.

The above dose of male fern is large, and it would seem wise to give a saline cathartic, two hours after the first dose of it, to hurry its exit from the body, lest too much absorption should occur.

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[*For other information see second page following reading matter*]

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THE PHARMACOLOGY OF TOBACCO SMOKE

We have had much less fact than fancy in our notions concerning the effects of smoking, for to every pharmacologist able accurately to determine the facts there are millions of zealous experimenters who are prepared to settle the whole matter at a moment's notice on the grounds of their own experience, and still other millions of opponents who are equally willing to advance opinions on the basis of their inexperience. For example, we have the ever-prominent opposition to the cigarette, which prejudices opinion and even legislation as actively as ever, in spite of the fact that the claims on which this prejudice is based, namely, that cigarettes are "doped" with opium and other expensive drugs by extravagant manufacturers, and that rice paper is very poisonous, have been disproved over and over again by chemists and by commissions. Prejudice crushed to earth will rise again, to paraphrase, and the anticigarette propagandist is about as willing to listen to calm facts as an antivivisectionist is to hear uncensored statistics concerning diphtheria and antitoxin. Indeed, as to the actual chemistry and pharmacology of tobacco smoke, physicians themselves seem to have relied more on tradition than anything else, for certainly the average physician appears to retain an idea that the nicotin is destroyed in the burning of the tobacco, and that all the effects, sinister and beneficent, are produced by the combustion products, of which the pyridin bases have the most unsavory reputation. This widely prevalent opinion dates back to 1871, when Vohl and Eulenberg[1] reported that they had been unable to obtain a trace of nicotin in the smoke from 100 cigars, and, therefore, concluded that the pyridin bases must be the active constituent of the smoke, and their conclusions have passed current with most physicians and laymen up to the present time, despite numerous contrary reports by other investigators. Heubel, Gautier, Thoms, Schmidt and others, one after another, reported the finding of nicotin in tobacco smoke, and although one positive finding should offset many negative results, in this instance the reverse has been the case. Habermann and Ehrenfeld find that with some kinds of cigars two-thirds of the nicotin passes over into the smoke, while with other brands the smoke may contain but one-twelfth of the alkaloid.

In a recent paper from the Pharmacological Laboratory of Cambridge University, W. E. Lee[2] has reported several interesting observations on this subject. By passing the smoke from 100 grams of tobacco through saline solution he was able to collect 1.165 grams of nicotin, representing one-half of the total nicotin of the tobacco, while but 0.146 gram of pyridin bases, chiefly pyridin and collodin, was obtained. A sample of Virginia tobacco yielded an extract (1 gram of tobacco extracted in 100 c.c. salt solution) which caused a rise in blood pressure of 56 mm. mercury in a cat, while the same tobacco after being prepared for cigarettes produced a rise of 42.4 mm., showing that not a little of the substance which raises blood pressure (nicotin) is destroyed in this process. A very interesting demonstration of the influence of the form in which the tobacco is smoked was the following: A Manila cigar and a cigarette of Virginia tobacco were so burned that the same amount of tobacco was consumed in equal time, and the effect of the products of the combustion determined; it was found that although the cigarette tobacco used contained nearly twice as much nicotin as the cigar tobacco, yet the smoke of the latter was twice as toxic as the cigarette smoke. This is explained as follows: During the slow combustion of a cigar, as in ordinary smoking, immediately behind the point of combustion is an area in which the water and other volatile substances condense; during the act of smoking the hot gases pass through this moist area and volatilize the more volatile principles of the tobacco, of which nicotin is one. Therefore the smaller the moist hot area behind the point of combustion, and the more rapid and complete the combustion, the less likely is the smoke to contain volatile toxic bodies; hence a cigarette or a slender cigar will yield fewer of these products than a thick cigar, and many smokers can testify that a thick "fat" cigar has much more effect than a long slender cigar of similar tobacco. The unpleasant effects that the unaccustomed smoker experiences on relighting a half-finished cigar or pipe are explained on the same basis.

An interesting series of pharmacologic studies on experimental animals and on man also furnish evidence that the chief active constituent of tobacco smoke is nicotin. The effects on cardiac and involuntary muscle of nicotin are almost exactly the same as that of the solution obtained by passing tobacco smoke through water, except that in the latter there is some antagonism between the tonus-depressing effect of the collodin of the smoke and the stimulating effect of the nicotin. Pyridin seems to be entirely without influence in any doses such as could be obtained with even a very large amount of smoke. The effect of smoking on the blood pressure in man was very striking in the case of novices, an initial rise of pressure being followed by a very severe and sudden fall (from 128 mm. to 78 mm. in one case) at a time when the patient presented the familiar condition of "intense pallor of skin, cold sweat on forehead, feeling very faint and weak. Cigar three-quarters finished; stopped smoking." Even the habitual smokers showed a slight rise of blood pressure when smoking, although the rest of the description did not apply to them.

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[1] See a recent review by J. Dixon Mann, British Medical Journal, Dec. 5, 1908, p. 1673.

[2] Quart. Jour. Physiol., 1908, i, 335.

The action, then, of tobacco smoke on man is exactly what might be expected from a knowledge of the action of nicotin; while the stimulation stage lasts the blood pressure is raised, then as the nerve cells are depressed the blood pressure falls, this fall being perhaps augmented by the depressive action of the pyridin bases. It can scarcely be doubted that the influence of the rise in blood pressure on the circulatory system may be injurious in some cases. While many persons can and do smoke in moderation without any noticeable effects ever being manifested, there are cases in which an hereditary tendency to arterial disease seems to be seriously accelerated by tobacco. Not only can aortic atheroma be produced experimentally in rabbits by injecting either nicotin or infusions of tobacco or by inhalation of smoke,[3] but not a few cases have been observed in man in which there seems to have been no vident cause for an extensive arteriosclerosis other than xcessive smoking.

BACTERIAL VIRULENCE AND RESISTANCE TO PHAGOCYTOSIS

It is a well-known fact that high degrees of virulence n certain bacteria are associated with absolute resist- nce to phagocytosis, at least under the influence of ormal serum. Metchnikoff made the observation early n the course of his studies of phagocytosis in infectious iseases and formulated a general law to the effect that s a microbe grows in virulence its resistance to pha- ocytosis increases. Probably the best known examples f this phenomenon are furnished by pneumococci and reptococci.

A number of explanations have been advanced to ccount for the resistance to phagocytosis on the part f virulent strains of these and other bacteria. At first ey were believed to produce substances that repelled ucocytes and caused a "negative chemotaxis," Then was also urged that such bacteria give rise to sub- ances that injure and even kill the phagocytic cells, -called leucocidal and leucotoxic substances, of which e staphylolysin of infective staphylococci is the best ample. Similar substances have been found also in e filtrates of broth cultures of virulent streptococci. hese substances may cause morphologically demonstra- e disintegrative changes in leucocytes.

While leucocidal substances no doubt promote the fective powers of the cocci, yet they do not explain the sistance of virulent cocci to phagocytosis, more particularly because it has been shown by Marchand and others that virulent streptococci and pneumococci even after being washed and killed by heat still resist phagocytosis.

Avirulent strains of the same cocci remain phagocytable although suspended in filtrates of cultures of virulent strains. For these reasons Marchand advanced the hypothesis that virulent streptococci are non-phagocytable because of their physical state.

When the rôle of opsonins in phagocytosis was discovered the question at once arose as to the relation between the opsonin and virulent streptococci, pneumococci and other bacteria. Rosenow[1] took up this question as regards pneumococci and he shows that avirulent strains absorb opsonin in human serum and become phagocytable, whereas virulent strains of the same mother culture do not absorb this opsonin and remain insusceptible to phagocytosis. These properties may be diminished or increased at will by passage through rabbits or cultivation on artificial media. He then proceeds and by extraction of virulent pneumococci in salt solution removes from them a substance (or group of substances) that specifically inhibits the action of human pneumococco-opsonin in the test-tube. Furthermore, he demonstrates that avirulent pneumococci take up this substance and become resistant to phagocytosis and also to some degree virulent for rabbits, while the virulent pneumococci after being extracted absorb pneumococco-opsonin from serum. In other and more succinct form we may say that virulence in pneumococci and the correlated property of resistance to phagocytosis depend on an extractible substance with which a number of highly interesting experiments may be made. For this substance the name "virulin" has been proposed.

This rather startling discovery has been confirmed quite independently by Tchistovitch and Yourevitch[2] in St. Petersburg. Working with pneumococci and dog serum they reach precisely identical results, so far as they go. They do not appear to have studied the virulence of avirulent pneumococci after treatment with extract of virulent strains. The Russian investigators name the substance "antiphagin," which, like Rosenow's "virulin," is specific, that is, does not bind any other opsonin than that for pneumococci, and thermostable, even resisting boiling and consequently wholly different from the still hypothetical aggressin of Bail and his followers.

It is of great moment that virulence and resistance to phagocytosis of pneumococci have received so satisfactory and simple a solution as seems to be the case. A point has been reached for the departure of new and fruitful investigations into pneumococcal and allied infections and further developments will be awaited with keen interest.

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[3] See the articles by Lee and Mann (referred to above) and Zebrowski, Centralbl. allg. Path., 1908, xix, 609.

[1] Jour. Infect. Dis., 1907, iv, p. 285.

[2] Ann. de l'Inst. Pasteur, 1908.

A REMARKABLE TYPHOID CARRIER

In 1854 a newly-married couple moved into a substantial wooden house in the country in Sweden. During the years 1855 to 1865 seven children were born, all growing to maturity without any noteworthy disturbances on account of sickness. The father died in 1896, 88 years old, and was succeeded in the management of the estate by a son, born in 1861. This son married in 1897, but the wife died from eclampsia one year later. In 1901 he married again, and in 1904 the family consisted of husband, wife, two small children, the husband's mother, 79 years old, two maids and a manservant.

At this point Dr. Jundell, from whose report[1] these details are taken, made an extended investigation of the family record as to sickness since 1854, of the premises, and of the living members of the family because of the continued occurrence during all these years of a severe, occasionally fatal, febrile disease that attacked especially newly arrived servants. The first case occurred in 1854, and up to 1908, when Dr. Jundell's report was published, twenty-two different persons were attacked, and in the case of seventeen of these the diagnosis of the family physician or in the hospital to which many were sent was typhoid fever. In the remaining five, and here it concerns mostly the early part of the period, the diagnosis was *Febris gastrica* or *Febris nervosa gastrica.* In the last two cases—the aforesaid son's second wife and daughter—the diagnosis of typhoid fever was fully established by demonstration of typhoid bacilli in the feces and by positive agglutination tests. It is remarkable that these two cases are the only instances known to have occurred among the parents and descendants of the family, all the other cases having been among servants and other persons of the household.

Dr. Jundell's careful investigations show conclusively that the disease was confined strictly to this one family and that the infection was not carried by water or milk in the ordinary manner. The neighborhood was free from typhoid fever during all these years and other households using the same milk and water were not attacked. Bacteriologic examination of the floors and walls of the house gave negative results as to typhoid bacilli. The individual cases always occurred singly and so far apart in point of time from other cases that contact infection from fresh cases can not account for the whole series. The family itself felt as if it were especially pursued by typhoid fever, and for some time back persons who had had typhoid were sought when new servants were wanted. The mystery receives a satisfactory explanation, however, by Dr. Jundell's demonstration that the grandmother is a typhoid carrier, and apparently a persistent one, because the feces were found even richer in typhoid bacilli in 1908 than in 1904, when they were first examined. At times the feces seemed to contain typhoid bacilli in almost pure culture. The demonstration that it actually concerns typhoid bacilli seems conclusive. No other member of the family was found to harbor bacilli at the time when Dr. Jundell made his examinations.

Of course it can not now be proven that all the cases of typhoid fever in this protracted series were derived from this carrier, but on the basis of the facts that are at hand the conclusion that in this case carrier infection played an essential rôle certainly is fully warranted. Two points remain to be noted: (1) that there is no record that the only demonstrable carrier in this family epidemic ever had typhoid fever herself, and (2) that of the nine children in question only one is known to have had the disease, whereas of the total number of cases twelve occurred among maids whose offices under the circumstances naturally would bring them into closer contact with articles contaminated by the carrier. Jundell also suggests that in the case of the children light attacks may have passed off without being recognized. At all events, this record of family typhoid is full of interest as an example of the rôle that a typhoid carrier may play in maintaining and spreading typhoid fever.

CALCIUM METABOLISM AND TETANY

Although the forms of tetany are numerous, if we classify them according to the causative or associated conditions, such as gastric dilatation, pregnancy and lactation, osteomalacia and rickets, and operative extirpation of the parathyroid glands, yet in all forms the general features of the disease are similar. The characteristic symptoms depend on increased excitability of the central nervous system, which is in a state of very unstable equilibrium, and much light is now being cast on the cause of this instability of the nervous system as well as on the pathogenesis of tetany and the tetanoid symptoms through the study of the parathyroid glands both experimentally and clinically. We have previously referred to many of the steps of our progress and wish here to discuss some of the most recent developments.

By the work of numerous investigators it has been conclusively established that removal or destruction of the greater part of the parathyroid tissue leads to a typical condition of tetany, both in man and the experimental animals, and at present the chief question concerning this relationship between the parathyroids and tetany is as to how large a proportion of the cases o clinical tetany with their multifarious etiology are du in whole or in part to defective parathyroid functionation. Certain it is that in tetany following operation on the thyroid in which the parathyroids are remove or injured, the effect of subcutaneous or intravenous injection of extracts of the parathyroid is a specific symptomatic cure.

As with the thyroid itself the effective extract ma come from some entirely different animal species, but differs from thyroid extract in not being effective whe

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1. Hygiea, Festband, 1908.

given by mouth. The active constituent of the parathyroids is certainly entirely different from that of the thyroid, for it does not contain iodin, and is contained in the nucleoprotein that can be separated from the gland, as first shown by Beebe. MacCallum and Voegtlin have also found that the nervous manifestations of tetany following parathyroidectomy can be held in check by administration of calcium salts, thus adding another instance of corroboration of the pioneer observations of Jacques Loeb. Loeb observed that the injection into the animal body of any salt liable to precipitate calcium causes twitching of the muscles, and he suggested the possibility of using calcium salts in treatment of spasmodic affections. Sabbatin also found that the irritability of the cerebral cortex is reduced by the local application of calcium salts, and increased by the application of substances which precipitate calcium; and numerous other observers have since reported results f similar import. Since in tetany the most conspicuous ymptoms are due to abnormal excitability of the cereral cortex, the use of calcium salts to check these symp-oms was a logical step which was justified at once by he striking results obtained.

In a recent paper MacCallum and Voegtlin[1] have reorted their later studies on this subject, which contain much of interest. They find that salts of potassium and odium have no favorable effect on tetany, while any beneficial effect the magnesium salts may produce is masked by their toxicity. The results of animal experiments have been found to hold good when applied clin-cally, a patient with tetany following thyroidectomy for malignant struma being relieved in the course of one ay by administration of calcium lactate.

In animals after parathyroidectomy there occurs an ncreased elimination of calcium in the urine and feces, hich results in a marked reduction in the calcium con-ent of the tissues, especially of the blood and brain, a nding in complete harmony with the observation of uest that in tetany the calcium content of the brain is emarkably lowered, and also with the occurrence of tet-ny during lactation and in osteomalacia and rickets.

Apparently the parathyroid secretion has an influence n the calcium exchange in the body, perhaps because n the absence of this secretion there develop abnormally roducts of metabolism which combine with and extract he calcium from the tissues. "The mechanism of the arathyroid action is not determined, but the result, the npoverishment of the tissues with respect to calcium nd the consequent development of hyperexcitability of he nerve cells and tetany, is proven." Tetany, there-ore, would seem to be, at least in many cases, the ex-ression of a hyperexcitability of the central nervous ssues due to the withdrawal from them of calcium, nd this withdrawal of calcium may conceivably be the sult of defective supply, of excessive elimination be-use of parathyroid incompetency, or of a drain on the calcium supply for physiologic purposes or because of abnormalities in calcium metabolism. Already there is evidence to connect the parathyroids with the abnormal calcium metabolism of osteomalacia and rickets, and it may be found that it is only in the presence of at least a relative insufficiency of the parathyroids that the usual predisposing causes of tetany bring about this condition.

THE ADVANTAGES OF TABULATING CLINICAL RECORDS

The graphic method of recording temperature, pulse and respiration by means of the well-known chart is such an obvious advantage in the precision and clearness with which it presents the changing aspect of these factors that it has been very generally adopted, particularly in recording the course of acute febrile diseases. Almost as valuable in its power to project the changing features of disease, acute or chronic, in such a manner that the mind necessarily conceives a broader picture of the condition is the method of tabulating the findings of variable features such as the weight, conditions of the blood or of the gastric or renal functioning as discovered in the laboratory, the blood pressure, etc. There are many other factors which do not lend themselves readily to graphic methods of expression but which may be conveniently tabulated. In preparing a case history to present before a medical society or in a journal, where it is desired to bring out as clearly and impressively as possible the significance of variable factors, the table is the natural means of expression, but in the day's work of the ordinary clinician, in the study of the cases which are never to be reported, how seldom is this efficient aid to diagnosis, to prognosis, to treatment, utilized! The habit of appending to every case record a table of the variations of at least some of the important factors, which may be glanced over and grasped in an instant, will be found to do much toward correcting that mental myopia to which all are in some degree subject.

ANTIVIVISECTION DISINGENUOUSNESS

In the report of an inquest[1] on a child who died from the results of an injury, after the casual dressing of a wound of the skull at the National Antivivisection Hospital, London, the following illuminating instance of the disingenuousness of antivivisection tactics appears. The coroner, quoting from a prospectus of the hospital, asked what was meant by the expression found there: "No experiments on patients." The witness, resident medical officer at the hospital, replied: "I do not know that any hospital has experiments on patients." The coroner rejoined: "Is it usual in general hospitals to experiment on patients?" To which the representative of antivivisection replied: "No, sir; but other hospitals are equally at liberty to put that." Can the sophistry of this answer be rendered clear to the gentleman in question by a personal application of the principle? If in a discussion he were to assert a certain thing and his opponent were to assert the opposite, and add the words: "and I am not a liar," it is not difficult to imagine what kind of an implication he would place on this oblique method of assertion, and further that his outraged dignity would not be appeased by the suggestion that he himself might have made a like statement had he chosen to do so. A direct misstatement of the facts in a controversy may be due to ignorance or misapprehension, but this roundabout method of asserting by implication at once suggests both malice and cowardice.

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[1] Jour. Exper. Med., 1909, xi, 118.

[1] Lancet, Jan. 9, 1909, p. 124.

THE RESCUE OF THE REPUBLIC—AN OBJECT LESSON IN "PURPOSELESS" RESEARCH

A large number of people fail to appreciate the enormous value to medical science, from a practical viewpoint, of "mere laboratory work," in the more abstruse problems of physiology, pathology, general biology, etc. They seem to demand that all investigation should be undertaken with a well-defined application in view. They are impatient of investigations whose sole object is to transfer everything possible from the region of the unknown to that of the known. Yet but for this seemingly aimless work performed by the pioneers of medical science in laboratory experimentation many of the triumphs of applied medicine would be impossible. It is well, therefore, to emphasize the object lesson in this direction so recently afforded by the application of similar laboratory work in the physical sciences, through wireless telegraphy, in the rescue of almost the entire personnel on board the ocean liner, the *Republic*. The world just now is ringing with this splendid achievement of the practical work of Marconi, but it forgets, or perhaps has never realized, that this work was rendered possible only through the previous researches of Hertz into pure and unapplied science, which resulted in the discovery of the waves that bear his name. Yet it is safe to assert that no such application as has subsequently been made of them was present in the mind of that scientist while engaged in pursuing elusive knowledge in any direction in which it might lead him.

Medical News

CALIFORNIA

Personal.—Dr. Clarence A. DePuy, Melrose, sailed from San Francisco, January 3, for China and Japan.——Dr. William Ophuls has been unanimously re-elected president of the San Francisco Board of Health.——Dr. Arthur T. Piercy, Oakland, was seriously injured in a collision between an automobile and an electric car recently.——Dr. William F. McNutt, Jr., San Francisco, was seriously injured by being thrown from an automobile against a stone wall, December 18.——Dr. Emile Schmoll, San Francisco, fractured his right arm while attempting to crank his automobile, December 22.

Lane Lectures.—The twenty-seventh annual course of Lane lectures began at Cooper Medical College, January 8, and will be continued on each alternate Friday night. The following is the complete list of lectures:

January 8, "Smallpox and Vaccination," Dr. Emmet Rixford; January 22, "San Francisco's Milk Supply," Dr. W. F. Snow, Stanford University; February 5, "First Aid to the Injured," illustrated, Dr. George B. Somers; February 19, "Medicine and Religion," Dr. William F. Cheney; March 5, "Hypnosis," Dr. A. M. Gardner; March 19, "How Disease Is Transmitted," Dr. Rufus L. Rigdon; April 2, "The Crusade Against Tuberculosis," Dr. Joseph O. Hirschfelder; April 16, "The Medical Inspection of Schools," Dr. William Ophuls; April 30, "What the Doctors Are Doing," Dr. George F. Hanson; May 14, "Gallstones," Dr. Stanley Stillman.

COLORADO

Personal.—Dr. and Mrs. Bernard Oettinger, Denver, have gone to Europe.——Dr. Edward Delehanty, Denver, will shortly leave for Germany.——Dr. Clara M. Moore, Denver, has been appointed physician of the woman's department of the State Hospital for the Insane, Pueblo.——Dr. J. J. Pattee, Pueblo, has been appointed oculist and aurist at Minnequa Hospital.

Publicity Bureau.—Colorado State Medical Society has organized a press bureau for general educational purposes to inform the public as to the symptoms of the commoner communicable diseases and how these diseases may be guarded against by proper observation of sanitary rules. The headquarters will be at Montclair, and Dr. Orville D. Westcott, Denver, is secretary of the committee.

Mortality of Denver.—During 1908 there were 3,540 deaths reported in Denver, 27 more than for 1907, 472 more than for 1906, and 716 more than for 1905. Diseases of the respiratory apparatus caused 557 deaths; diseases of the nervous system, 351; digestive diseases, 332; circulatory diseases, 322; genitourinary diseases, 260; and violence, 193. Of the deaths, 157 occurred in early infancy, and 102 in old age.

GEORGIA

Fraud Order Issued.—As a result of an investigation by a postoffice inspector the Postoffice department is said to have issued a fraud order, January 13, against Dr. Rosa F. Monnish of Atlanta, prohibiting her the use of the mails and forbidding the mailing of any newspaper containing an advertisement of her place of business. She is charged with fostering immorality and profiting therefrom. The fraud order is also said to apply to Dr. William A. Monnish, who is referred to as her "accomplice."

Personal.—Dr. Theodore E. Oertel has been reelected a member of the governing board of the City and Lamar hospitals, Augusta.——Dr. Bernard Wolff has been elected president, and Dr. Cyrus W. Strickler, vice-president of the Atlanta Board of Health.——Dr. Theodore E. Oertel, Augusta, has been elected president, and Dr. William C. Kellogg, Augusta, vice-president of the Richmond County Antituberculosis Society.——Dr. Millard F. Matthews, Athens, has been made health officer of Clarke County.

ILLINOIS

County Tuberculosis Institute.—Lake County Tuberculosis Institute, four miles north of Waukegan, which was started in July last, now has a capacity of eighteen in winter and thirty in summer. Organization of the institution was effected September 3. Dr. John C. Foley is president; Dr. William C. Bouton, secretary, and Dr. W. H. Watterson, manager-treasurer and physician.

Chicago

Hospital Changes Name.—The Practitioners Hospital has changed its name to Abraham Lincoln Hospital. Dr. Michael Goldenburg, 72 E. Madison St., director of clinics in the dispensary attached to the hospital, announces that there are eight vacancies on the staff.

Get-Together Dinner.—The Chicago Medical Society and the Chicago Retail Druggists Association held their annual "Get-Togetner Dinner" at the Auditorium, January 19, in furtherance of the national movement to establish a code o medico-pharmaceutical ethics. Dr. Alfred C. Cotton preside as toastmaster.

Personal.—Drs. William A. Fisher, Adolphus G. Wippern H. W. Woodruff, Thomas Faith, and John R. Hoffman hav been reelected directors of the Chicago Eye, Ear, Nose, an Throat College.——Dr. Jesse M. Yonan has recently returne after eleven years spent as a medical missionary in Persia Kurdistan.——The Illinois Branch of the American Nationa Red-Cross will organize a first-aid legion on military basi of which Dr. Gustavus M. Blech has been appointed directo in-chief by Dr. Louis L. McArthur, chairman of the executiv committee.

Milk Commission.—Declaring certification of milk in Ch cago a failure, the Chicago Medical Society has appointe a milk commission, consisting of Drs. Isaac A. Abt, Marcu P. Hatfield, Frank S. Churchill, James W. Van Dersli Charles S. Bacon, and Samuel J. Walker, to take charge certified milk and furnish labels to dairies that have complie with regulations. The commission will appoint a physicia whose duty shall be to look after and testify to the healt of employés of every dairy whose milk is to be certifie

A chemist and bacteriologist will also be selected to examine the milk.

Health Conditions Improved.—Material improvement in health conditions was noted during the week ended January 23. There were 101 fewer deaths than in the preceding week, and 65 less than in the corresponding week of 1908. There were 46 fewer deaths from influenza, 28 fewer from tuberculosis, 21 fewer from pneumonia, 15 fewer from nervous disease and 6 fewer from typhoid fever than in the corresponding week of 1908, while deaths from diphtheria were increased by 12, nephritis by 14, and heart disease and cerebrospinal meningitis by 7 each. There were 905 cases of contagious diseases reported during the week, 88 more than for the preceding week, distributed as follows: Scarlet fever, 228; diphtheria, 175; tuberculosis, 119; measles, 110; chickenpox, 101; pneumonia, 55; typhoid fever, 46; whooping cough,18; smallpox, 2, and diseases of minor importance, 52. Two cases of smallpox were found during the week, both unvaccinated men, one from Minnesota, and one employed on a railway running between Chicago and Pekin, Ill. At the latter place, it is reported that smallpox has existed for some time.

MARYLAND

Postgraduate Club.—The Springfield Hospital Book and Journal Club has been formed by the staff of Springfield Hospital and physicians of the vicinity. The object of the association is to follow the outline of study promulgated as a postgraduate course by the American Medical Association. Dr. J. Clement Clark is president, and Dr. John N. Morris secretary of the club.

Personal.—The directors of the Maryland State Tuberculosis Sanatorium have accepted the resignation of Dr. Bayard T. Crane, acting superintendent, and have elected as his successor Dr. Victor F. Cullen, formerly resident surgeon at St. Joseph Hospital, Blue Ridge Summit, Pa.——Dr. Frank W. Jarrett, Towson, is reported to be seriously ill.——Dr. Isaac A. Barber, Easton, is ill at Johns Hopkins Hospital, Baltimore.——Dr. Charles W. Rose, president of the Talbot County Medical Association, is reported to be seriously ill with pneumonia at his home in Cordova.

Baltimore

Adjunct Faculty Elects.—The Society of the Adjunct Faculty of the Department of Medicine of the University of Maryland has elected the following officers: President, Dr. Joseph W. Holland; vice-president, Dr. A. Duval Atkinson; secretary, Dr. Roscoe C. Metzell, and corresponding secretary, Dr. Arthur M. Shipley.

Personal.—Dr. Louis Seth, assistant resident physician at University Hospital, has been compelled to resign on account of ill health and has gone to the State Sanatorium for Tuberculosis.——Drs. Henry M. Baxly, Edward A. Munoz, and Edward E. Mackenzie have been appointed physicians to the Baltimore General Dispensary.——Dr. W. H. Higgins has been appointed a member of the staff of Johns Hopkins Hospital, and Dr. S. Griffith Davis has been appointed assistant to Dr. Harvey W. Cushing.

MASSACHUSETTS

Pure Milk Supply for Lawrence.—The Medical Club has appointed a committee consisting of Drs. W. Hall Coon, Willam H. Merrill, and George B. Largent to arrange for a suitable milk supply for the city of Lawrence.

Personal.—Dr. Mark W. Richardson has been elected secretary of the State Board of Health, vice Dr. Charles Harrington, deceased.——Dr. Gerald Blake has been appointed assistant in the Harvard Medical School.——Drs. Camillus T. Varner, Thomas F. McCarthy, William S. Richardson and Eugene G. Hoitt have been appointed members of the board of trustees of Marlboro Hospital.——The following physicians ave been elected trustees of the State Hospital, Quincy: ohn A. Gordon, Nathaniel S. Hunting and John F. Welch.——Dr. Leonard Huntress has been elected chairman of the board f health of Lowell.——Dr. George F. Miller has been apointed a member of the Gynecologic Society of Carney Hosital, Boston, vice Dr. Eugene McCarthy, who has been appointed city physician of Fall River.

NEW YORK

Diphtheria Prevalent.—Niverville, Columbia county, is said o be having an epidemic of diphtheria. The principal of the ublic schools is ill with the disease and the school has been osed for two weeks.

Eye Hospital Incorporated.—The State Board of Charities nnounces that it approves the certificate of incorporation of the Howe Eye Hospital of Buffalo. Through this certificate Dr. Lucien Howe of Buffalo is allowed to provide for the disposition of his property by the endowment of a hospital which will permit him to continue his present charitable work after the death of himself and his wife.

Vital Statistics.—During November, 10,306 deaths were recorded in the state, equivalent to an annual death rate of 14.5 per 1,000. During the same period 16,075 births were recorded. Deaths from typhoid fever increased 190, from tuberculosis 29, and from diarrhea and enteritis increased 100, while mortality from pneumonia decreased 838 as compared with the corresponding month of last year. The deaths from external causes included 119 suicides, 61 each from fractures, burns and scalds; 39 from drowning; 32 from inhalation of gases, and 99 from railway accidents and injuries.

Personal.—Dr. Martin Cavana, Oneida, has been seriously ill with septicemia due to an operation wound, at his sanatorium at Sylvan Beach.——Dr. Seymour C. Williamson, Canisteo, while making a professional call January 15, fell through a trap door of a barn and fractured his shoulder.——Dr. Alexander J. Dallas, Syracuse, the oldest practitioner of Syracuse, celebrated his ninetieth birthday anniversary, December 31.——Dr. Patrick H. Hourigan has returned to Buffalo after an absence of three years abroad.——Dr. John A. Hoffmeyer, a district physician of Buffalo, has resigned.

Antivivisection Bill.—Senator George A. Davis has introduced a new antivivisection bill into the legislature which has been referred to the judiciary committee. This bill requires that vivisection shall be performed only by persons holding certificates issued under the authority of a college, hospital or incorporated laboratory, or under the authority of the State Commisioner of Health, or a board of health, and in a building registered with the State Health Commissioner. The substance known as curare is not to be considered a general anesthetic. Vivisection experiments may be ordered by a court when considered necessary for purposes of justice.

State Society Meets at Albany.—The third annual meeting of the House of Delegates of the Medical Society of the State of New York was held at Albany January 25, and the one hundred and third annual meeting of the society January 26 and 27. Telegrams received as The Journal goes to press report a good attendance of the House of Delegates, 69 members being present at the first meeting. Reports of officers and committees for 1908 were presented and discussed, particular attention being given to the state journal and to the publication of the directory. The restriction of advertising of proprietary preparations in the publications of the society was discussed at length, the standard of the Council on Pharmacy and Chemistry being finally approved and adopted. The committee on legislation and the counsel of the state society were instructed to draft a bill for introduction into the legislature permitting the House of Delegates to select the time and place of the annual meeting, the present law under which the society is incorporated being mandatory on these points. A number of amendments to the by-laws were proposed and an unusually large amount of new business was presented to the house. The report of the committee appointed to cooperate with the committee of the American Bar Association on expert testimony was adopted. This committee presented a bill for introduction into the state legislature and designed to remedy the abuse of medical expert testimony. The following officers were elected: President, Dr. Charles G. Stockton, Buffalo; vice-presidents, Drs. Douglas C. Moriarta, Saratoga Springs; and John B. Harvie, Troy; secretary, Dr. Wisner R. Townsend, New York City; treasurer, Dr. Alexander Lambert, New York City. The House of Delegates voted to continue the publication of the directory, also to continue the defense of malpractice suits brought against members. A more detailed report of the session will appear later.

New York City

Personal.—Police Commissioner Bingham has appointed Dr. Francis J. Murray police surgeon to fill the vacancy caused by the death of Dr. Quigley.——Dr. Catherine Collins has been placed in charge of the manufacture of diphtheria antitoxin for the Georgia State Board of Health.

City Has Many Hospitals.—The New York Charities Directory for 1909 states that there are 226 hospitals in this city; of these 58 are general hospitals. The oldest hospital is the New York Hospital, incorporated in 1776. The directory calls attention to the lack of hospital accommodations for advanced cases of tuberculosis.

Milk Depots May Close.—The seven depots for the dispensing of pasteurized milk to babies, maintained by the New York City Association for Improving the Condition of the Poor, may have to close unless the sum of $25,000 is raised immediately. These seven milk stations care for about 500 babies, each station being in charge of a trained nurse who instructs the mothers in the care of their infants.

Tuberculosis Exhibition Closes.—The tuberculosis exhibition at the Museum of Natural History, which has been open since November 30, closed January 17. The exhibit was open to the public for forty-nine days and during this time 750,000 persons visited it. The largest attendance was on December 27, when 63,256 persons visited the museum. The total cost was slightly over $37,000. Of this sum the city appropriated $13,000 and private individuals gave $9,000. There is still a deficit of $16,000.

Coroners Assail Doctors.—In the report of the coroners of New York county, just issued, it is declared that some doctors issue death certificates without having seen the bodies they attempt to describe, and that others demand autopsies simply for the purpose of adding to their own knowledge. It is also stated that undertakers have gone so far as to embalm bodies before they had the permission of the coroner. They suggest that there should be legislation to prevent undertakers from embalming a body until the death certificate has been accepted by the proper authorities, and if rejected, the body should not be embalmed until the coroner has determined and attested the cause of death. The physician should also be compelled by law to examine the body before certifying to death; where a physician has not seen a patient for several days prior to death, the relatives have mistaken suspended animation for death, and the physician has signed the certificate on the word of the friends.

PENNSYLVANIA

New Society.—Women physicians of Pittsburg met in East Liberty, January 7, and organized the Woman's Medical Society of Pittsburg. Dr. Adaline M. Watson presided. At its next meeting officers will be elected and a constitution and by-laws adopted.

Personal.—Drs. Orr H. Shaffer, William S. Ross, Joseph D. Findley and William H. Howell, Altoona; Dr. John L. Brubaker, Juniata; Dr. Henry H. Brotherlin, Hollidaysburg; Dr. W. Albert Nason, Roaring Spring, and Dr. H. B. Deitrich, Williamsburg, have been appointed local surgeons to the Pennsylvania System.——Dr. F. J. Spilman, Connellsville, returned January 5, from a trip abroad.

State Charities' Requests for Aid.—The report of the State Board of Charities was completed, January 19, and was submitted to the legislature, January 20. The report shows that the different institutions applied for appropriations amounting to $19,534,625.01, and that the board has recommended for maintenance and buildings $11,321,669.66. The total amount recommended to the present legislature is $400,769 less than was actually appropriated at the last session. The board has reduced the appropriations applied for by hospitals for maintenance, but has increased the allowances for buildings over that of 1907.

Philadelphia

Personal.—Dr. Henry W. Stelwagon has been elected to associate membership in the Vienna Dermatologic Society.——Dr. W. T. Grenfell, known throughout the world as "the patron saint of Labrador," gave a course of six lectures in Philadelphia and its suburbs the week of January 24, under the auspices of the Grenfell Association of America, to secure funds to further the establishment of a fishermen's and seamen's institute at St. Johns, N. F.

VIRGINIA

Personal.—Dr. Lucien C. Smith, Alexandria, is reported to have been appointed chief surgeon to a railroad in Brazil.——Dr. George A. Stover, South Boston, has gone to Richmond to take treatment in the Pasteur Institute.——Dr. Reid White has succeeded Dr. J. Harvey Laird, resigned, as surgeon to the Virginia Military Institute, Lexington.——Dr. Irene Bullard, assistant physician at the Eastern State Hospital, Williamsburg, has resigned.——Dr. Junius N. Stephenson, Petersburg, has been made first assistant physician at the Southwestern State Hospital, Marion.

Instructions Regarding Tuberculosis.—The Board of Health of Richmond has issued a sixteen-page pamphlet, prepared by Dr. Ernest C. Levy, chief health officer, on "Tuberculosis, Its Causes, Prevention and Cure" for use in the upper and middle grades of the public schools of the city. The pamphlet treats plainly of the history and cause of tuberculosis; of the prevalence of tuberculosis in the United States; avers that tuberculosis is preventable and why, and that it is not hereditary; describes the method of spread of the disease and details the precautions that should be taken by tuberculous patients to avoid communicating the disease to others; states that the careful consumptive is not dangerous, that tuberculosis atacks only weakened bodies; gives particulars how the body may be strengthened, and details the method of cure of tuberculosis by fresh air, food, rest etc.——On January 10, under the auspices of the health department of Norfolk, twenty physicians of that city delivered addresses from the pulpits of the colored churches on the ravages caused by tuberculosis.

GENERAL NEWS AND COMMENT

Plague Rats Found.—Inspector Bowman of the Hawaiian Territorial Board of Health has reported to the board that he found 44 dead rats in near proximity to the city stables of Hilo, and that of these 32 were infected with plague.

Tuberculosis Exhibit in Porto Rico.—The National Association for the Study and Prevention of Tuberculosis has shipped a traveling tuberculosis exhibit to San Juan, which will be shown later in all the important towns of the islands.

Personal.—Dr. H. A. Gantt, Aguascalientes, Mexico, who accidentally shot himself early this month, is rapidly improving.——Dr. J. C. Perry, P. H. and M.-H. Service, has arrived at New Orleans from the Canal Zone, en route to Mobile.

Physicians Wanted.—The United States Civil Service Commission anounces an examination to be held at various places February 17 and 18, to fill seven vacancies in the position of medical inspector, $2,000 per annum each, in the Philippine service, and vacancies requiring similar qualifications, as they may occur in that service, at salaries ranging from $1,250 to $1,800 per annum. Applications should be made to the United States Civil Service Commission, Washington, D. C., or to any board of examiners for application form No. 2 and No. 375.

Sanitation of Canal Zone.—During November the sick rate of the Canal Zone was 27.16 per 1000. The death rate for employés was at the annual rate of 11.50 per 1000. The deaths of employés numbered 40, 31 from natural causes and 9 from violence. The death rate of the total population for the month was at the annual rate of 23.71 per 1000, which compares very favorably with 28.86, the rate for November, 1907. There has been no case of yellow fever since May, 1906, nor has there been a case of bubonic plague since August, 1905, although both diseases exist within three days' sail of the ports of Colon and Panama.——During December the sick rate was 25.95 per 1000. The death rate showed a considerable increase over November, 48.6 of the mortality being due to violence. Eliminating deaths from this cause, the death rate from disease shows a great improvement over the same period of last year. There was a diminution of 214 cases of malaria as compared with the preceding month. During the month there were 124 deaths, equivalent to an annual death rate of 20.75 per 1000.

The Antivivisection Controversy.—The Committee on Experimental Medicine of the Medical Society of the State of New York has begun the publication of a series of leaflets setting forth the scientific and medical side of the antivivisection controversy. The publication of these leaflets is in the hands of a committee, consisting of Drs. Frederick S. Lee, Simon Flexner, and James Ewing. Ten leaflets have already been issued, covering various subjects, such as "Animal Experimentation and the Action of Drugs," by Prof. R. A. Hatcher; "Animal Experimentation as Viewed by Laymen," by Charles W. Eliot, President of Harvard University; "The Function of the Thyroid Glands," by Dr. Samuel J. Meltzer, of the Rockefeller Institute for Medical Research; "Animal Experimentation and Diphtheria," by Dr. William H. Park; "Animal Experimentation and Tuberculosis," by Dr. Edward L. Trudeau; "The Sense of Pain in Man and the Lower Animals," by Dr. Frederic S. Lee; "Animal Experimentation and Cancer," by Dr. James Ewing; and "Lord Cromer's Defense of Animal Experimentation" and "Animal Experimentation and Infectious Diseases," by Dr. Simon Flexner. Each of these leaflets is an argument to show the humanitarian aspect of animal experimentation, and the committee is to be congratulated on what it has already accomplished. Copies of these leaflets may be obtained by addressing the Medica

Society of the State of New York, 17 West 43rd St., New York City.

Society Meetings.—The twelfth annual meeting of the Society of College Gymnasium Directors was held in New York City, December 31 and January 1. After reading of papers and reports, the gymnasium of the College of the City of New York was inspected. The name of the society was changed to "The Society of Directors of Physical Education in Colleges." The following officers were elected: President, Dr. R. Tait McKenzie, University of Pennsylvania; vice-president, Dr. George L. Moylan, Columbia University; secretary-treasurer, Dr. Paul C. Phillips, Amherst College; and executive committee, the president, vice-president, secretary, and Drs. James A. Babbitt and James Naismith.——At the annual meeting of the Pi Mu Medical Fraternity, in Richmond, Va., December 19, Dr. W. A. Shepherd, Richmond, was elected senior councilor; Dr. John R. Wright, Louisville, junior councilor; Paul Horole, Richmond, general secretary; Dr. Lawrence T. Price, Richmond, general treasurer, and Dr. Alfred L. Gray, Richmond, historian.——The Northern Tri-State Medical Association of Ohio, Indiana and Michigan, at its annual meeting held in Ann Arbor, January 12, re-elected the following officers: President, Dr. William A. Dickey, Toledo; vice-president, Dr. C. B. de Nancrede, Ann Arbor; secretary, Dr. George W. Spohn, Elkhart, Ind., and treasurer, Dr. Joseph A. Weitz, Montpelier, Ohio.——The Chattahoochee Valley Medical and Surgical Association held its annual meeting in Opelika, Ala., January 12 and 13, and elected the following officers: President, Dr. Aaron L. Harlan, Alexander City, Ala.; vice-presidents, Drs. Homer S. Bruce, Opelika, Ala., and W. L. Cooke, Columbus, Ga.; secretary, Dr. William J. Love, Opelika, and councilor, Dr. James P. Watkins, Opeilka (re-elected). The next semi-annual meeting of the society will be held in Lafayette.

CANADA

Hospital Notes.—The St. Catherines (Ont.) City Council has donated $1.000 for the inauguration of a hospital for onsumptives in that city. Capt. R. W. Leonard of the same ity has donated $3.000 to the purpose and the Daughters of he Empire have collected another $3,000.——The city is asking the Ontario government to increase the grant for municipal sanatoria from $4,000 to $10.000.——A new hospital is o be opened in Montreal under the name of the Hospital St. uc. Its work is to be especially among the school children f that city, particular care being paid to cases of eye, ear, ose, throat and mouth.

Typhoid Epidemic in Montreal.—Every hospital in Montreal s taxed to its utmost capacity owing to the outbreak of yphoid in that city, some of the hospitals having to open ew wings in order to accommodate the typhoid patients. he incidence of the outbreak occurred immediately after hristmas; probably the Montreal turkey or plum pudding as infected. It is estimated that throughout the city genrally there are between 800 and 1,000 cases of the disease. he Medico-Chirurgical Society has taken a hand in the matr and has joined with the French Medical Society and the ngineering Society in bringing the question of Montreal's ater supply prominently before the city council and the tizens. During the past five years Montreal has had an exedingly large death rate from this disease. In 1903 it was 1.45 per 100.000; 1904, 31.89; 1905, 18.11; 1906, 37.08; 07, 33.26.

Consumption of Alcohol and Tobacco.—During the official ar 1907-1908, there was taken for consumption in Canada, 849.763 proof gallons of alcohol, there being consumed in e process of manufacture 7.679.000 pounds of malt; 72,997,06 pounds of Indian corn, 14,921.000 pounds of rye, 3,117,000 unds of wheat, 395.000 pounds of oats, and 17.212.000 unds of molasses. In the matter of production Ontario is e great whisky province, seven of the twelve distilleries the domain being located within her boundaries. While e increase in the production of spirits is small compared th that of beer, it is claimed that temperance sentiment is vancing, as is evidenced by the greater increase in the proction and consumption of beer. It is shown from 1869 on at there has been a regular decline in Canada in the conmption of spirits, as in the former year the amount conmed per head of the population was 1.124 gallons; now it is 689 of a gallon. The consumption of beer has, however, en steadily on the increase, having risen from 2.290 in 1869 5.812 gallons per head in the present fiscal year. Last ar the cost of tobacco was 1.129 per capita, while in 1896 it was hardly 61 cents. There were 32.088.000 pounds taken for consumption. There were also consumed 200,133,000 cigars and 385.000.000 cigarettes. Cigarette smoking is said to be apparently rapidly becoming the favorite form of using tobacco in Canada.

CUBAN LETTER

(From Our Occasional Correspondent)

Havana, Cuba, Jan. 16, 1909.

A Department of Public Health for Cuba

Now that the medical profession in the United States has decided that a department of public health in some form is necessary, and is struggling with the various propositions under discussion, uncertain whether it shall take the form of a neoplasm in the interior, or an elephantiasis in the treasury, or a new baby in the cabinet, it is interesting to know that the young Cuban republic, having been safely nursed through its recent attack of eruptive fever, comes out with a fully developed executive department of public health. Among the eight secretaries who will compose the cabinet of the newly elected president, according to a decree recently signed by the provincial governor, is the Secretary of Sanitation and Charities, or *Sanidad y Beneficencia*, to use the official Spanish title.

The new law provides that the department shall consist of the two sub-departments (called *direcciones*) of Sanitation and Charities, at the head of each of which is a director, and of the National Board of Sanitation and Charities. The composition and duties of this board will be mentioned later.

ORIGIN OF THE DEPARTMENT

The beginning of a national sanitary department goes back to the end of the former government of intervention when Gen. Leonard Wood, three days before establishment of the republic, issued a decree providing for a national board of health. This law, which was drawn up by a commission, of which Drs. W. C. Gorgas, J. R. Kean, Diego Tamayo and A. H. Glennan were members, was excellent in theory and gave extensive powers to the national board, but it did not provide the necessary machinery by which these powers could be administered, operating as the board was compelled to do through the local boards of health of the various municipalities over whose personnel and finances the national board had but nominal control. Another defect in this law was the failure to place the quarantine service under the authority of the board. This organization accomplished much excellent work during the presidential term of Estrada Palma, but it was unable to exert any effective influence over the municipalities whose sanitary matters fell into a condition of utter neglect, except in Havana and a few other cities where the national treasury came to the rescue. The next step in advance was the enactment by Governor Magoon of the excellent sanitary law of Aug. 26, 1907, which at one stroke removed all difficulties connected with the question of municipal administration, by abolishing the local boards of health and taking over the sanitary services of all the municipalities in the same way as is done in the case of the postal service in the United States. These municipal services are administered by local sanitary officers appointed and paid by the national government, which also provides the appropriations for all other sanitary expenses. The municipalities, however, are required to pay in part reimbursement to the national treasury one-tenth of their incomes. These local sanitary officials are also given the power to impose fines, the persons fined being, however, allowed the right of appeals to the ourts.

QUARANTINE SERVICE

The quarantine service was by another decree made an integral part of the Sanitary Department, constituting as it does the first line of national defense against epidemics. This law has worked successfully for a year and a half, and the cleanliness of the Cuban cities is now a matter of universal remark among the American visitors to the island. It has also given great satisfaction to the Cuban people, who are alive to the desirability of good sanitary conditions for local as well as international reasons. This law is not repealed or affected by the creation of the new department, except that the administrative powers of the National Sanitary Board will be hereafter divided between the Director of Sanitation and the Secretary of the Department, the duties of the new Board of Sanitation and Charities being principally of an advisory character. These administrative powers are ample, embracing the control of epidemic and contagious diseases, sanitary investigations respecting the cause of diseases, including those of animals which affect man, the enforcement of all sanitary laws and regulations with regard to water supply, sewerage, disposition of refuse, adulteration of food products, beverages and drinks, and those referring to the importation and treatment of food animals. The department is charged with the collection of vital statistics, and has power to require reports from all public institutions, places of public resort and common carriers. It sees to the enforcement of sanitary laws, including the laws governing the admittance of persons to the practice of medicine, veterinary medicine, pharmacy, dentistry, midwifery, embalming, undertaking, and the regulation of prostitution, and laws for the control of offensive and dangerous industries or occupations. It has charge of hospitals for contagious diseases, dispensaries and sanitoriums for tuberculosis and leprosy, and maintains a vaccine establishment and a biologic, chemical and bacteriologic laboratory in Havana.

The official in charge of sanitary affairs in each municipality is called the local sanitary officer. In addition to enforcing all sanitary laws and ordinances, he maintains the following sanitary services: 1. Street cleaning and sprinkling. 2. Removal of garbage and other wastes. 3. Disinfection, public and private. 4. Filling and draining when necessary for the health of the community. 5. Cleaning of cesspools and other collections of filth, in public properties and, when necessary, in private properties, the cost in the latter to be collected from the owner.

It should be remarked that the municipalities in Cuba are not exclusively urban, but include large rural areas also, the island being divided into eighty-two municipal districts, each with its head town. The relation of these to the national government is somewhat similar to that of New England townships to the state.

THE DEPARTMENT OF CHARITIES

The sub-department or Department of Charities is of far older establishment in the Cuban government than that of sanitation, having existed from early times. The law establishing the new department has codified all the existing laws with reference to charities, the basis of such codification being the well-known and excellent law drawn up by Mr. Homer Folks of New York in 1900 at the request of General Wood. The only important changes in this law have been the taking away of administrative authority from the superior board of charities and vesting it in the secretary of the department and director of charities, and in the same way vesting in the superintendents of institutions the administrative powers which were heretofore held by boards of trustees of such institutions. The duties of such boards are now limited to inspectorial and advisory functions. The reason for this change is the same as for the abolition of the local boards of health—the absolute failure of government by administrative boards in Cuba. This is due partly to lack of interest on the part of members of the board, and partly to the impossibility of fixing the responsibility for neglects.

The *Direccion de Beneficencia* administers twenty-five free government hospitals throughout the island, to six of the most important of which are attached nurses' schools. It also administers correctional schools for children of both sexes, to which the law requires to be sent all children under the age of 16 convicted of crimes or misdemeanors by the courts, calling for imprisonment. The terms of commitment are indeterminate and dependent on good behavior. It administers the hospital for the insane at Mazorra, near Havana, which contains over 2,000 patients. It maintains a bureau for placing children in families, which has been of greatest value in caring for orphans of the reconcentration, and is operated in a very satisfactory manner. The director of charities is authorized to call for animal reports from all private charitable institutions and to inspect them annually or at more frequent intervals, to determine whether they fulfill the objects for which they were established. It is declared by the law to be the duty of the department of Sanitation and Charities to extend protection to the insane, imbeciles or other inhabitants of the state who must be supported by public charity or at the expense of private societies or institutions of charity or those of a religious character. The funds devoted to this purpose by the state, by individuals or by charitable institutions are also declared to be under the protection and safeguard of the state, in order to prevent them from waste or misappropriation.

THE BOARD OF SANITATION AND CHARITIES

The national board of sanitation and charities is composed of twelve members, most of them *ex-officio* in character. They are the director of sanitation, director of charities, the chief of the quarantine service, the president of the board of diagnosis of contagious diseases, the president of the commission of special hygiene, the president of the antituberculosis league, the dean of the medical faculty of the University of Havana, the president of the economic association, and four other members selected by the president, among whom must be one lawyer and one engineer. The duties of the board are mainly advisory in character. It makes studies of sanitary projects and laws and renders expert reports thereon for the information of the secretary and advises him of the effects of sanitary legislation; it hears complaints and petitions of a general character referring to sanitary and charitable matters. It is also charged with the investigation of abuses committed in charitable institutions and complaints against the officials thereof, and for the purposes of such investigations, has the power to administer oaths, call witnesses and demand the production of books and papers. Members of this board receive a fee of $15 for each meeting attended by them, provided the total of such fees does not exceed $90 in any one month.

Dr. Nicolás Alberdi has been selected by President-elect Gómez to be the first secretary of the new department, and for the director of sanitation has been chosen Dr. Juan Guiteras, the distinguished yellow-fever expert, whose name is so well known to the medical profession in the United States. The department has a well-trained personnel, and if it can be kept out of the domain of Cuban politics we shall have every reason to expect a continuation of the present highly efficient administration which has made Cuba cease to be a dangerous neighbor.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 19, 1909.

Results of the Paris Medical School Riots

The grave troubles that I recorded in my letter of December 24 have had as their first effect the suspension of the competitive examination for "admissibility to the agrégation." But in face of the disturbances aroused by this unlucky *concours*, not only in the medical world, but also in political circles, it is a question whether the suspension will not finally result in its total suppression. [The diploma to be obtained at this competitive examination entitles the holder to compete for the subordinate chairs in the medical faculties.—ED.]

There reigns everywhere at this moment the greatest animosity against the promoter of this *concours*, Professor Bouchard. Arbitrary in character, allowing neither discussion nor contradiction, Bouchard, who for many years has exercised a great influence in the ministry of public instruction had already rendered himself very unpopular by a series o measures objectionable to the medical profession, such as the establishment of the P. C. N. (preparatory year of physical chemical and natural science studies), etc. The fact tha Bouchard, as president of the board of the competitive examination, appealed for armed protection as a preventive measure, that is to say, before any disorder whatever had justified so grave a proceeding, has everywhere aroused the mos lively protests. The municipal council has since voted a reso lution expressing regret at the disorderly incidents that had occurred at the medical school, and censuring the precautionary introduction of police in the interior of the Faculty of Medicine. Further, M. Clemenceau, the premier, has ordered the prefect of police not to obey in the future any requisitions of this character made as a preventive measure. A delegation of the syndicate of physicians of the department of the Seine has been received in audience by the president of the republic and incidents were related bearing on this *concours d'admissibilité à l'agrégation;* the reorganization of the medical curriculum was also discussed. M. Fallières gave the delegation a very cordial reception and his support seems to be assured to the legitimate demands of the practitioners.

But it is unfortunately to be feared that the syndicate has gone too far in its protestations and its demands. For instance, in a circular letter addressed to all the physicians of Paris, the syndicate, after recounting the incidents that took place at the opening of the *concours* declares that "these facts demonstrate that the dean of the Faculty of Medicine of Paris has no longer the moral authority necessary to represent the medical profession; the representative of the medical body can be only one of ourselves, elected by all his confrères and having no official ties." It is an entire misconception of the rôle of the dean of the Faculty of Medicine to think that he is called on to represent the medical profession; he represents only the faculty, the organization of which evidently should not depend on the syndicate of physicians.

Opium Dens in Paris

The Ullmo affair has revealed in a startling fashion the disquieting progress that the opium habit has made during recent years in our garrison ports. The minister of the interior has recently issued a decree regulating in France the sale, purchase and use of opium and its extracts. This decree particularly specifies that the importers shall not sell the opium in any quantity except to wholesale merchants, for industrial purposes, or to chemists to transform it into the officinal opium or to extract the alkaloids, and to pharmacists for therapeutic use and under certain conditions. Officinal opium and its extracts are not permitted to be sold by pharmacists except for use in medicine. Outside of these conditions, every delivery of opium or its extracts, even gratuitously, is forbidden under pain of a fine of from 100 to 3,000 francs, and imprisonment for from six days to two months. It is also forbidden, under the same penalties, to connive at the prohibited keeping and use of opium by granting the use of a room or by any other means.

This rigorous repression is only too fully justified by the disquieting proportions that this degrading vice has taken, not only in Toulon and other garrison ports, but even in Paris tself. Investigation a few days ago disclosed the fact that several merchants had installed on their premises secret opium dens, where the habitués could obtain—naturally at elevated prices—everything necessary for the satisfaction of heir degrading passion. What measures of defense are to be taken against this scourge are being studied at the present moment by an international conference summoned for the purpose at Shanghai.

The French Red Cross and the Catastrophe at Messina

The three societies for aid to the wounded which form the French Red Cross, have decided to unite in aiding the victims of the earthquake in Sicily and Calabria. A central commitee has been constituted, with the Marquis de Vogüé as President, which is composed of delegates from the French Society for Aid to Wounded Soldiers, the Union of the Women f France, and the Association of French Dames. An adance body, consisting of ten trained nurses set out on December 31; a second detachment, charged especially with he care of the wounded during their transportation from Messina to Naples on one of the vessels sent by the minister f marine, departed the next day, carrying 3,000 kilos of material for the wounded—linen and various dressing materials, fracture apparatus, medicines, bedclothes, coverings, woolen clothing, etc.

End of the Yellow Fever Epidemic at Martinique

The governor of Martinique has just informed the minister f the colonies by cablegram that no case of yellow fever has been notified since Dec. 22, 1908. Consequently the governor, y agreement with the health service (*service de santé*), hinks it possible by taking certain precautionary measures o reduce the severity of the measures of evacuation previusly instituted.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 4, 1909.

Physicians Win from Insurance Companies

The disagreement of physicians and life insurance companies, referred to in my last letter, was happily settled before the end of the old year. By the intervention of a high official, an agreement between the two parties was reached by which the demands of the physicians were granted for the most part. According to this agreement, the medical examiners for the company are to be paid a fee of 6 marks ($1.50) for examination of applicants for insurance up to 2,000 marks ($480), and 12 marks ($3) for examination of applicants for insurance up to 6,000 marks ($1,140), and 15 marks ($2.75) for amounts over this sum, with a fee of 7.50 marks ($1.87) for the certificate of the family physician. As before, there is to be a standing committee formed of representatives of the physicians and of the life insurance companies which shall settle the differences between them. In this way it is to be hoped that this fight, which the German medical profession has carried on with gratifying unanimity, has been ended. But it is very much to be desired, both in the interests of the medical profession and of the public, that a physicians' "strike" shall not occur again. Such a movement on the part of physicians is surely opposed to the ethical aims of their calling. We can not, as a matter of principle, refuse our aid without conflicting with the duties of our profession. It ought to be possible in most cases to settle the points of dispute and reach a satisfactory conclusion of the negotiations in a peaceable way, possibly by the intermediation of some disinterested person of authority as in this case.

Russian Institute for Medical Consultations

There has existed in Berlin for some years a Russian institute conducted by a German physician and a Russian, ostensibly but not actually a doctor of medicine, established for the apparently worthy purpose of serving Russians who come to Berlin by directing them to suitable physicians. Every one who became acquainted with this institution suspected that it was run less in the interests of the Russian patients than for the commercial advantage of the managers and the further developments of the institution have more than abundantly confirmed this suspicion. The commercial methods of the conductors of the institutions were very clever. To establish the reputation of the institute among Russian physicians who send their patients here, the directors secured some of the principal medical authorities to deliver lectures at their institution. The method which they followed was that of the "stool pigeon." First they secured the late von Bergmann, who being of an idealistic nature, did not recognize the commercial basis of the undertaking and supposed that he was rendering a service in establishing closer relations between Russians and Germans. After von Bergmann had indicated his readiness to serve the institute, von Leyden, who notwithstanding better insight into the true inwardness of the matter, had no objections to assist the undertaking, was placed on the list of lecturers, and then all was clear sailing for the institution, for to an enterprise to which such illustrious men had given their assistance no one else need refuse his aid. As equivalent for the lectures the professors received Russian patients, referred by the directors of the institute, and this was indeed a subsidiary, not to be underestimated, result of the scientific addresses. Of course, the directors of the institute received pay for their services from the patients who entrusted themselves to them. But this did not exhaust the profits of these gentlemen; they sent their patients to such consultants as paid more or less for such recommendations.

Copper in Canned Spinach

The Scientific Commission for Medicine in Prussia has reported to the effect that the customary addition of copper to canned spinach, for the preservation of the green color, should not amount to more than 55 mg. pro. kg. (½ grain to the pound). Within this limit no injury to health need be feared. It may be noted that in Austria the same proportion is permitted by the authorities.

Esperanto in Medicine

As a result of the international Esperanto congress, held recently in Dresden, the first German local group of the International Esperanto Medical Association has been founded in Berlin. Its title in its new language is "Tutmonda Esperanta Kuracista Asocio."

The Physicians of Germany in 1908

The medical statistician, Dr. Prinzing, publishes in the *Deutsche medizinische Wochenschrift* some interesting statistics in regard to the medical profession in Germany in the year 1908. The physicians of Germany numbered last year 31,640, and 553 new licenses were granted. A considerable increase is to be expected soon, as in consequence of the lengthening of the medical course a few years ago the number of those who are finishing their studies is temporarily reduced. As formerly, the large cities still attract the larger proportion of physicians. Greater Berlin, i. e., Berlin with its 21 suburbs, has 3,732 physicians, and in the other large cities there were altogether 8,900, making in all 12,632, in contrast with 19,008 in the rest of Germany. For 10,000 inhabitants there were in Greater Berlin 12.3 physicians; in other large cities 9.2; in all the large cities 9.9, in contrast to 3.8 for the rest of Germany. Among the individual large cities, Wiesbaden had proportionally the most physicians, 25.8 per 10,000, followed by Munich with 15.8, Strassburg 14.2, Kiel with 13.1, and finally Greater Berlin with 12.3. Duisburg had the least (3.0). The number of licensed women physicians in Germany amounts to 55, who are all located in the large cities. In Berlin alone there are 17, in Breslau 5, in Frankfurt a. M. 5, in Munich 4, in Hamburg and Dresden each 2. Most of them devote themselves to general practice, but many to gynecology and diseases of children. The development of specialism has made further progress. In the large cities there were in 1908 for 10.000 inhabitants, 3.44 specialists and 6,50 other physicians. Among 100 physicians 34.6 were specialists. The number of specialists has increased about 9 per cent. in the large cities during the last three years, and that of practicing physicians only about 4 per cent. In Greater Berlin the number of specialists has risen to 1,194. Of the single specialties, the number of physicians for mental and nervous diseases shows the greatest increase, next orthopedists and surgeons, then physicians for children's diseases.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 10, 1909.

Proposed Insurance of Wage-Earners

A very important bill, entitled the Social Insurance Act (*Socialversicherung*), is now under consideration. Its bearing on medicine is great, as it will influence markedly the general health and physical development of the masses. The act unites the hitherto separated branches of insurance, namely, insurance against illness, accidents, old age and invalidism. It raises the maximum income which entitles the earner to free insurance to about $600 a year; the number of persons coming under its operation is 6,500,000. Hitherto the maximum income of persons entitled to free insurance was about $240, and 3,000,000 came under the operations of the law. There is no change in the numbers of those interested in the accident-insurance clause (3.000,000).

The third clause, however, is a new feature on the program of social legislation. Over 10.000,000 wage-earners come under its provisions, and there are no precedents as to its operation in this or other countries. The insurance against illness provides for free medical and therapeutic aid of all kinds. A definite daily allowance, according to earnings, and, if necessary, hospital fees, are to be paid. Hitherto only workers in factories and shops were entitled to such insurance; but hereafter all agricultural laborers and domestics will have a right to it, and by the payment of premiums they may secure the same advantages for their families. The benefit will be obtained as long as the illness lasts; if the duration is more than a year, the patient is pronounced an invalid and receives his pension accordingly. Those who are ill will never be without aid.

Naturally, there will be great numbers of medical men to be appointed. The doctors of the present *Kasse* complain that they are overburdened, although the *Krankenkasse* (the present insurance institution) gives medical aid only for twenty weeks. The bill will materially affect the prospects of the profession, as the enormous amount of medical work to be done will mean a large number of fixed medical appointments. The patient, however, will have his choice of the doctors appointed. The *Krankenkasse* will have to make written appointments with the doctors, subject to the approval of the medical council (*Aerzte-Kammer*) of each district. A special insurance court will settle any disputes between the *Kasse* and its doctors. The increase in the number of those insured will also cause the erection of many small hospitals, as the *Kasse*, which will have to pay the hospital fees of the patients, will probably erect its own hospitals. The *Kasse* already has to pay about 25 per cent. of the hospital fees in this country (about $1,000,000).

The act endeavors to provide for women at childbirth. The pregnant woman will receive daily relief amounting to 150 per cent. of sick pay for one week before and four weeks after giving birth to a child; if she continues ill for a longer period, sick pay will be granted, but the woman must not go to work so long as she receives relief. A minimum period of six weeks has been demanded for convalescence, since this would tend to increase breast-feeding. A "breast-feeding premium" has also been suggested; but it is doubtful whether the government will concede that.

Those entitled to insurance against invalidism will comprise about 30 per cent. of the population. The yearly payment to those invalided will vary from 125 to 560 crowns ($25 to $112); it will depend not only on the number of premiums paid, but on the earning capacity during activity. The term "invalid" is thus defined: Whoever is incapacitated from earning one-third of the sum which healthy persons of his age and abilities can earn at his place of residence, is termed an invalid. Incapacity may result from age, disease, or other causes. Special care will be taken to place patients in sanitariums, homes for convalescents and open-air institutions.

Accidents are to be treated for one year as illnesses, with the right to sick pay; if the effects of the accident last longer, a special accident payment is to be made, according to special schedules. A new valuation of the various organs and members of the body is also given in the act. Special medical experts will be appointed to examine the victims of accident and to direct the treatment. The maximum yearly payment to a person totally disabled by injury will be 1,200 crowns ($240). If the disabled person must be nursed by others, he will receive 50 per cent. more ($360). The *Kasse* will have the right to inspect industrial concerns with a view to lessening the risks of workers. All facts coming to the knowledge of the officers of the *Kasse* are to be treated as professional secrets.

The sum of 288,000,000 crowns ($58,000,000) will be necessary to meet the expense of this almost universal insurance, besides a yearly payment by the state amounting at first to $8,000,000, and increasing up to $20,000,000. The necessary funds are to be obtained, in the case of insurance against illness, by payment of one-third of the premium by the employers, and two-thirds by the employés. The expense of insurance against accident is to be borne by the employer, while the costs of the old age and invalid pensions are to be borne by the insured.

The medical profession will make strenuous efforts to lower the maximum limit of income entitling the earner to free insurance, since private practice, to a large degree, will be cut off by the increase. On the other hand, the act has undoubted advantages, both for the public and for the profession, and it will not be hard to strike a favorable balance.

Pharmacology

THE TURNCOCK MEDICAL COMPANY

It Refers Its Victims to "Any Chicago Newspaper" and One Newspaper Responds

The consideration which has been accorded quacks and nostrum mongers by the daily press—thanks to their extensive advertising patronage—has led to a slight misapprehension in some quarters. Some misguided fakers hav at times thought that they owned the press—that all the had to do was to crack the whip and watch the journalisti trick-dog jump through the hoop. In some cases the gentlemen afflicted with this obsession have been severely jarre back into the world of realities.

A recent case of this sort was that of the Turncock Medical Company of Chicago. This concern is one of those whic advertise to cure rheumatism and uric acid diseases for $3.0 —more or less. A patient who had sought a long-distanc diagnosis from these "noted specialists" found that he ha been forwarded unasked a bottle of Dr. Turncock's Genuin Discovery, for which he was requested to remit $3.00. Thi he refused to do and his refusal brought from the compan one of those strictly private, personal and confidential, heart-to-heart circular letters which play so important a part in the quack's armamentarium. The "letter" was signed by Dr. T. Frank Lynott. As to the company's ability, reliability and responsibility, Dr. Lynott referred the victim to "the editor of any Chicago newspaper." Dr. Lynott pointed out, further, that the cost of the "whole treatment of medicine" was "simply the price of a single visit to any reputable physician" and that "I charge nothing extra for my professional services."

The argument, of course, is not a strong one, as the relation between "any *reputable* physician" and Dr. Turncock's Genuine Discovery as administered by Dr. Lynott is not clear. So, evidently, the patient thought, for he wrote to the editor of one of the Chicago newspapers. Unfortunately for the medical company, it was the *Chicago Tribune* that was consulted and this paper responded to the inquiry with a column writeup of the Turncock Medical Company. It showed that some other "references" given by the concern in its advertising matter were equally unauthorized. The names of an alderman, of the director of a conservatory of music, and of a druggist, all of Chicago, had also been included in the company's mythical list of "references." Each of these persons repudiated the use of his name in this connection and the opinions of the medical concern as expressed by the victims were the reverse of complimentary. Unfortunately for the individuals concerned, there seems to be no legal process which can be invoked against the company. In the future when Dr. Lynott gives Chicago newspapers as references, he would better add parenthetically—except the *Tribune*. And that will be about as complimentary a thing as any newspaper could wish!

HEALTH GRAINS

A Mixture of Sand, Syrup and Rock Candy as a Therapeutic Agent in Dyspepsia

One of the unique fakes examined in the Association laboratory is a conglomeration, sold under the name of "Health Grains," manufactured by "The Health Grains Co., Westchester, New York City."

The preparation is offered as "A remedy for Dyspepsia, Indigestion, Nervousness, etc." It is sold in round tin boxes, each wrapped in a circular bearing the name of the maker and the place of manufacture. It is guaranteed "that the contents of this package complies with the requirements of the Pure Food and Drugs Act." Inside the box is a small sheet of "directions" giving the following advice:

> "Do not chew or grind Health Grains between the teeth, but roll them around slowly until they have become saturated with saliva, then swallow them."
>
> "One scant teaspoonful constitutes a dose. Take one or two doses after a light meal, two or three after a heavy meal. Doses should be taken separately. If your stomach keeps you from sleeping, take from one to three doses.
>
> "Do not overeat. Avoid eating what you knows disagrees with you."

The grains have the appearance of coarse sand covered with a sticky substance. They are odorless and when first taken nto the mouth are sweet in taste. When ground between the eeth they exhibit unmistakable signs of hardness. Chemical analysis demonstrated that the nostrum contained 87.50 per cent. of coarse quartz sand and 12.50 per cent. of soluble mater. The soluble matter was found to be rock candy and syrup. The presence of heavy metals, iodids, bromids, alkaloids or acids ould not be demonstrated. Health Grains, therefore, appear o be nothing more than ordinary sand mixed with a little ock candy and syrup, showing an originality of composition, urpassed only by the credulity of the consumers of such a ostrum.

SOUR MILK THERAPY

The present interest in what may be called "sour milk herapy" in intestinal putrefaction makes the article by P. G. Heinemann in this issue a timely one. While much of the work done on the subject seems to show that lactic acid or actic ferments possess value in cases of intestinal putrefaction, the question has in no sense been settled. Still less has it been proved that the *Bacillus bulgaricus* as a lactic acid producing organism possesses the advantages in arresting putrefaction which Metchnikoff originally claimed for it. Because of the unpleasant taste produced by the *B. bulgaricus*, Metchnikoff has urged that the paralactic bacillus (*Streptococcus lacticus*) be used in combination with it. It is therefore, doubtful which of these two organisms is responsible for any resultant benefit.

UNJUSTIFIED CLAIMS

Heinemann's experiments show that the claims made for the various preparations on the market for the artificial souring of milk, are not justified in the light of our present knowledge on the subject. The question is not whether lactic acid, lactic acid bacteria, buttermilk or sour milk has any therapeutic value, but, admitting that it has, whether sour milk prepared with commercial cultures possesses any therapeutic advantages over milk naturally soured. The evidence at hand fails to give the artificially soured product any such pre-eminence.

LACTOBACILLINE

To consider the claims of manufacturers specifically: Lactobacilline made by the Lactobacilline Company is said to be prepared according to Metchnikoff's directions. While Metchnikoff states that yeasts should be absent, as their presence encourages pathogenic bacteria in the digestive tract, Lactobacilline contains a yeast: This, too, in spite of the statement of the manufacturers, "it contains no yeast germs," and is "pure and absolutely free from all microbes except the remedial lactobacillus isolated by Prof. Metchnikoff. . . ."

FERMENLACTYL

Fermenlactyl, which is put on the market by the Anglo-American Pharmacal Company, is very similar in every respect to Lactobacilline. It, too, contains, besides the Bulgarian bacillus, streptococci and yeasts. In the advertising matter microscopic plates are reproduced purporting to show only the "Bulgarian lactic acid bacilli from which Fermenlactyl is prepared." As a matter of fact, there are in addition to the *B. bulgaricus*, other bacilli, yeast cells and cocci. The claim of the manufacturers of both Lactobacilline and Fermenlactyl that the Bulgarian bacillus is the chief agent, is true only when conditions are such that the preparation of sour milk can take place at a temperature considerably higher than that of any ordinary room. This is a somewhat difficult matter when the beverage is prepared in a private house. When the milk stands at room temperature the common *Streptococcus lacticus* becomes the predominating organism. This would be no disadvantage if it had not been claimed that the chief virtue of milk soured by these preparations is the presence of the *B. bulgaricus*. This organism is said to lodge permanently in the digestive tract and to give rise to the formation of lactic acid *in statu nascendi* and thus inhibit the growth of putrefactive bacteria—a statement that lacks scientific proof.

KEFILAC

Kefilac, made by the Kefilac Company, is not a pure culture of lactic acid bacteria and the sour milk prepared with this ferment does not seem to differ materially from ordinary sour milk. Contrary to Metchnikoff's statement that the alcohol contained in the fermented milk of the Bulgarians is of no value, the Kefilac Company states that "through its large portion of water . . . through its carbon dioxid and through its small per cent. of alcohol, Kefilac greatly influences all the vital processes." Like the two preparations previously mentioned, it is a "remedy" for a long list of diseases including cancer of the stomach, rheumatism, etc.

YOGURT

Yogurt is another preparation of this class made by the Good Health Company, of Battle Creek, Mich. It contains a variety of bacteria and at least one species of yeast so that the composition of the fermented product is very similar to that of the others. The term "meat bacteria" is used in the advertising pamphlet, though what is meant is not altogether clear, since non-sporing bacteria are killed if meat is thoroughly cooked. The Yogurt tablets are called an "antitoxic ferment"—whatever that may be. The bowels must be kept active, otherwise "Colax"—a "patent medicine" put out by these people—must be used. The number of diseases cured by milk prepared with the Yogurt tablets is enormous. An elaborate list of symptoms is given, some of which may easily be imagined by the anxious layman. In fact, the descriptive matter regarding Yogurt reads very much like a Lydia Pinkham advertisement.

LACTONE

It is claimed for Lactone tablets by their makers, Parke, Davis & Company, that the soured milk made with them possesses certain advantages over ordinary buttermilk. The statement: "The cream is left in the milk, rendering it of far greater nutritive value" is only partly true. If directions are followed, the milk is diluted with one-third of its volume of water before inoculation and the fat, therefore, is naturally reduced to 75 per cent. of the original value in the milk. The fact, too, that the casein, milk sugar and salts of the milk are also reduced to 75 per cent. of the original amount is not stated by the manufacturers. The casein is certainly the most valuable part of the milk and while in ordinary buttermilk only the fat-content is reduced, the other constituents being in nearly the normal proportion, yet in Lactone buttermilk there is more fat but less casein. This is of significance since it is now fairly well established that when cow's milk is used the fat is the cause of infantile digestive troubles rather than the casein.

The advertising matter goes on to state:

"In the ordinary method of making butter the milk is allowed to sour from what accidental bacteria may get into it. Usually the lactic acid germs predominate, but along with these there is always a greater or less number of putrefactive bacteria so that the resulting buttermilk is a mixture of true lactic acid, milk, and putrefactive products." It is difficult to understand why putrefactive bacteria should not be present in the milk when Lactone tablets are used but should be present in the same milk when the tablets are not used. If the purest milk obtainable is used, the putrefactive bacteria which are always present in the milk—even of the best grade—will not develop because the normal lactic acid bacteria antagonize them. It is clear that the same dairyman who, by observing cleanliness in his establishment, furnishes a good quality of sweet milk, will observe the same care in handling cream for making butter, and his buttermilk also will be wholesome and clean.

USE OF COMMERCIAL "STARTERS"

More criticism of a similar nature could be made in regard to the use of commercial preparations for fermenting milk. Where clean—certified—milk can be obtained the use of these various preparations seems unnecessary. Inasmuch as it is not always feasible to obtain certified raw milk, however, boiled or pasteurized milk is to be preferred. It is here that the artificial "starter" is of value. After the first inoculation, the same product can be obtained by inoculating pasteurized or boiled milk with a small amount of the first lot inoculated, with proper precautions of cleanliness. Once started, this process may be continued for a long time without having to renew the "starter." Those who have confidence in the merits of the Bulgarian bacillus of Metchnikoff can procure one of the preparations containing this bacillus and then proceed in the same manner as with the butter starter. It is entirely unnecessary, if not misleading, to use fancy names, as fermenlactyl, lactobacilline, kefilac, lactone or yogurt, this last name suggesting the original Bulgarian fermented milk, containing lactic acid, alcohol, decomposition products of butterfat and of casein, besides a number of micro-organisms. A simple name, applicable to all such preparations alike, as for instance, "buttermilk tablets" or "sour milk tablets," seems more rational.

The scope of Heinemann's paper and the thoroughness with which he treats the subject make his article an important addition to the literature of lactic acid therapy. The medical profession—and the public—is under great obligations to him for his willingness to undertake and carry out these important investigations.

Correspondence

Food Adulterations

To the Editor:—I heartily agree with all that Dr. S. Solis Cohen says in his communication to The Journal, January 9, about food adulterations and rejoice on account of your strong endorsement. Dr. Cohen says:

"I have not the slightest doubt that sodium benzoate (and especially the commercial article of synthetic sodium benzoate) taken in foods more or less continuously, will derange digestion and set up irritation and degenerative changes in the gastroenteric mucosa. Similarly, I have no doubt that copper salts will cause chronic nephritis and it is possible that pathologic changes in the blood and in the nerves may also be originated in this manner."

This is certainly also true of the preservatives which are permitted by the Department of Agriculture and which have long been in use. These are: Salt, vinegar, saltpeter, spices and smoke. The saltpeter is especially harmful, and as for vinegar and spices, they do not belong in a rational dietary. Salt, as we commonly use it, both as a preservative and on our food generally, is, without doubt, harmful. The creasote and the other empyreumatic products of smoke are not wholesome.

Of course, it would be impossible, being so far ahead of popular knowledge, for the authorities to put their taboo on salt, vinegar, spices and smoke; but they should immediately declare against saltpeter. It is far more injurious than sodium benzoate, which may be taken for a considerable period, say twenty days, in 10-grain doses, three times a day, without perceptible ill effects. But take saltpeter in this way and the result will be violent burning pains, vomiting, purging and other evidences of gastroenteritis, which may end in collapse and death. I believe also that spices are even more injurious than is sodium benzoate. They are irritants, they are constipating and, by stimulating the appetite, they cause over-eating.

For these reasons, catsup, Worcestershire sauce, and all like sauces should not be used in our dietary, and it would be consistent with scientific knowledge for the pure food and health authorities to forbid their use. Now that sodium benzoate is forbidden in catsup, this article is preserved by an acetic acid extract of spices. Strong vinegar is percolated over a mixture of cloves, pepper, cinnamon, allspice, etc., and there results a strong antiseptic which is not less injurious, and probably more injurious to health than sodium salicylate or sodium benzoate.

Formerly, in making catsup, the preserved spices were added direct to the tomato pulp, but in this way they do not exert the same preservative effect as in acetic extract. Cloves, too, contain benzoic acid and it must play a part in the preservation of foods treated with acetic extract of cloves. We all know that people ingest too much proteid, and shorten their lives by so doing. The use of spiced catsup, vinegar and meat sauces, have much to do with causing this over-eating of proteid. The objection is in addition to their irritating and constipating effects.

As for pickles and salads, and mustard and vinegar dressing, they are abominations. They are uttterly useless, deleterious and unnecessary. They, too, shorten the duration of life and induce gastric disorders. The facts are, persons who can not eat bland, plain foods with gusto, are abnormal. If catsup, with its acetic acid extract of spices, if Worcestershire sauce and all other like sauces, if pickles and salads and all other gastric stimulants and irritants were left out of our dietary we would be stronger, healthier and happier.

J. N. Hurty, Indianapolis.

Radical Treatment of Hemorrhoids by Excision

To the Editor:—In The Journal, Dec 12, 1908 (li, 2058) appears an article by Dr. John A Hawkins, under the titl given above. This method was described in the first edition o my book, which was published June 1, 1901. I also describe another method, by which the ligatures, instead of encircling the jaws of the clamp, were put through notches and each tied as an interrupted suture before the clamp was removed. This is nearly the same as the second operation described by Dr. Hawkins.

This continuous-suture method was not entirely original with me, as Dr. Earle of Baltimore described nearly the same operation in *Matthews' Medical Quarterly*, in 1896. Dr. Robert Jones of Liverpool used nearly the same method long before Dr. Earle's paper was written, the only difference being that Jones left, above the clamp, an eighth of an inch of the hemorrhoid, through which he placed the continuous suture, instead of putting it around the jaws of the clamp. Many others had done somewhat similar operations, some simply excising the tumor, sewing the parts together, and including the bleeding vessels in the grasp of the ligature; others ligated the stump and sewed the mucous membrane over it. All these procedures led along the same line, and therefore it did not seem best to me to credit any one of them to one person.

R. D. Mason, M.D., Omaha.

The Evil of Prescribing a Larger Quantity of Medicine Than Is Necessary

To the Editor:—E. M., a woman aged 26, was seized with an attack of diarrhea, for the alleviation of which she took medicine that had been prescribed for a similar contingency two years previously. The diarrhea continuing, she took on December 26 two teaspoonfuls of the medicine, of which there was a small quantity remaining, and two more teaspoonfuls December 27. During the afternoon of December 27 her vision began to be blurred, she grew nervous, her mouth became dry and her heart action rapid. Soon after, her hands and feet grew chilly and numb. By this time she was alarmed and summoned medical aid. I found her pacing the floor and nervously loquacious. The dryness of her mouth and the history, together with the dilated pupils and the uncontrolled heart action, confirmed the diagnosis of atropin poisoning. Treatment along accepted lines was satisfactory in its result.

Often we prescribe medicine in quantities that far exceed the duration of the illness, and, consequently, the patient, loth to throw away good medicine, places that which remains aside for future use. A similar occasion for the use of this medicine arising in the family, the old bottle is uncorked and its contents administered. To all purposes this medicine then becomes a self-prescribed proprietary mixture, purchased, however, with the sanction of the doctor, rather than on the recommendation of the druggist. The harm that might result from such self-drugging with these left-over drugs is worthy of our attention.

Clarence D. Selby, M.D., Toledo, Ohio.

Cannabin Tannate

To the Editor:—We desire to submit our comments on the article on cannabin tannate, which appeared in the columns of The Journal, Nov. 21, 1908.

Cannabin tannate was first manufactured by E. Merck almost thirty years ago at the request of university professors. It is mentioned in the *Ergänzungsbuch zum Arzneibuch des deutschen Reichs* (1906) and the British Pharmaceutical Codex (1907). There is, therefore, a demand for it, which it is our business to satisfy. Whence such demand emanates, whether from scientific investigators or from practicing physicians, we have no means of ascertaining. Both classes look o us to supply their needs through regular trade channels.

Merck & Co., New York.

Harm from Substitution of Silver Nucleinate for Argyrol in Gonorrhea

To the Editor:—The Journal, Dec. 12, 1908, p. 2081, published an abstract of a paper I read before the Southern Medical Association, in which I recommended that argyrol be retained in the urethra by adhesive plaster, to cure quickly cases of beginning gonorrhea. Since writing this paper this plan of treatment was given to a patient in whom so much urethral irritation was produced that the treatment had to be discontinued. Investigation as to the cause of this irritation disclosed the fact that the druggist had substituted silver nucleinate for argyrol, in my prescription; it was found, furthermore, that many druggists had been making this or similar substitutions for some time.

The prolonged action of medication sealed in the urethral canal as I have suggested makes it absolutely necessary that the medicine be non-irritating. The success of this plan of treatment being dependent on this fact leads me to call attention to the harm that may result from this substitution.

E. G. Ballenger, M.D., Atlanta, Ga.

"The Climatic Fallacy" in the Treatment of Tuberculosis

To the Editor:—A curious error appears in your Current Medical Literature columns January 9, page 167. The note on my article in the *Illinois Medical Journal* of November on the "Climatic Fallacy" refers to an abstract in a preceding issue of The Journal. On turning to that issue, I find that the abstract there given is not that of my article, but of Dr. Pettit's paper, to which mine was a reply, as I hold views entirely different from those of Dr. Pettit. In that article, I have endeavored to show that Dr. Pettit is not justified in stigmatizing as a "fallacy" the assertion of the value of climate in tuberculosis. Permit me to quote the following words from my article:

"I am a firm believer in climate. Coming west in a far advanced stage of the disease, and with a laryngeal complication which cost me my voice for eight months, and in two years' time making an apparent cure, I feel that I am justified in my climatic faith."

I then proceed to controvert seriatim those statements of Dr. Pettit to which I find it impossible to assent.

L. S. Peters, Silver City, N. M.

Esperanto as an International Language: A Correction

To the Editor:—In my letter in The Journal, January 16, I find I was in error in stating that Professor Jespersen had retired from the Committee of the Delegation. May I take this opportunity of asking the avalanche of correspondents who have written to me, asking how best to commence the study of the language, to give me a little time in which to reply to their letters. Also I should be glad if any future correspondents would kindly enclose a stamped directed envelope, as the tax of postage is already considerable.

Kenneth W. Millican.

1143 Sheridan Road, Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LEYDEN'S DISEASE—PERIODICAL VOMITING

To the Editor:—Please give diagnosis, prognosis and treatment of Leyden's disease (periodical vomiting).

A. S. Hawkins, M.D., Monett, Mo.

Answer.—The form of periodical vomiting described by von Leyden is characterized by sudden attacks of nausea, gastric pain and excessive vomiting first of food, and later of mucus and bile, coming on at regular intervals of weeks or months, and persisting for from a few hours to several days. Associated with the vomiting, there are frequently pains in the extremities, headache and, if the attacks are frequent or prolonged, there may be extreme prostration and emaciation. In the intervals between attacks, the subjects of this condition complain of no symptoms referable to the stomach or associated organs, and present no signs of lesion of the central nervous system. Examination of the gastric contents during and in the intervals between the attacks usually shows no characteristic abnormality.

In the diagnosis of this disease, lesions of the central nervous system such as encephalitis, meningitis, brain tumor, the intoxications resulting from opium, tobacco, etc., and the many causes of reflex vomiting such as inflammations of the abdominal viscera, the kidney, eye and ear of course must be first excluded. The attacks show a remarkable similarity to the gastric crises of tabes in which gastric disturbances may antedate by months or even years any other symptom. The regularity both of the intervals between the attacks and of their duration is said to distinguish von Leyden's disease from gastric crises, but in some cases at least it would appear that the possibility of tabes can not be thus excluded.

Migraine also presents certain features, *e.g.*, periodicity, headache, vomiting and sometimes gastralgia, which resemble periodical vomiting, and it may well be that some of the cases regarded as von Leyden's disease are really forms of sick headache. The vomiting seen in hysterical individuals must also be considered, but here other hysterical stigmata will usually assist in the diagnosis. The periodical or cyclical vomiting of children is apparently a condition distinct from that under consideration, dependent in most cases on an autointoxication with perhaps fever and signs of acidosis.

The treatment of the condition is largely symptomatic. The mode of life of the patient should be regulated, so as to remove causes of nervous disturbance. The diet should be simple, nutritious and non-irritating. Any apparent predisposing factors, if present, should be removed. Sedatives, such as the bromids, may be of value. During the attacks, iced drinks—albumin water, champagne, etc.—may be given in small amounts. If the vomiting is persistent it may be well to abstain from all alimentation by mouth, and to maintain the fluids of the body by saline enemata. Nutritive enemata may also be given. Gastric lavage will be found of great value. Sinapisms applied to the epigastrium sometimes help to allay the vomiting. In severe cases it may be found necessary to give morphin hypodermically, though this drug should be used only as a last resort, particularly in neurotic individuals.

THE SPECIALIST AND EMERGENCY CALLS

To the Editor:—Is a physician doing special work morally obligated to answer an emergency call? A. S.

Answer.—This depends on the nature of the case and the immediate proximity of other available physicians. In one's own specialty one is no less morally bound than a general practitioner to respond to an emergency call. The greater the power to render skilled first aid in emergency to the victims of disaster, the greater the moral obligation to do so. Outside of one's own specialty, however, the moral obligation would seem to decrease in direct proportion to the accessibility of other physicians, practicing either in the specialty involved in the case, or in unrestricted practice. In the absence, however, of any other accessible practitioner—as, for instance, in very isolated places—a gynecologist might properly be called on to do his best to save an injured eye, or an ophthalmic surgeon to lend his aid in a complicated labor case. A physician should ever remember that he is a physician first and essentially, a specialist only secondarily.

KOENIG'S NERVE TONIC

To the Editor:—Can you give me any information regarding the composition of "Koenig's Nerve Tonic," a widely advertised "patent medicine?" H. F. C., Baltimore.

Answer.—This nostrum, which is recommended for hysteria, chorea, epilepsy, hypochondria, alcoholism, drug habits, etc., is put on the market by the Koenig Medicine Company, a "patent-medicine" concern of Chicago. It is advertised in the method common to such nostrums and the claims made are characteristically exaggerated. According to one analysis Koenig's Nerve Tonic contains 15 per cent. potassium bromid and a small amount of the bromids of sodium and ammonium, together with a little valerian. The danger of indiscriminate dosing with bromids is well known, but unfortunately the Food and Drugs Act does not require that preparations containing these drugs shall have the contents stated on the label.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 23, 1909:

Webber, H. A., major, ordered to Hot Springs, Ark., for observation and treatment.

Hopwood, L. L., and McIntyre, H. B., 1st lieuts., arrived at San Francisco, from Philippine service, and ordered to duty at the General Hospital, San Francisco.

Freeman, C. E., 1st lieut., arrived at San Francisco, from Philippine service, and ordered to duty at Fort Miley, Cal.

Davis, W. B., lieut.-col., ordered to duty in the Philippine Division, sailing from San Francisco, Cal., Feb. 5.

Gibner, H. C., capt., granted leave of absence for 10 days.

Ewing, C. B., major, granted leave of absence for one month.

Bratton, T. S., major, and Morse, A. W., and Craig, C. F., capts., detailed on general court martial to meet at Fort Robinson, Neb., Jan. 15.

Rich, E. W., capt., granted leave of absence for four months, with permission to visit the United States.

Persons, E. E., capt., ordered to report for examination for promotion at San Francisco, Cal., and on completion, to proceed to Fort Jay, N. Y., for duty.

Manly, C. J., major, ordered to Fort Bliss, Texas, for duty, on return from Cuba.

Brooks, W. H., capt., ordered to Fort Mackenzie, Wyo., for duty, on return from Cuba.

Whitcomb, C. C., capt., ordered to Fort Wingate, N. M., for duty, on return from Cuba.

Baker, David, major, ordered to report for duty at Fort McPherson, Ga.

Van Dusen, J. W., capt., designated as acting chief surgeon, Department of the Missouri, in addition to present duty at Fort Crook, Neb.

Casaday, G. H., dent.-surg., relieved from duty at the Army General Hospital, San Francisco, Cal., and ordered to Fort Shafter, Hawaii Territory, for duty.

Ryan, E. P. R., dent.-surgeon, ordered from Muskogee, Okla., to Fort Leavenworth, Kans., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 23, 1909:

Murphy, J. A., surgeon, ordered to duty at the Naval Hospital, Annapolis, Md.

Snyder, J. J., surgeon, detached from the Marine Recruiting Station, Philadelphia, and ordered to the Naval Station, Port Royal, S. C.

Fauntleroy, A. M., P. A. surgeon, detached from the Naval Academy and ordered to the Marine Recruiting Station, Philadelphia, and to additional duty in attendance on officers not otherwise provided with medical aid.

Mayers, G. M., P. A. surgeon, transferred to the retired list, from Jan. 16, 1909, in accordance with the provisions of section 1453, Revised Statutes.

Campbell, R. A., acting asst.-surgeon, appointment as acting assistant-surgeon, dated Jan. 9, 1909, revoked.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 20, 1909:

Banks, Charles E., surgeon, directed to proceed to St. Johns River Quarantine Station for special temporary duty.

Brooks, S. D., surgeon, granted 22 days' leave of absence from Jan. 10, 1909, on account of sickness.

Wertenbaker, C. P., surgeon, directed to proceed to Savannah and South Atlantic Quarantine Stations, Ga., on special temporary duty.

Anderson, John F., P. A. surgeon, detailed to represent the service at the annual meeting of the Legislative Council of the American Medical Association to be held at Washington, D. C., Jan. 18, 1909.

Anderson, John F., P. A. surgeon, granted 2 days' leave of absence from Jan. 14, 1909, on account of sickness.

Fricks, L. D., P. A. surgeon, granted 7 days' leave of absence from Jan. 9, 1909, under paragraph 210, Service Regulations.

Amesse, J. W., P. A. surgeon, directed to proceed to Nuevitas, Cuba, on special temporary duty, Jan. 13, 1909.

Hurley, J. R., asst.-surgeon, relieved from duty on Revenue Cutter *Bear* and directed to report to the medical officer in command San Franciso Quarantine, Angel Island, Cal., for duty and assignment to quarters.

Hurley, J. R., asst.-surgeon, granted 2 days' leave of absence, Dec. 25, 1908, and Jan. 1, 1909.

BOARD CONVENED

Board of medical officers convened to meet at the office of the Marine-Hospital in Norfolk, Va., Jan. 18, 1909, for the purpose of conducting a physical examination of an officer of the U. S. Revenue Cutter Service. Detail for the board: Surgeon C. P. Wertenbaker, chairman; Acting Assistant Surgeon R. W. Browne, recorder; Jan. 15, 1909.

CASUALTY

Smith, Alexander C., surgeon, died in Pittsburg, Pa., Jan. 15, 1909.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 22, 1909:

SMALLPOX—UNITED STATES

California: Los Angeles, Dec. 26-Jan. 2, 2 cases; San Francisco, 3 cases.
Illinois: Lafayette, Jan. 4-11, 7 cases.
Kansas: Topeka, Dec. 26-Jan. 2, 5 cases.
Kentucky: Covington, Jan. 2-9, 1 case.
Maine: Van Buren, Jan. 2-9, 4 cases.
Massachusetts: Taunton, Jan. 2-9. 1 case.
Minnesota: St. Paul, Nov. 1-30, 38 cases.
Missouri: St. Joseph, Dec. 12-19, 1 case; St. Louis, Jan. 2-9. 1 case; Springfield, Dec. 1-31, 1 case.
North Carolina: In five counties, Nov. 1-30, 23 cases.
Ohio: Cincinnati, Jan. 1-8, 13 cases; Tiffin, Jan. 2-9, 1 case.
Tennessee: Knoxville, Jan. 2-9, 2 cases.
Texas: San Augustine County, Jan. 9, present.
Washington: Spokane, Dec. 26-Jan. 2, 1 case, 1 death.
Wisconsin: LaCrosse, Jan. 2-9, 6 cases; Milwaukee, Dec. 26-Jan. 9, 15 cases.

SMALLPOX—FOREIGN

Arabia: Aden, Dec. 7-21, 17 deaths.
Brazil: Rio de Janeiro, Nov. 28-Dec. 13, 298 cases, 169 deaths; Santos, Nov. 22-Dec. 6, 4 deaths.

Canada: Halifax, Dec. 26-Jan. 2, 3 cases; Montreal, 1 case; Winnipeg, 2 cases.
Chile: Talcahuano, vicinity of, Nov. 20, present.
China: Shanghai, Nov. 21-28, present.
Ceylon: Colombo, Nov. 7-22, 37 cases, 9 deaths.
Egypt: Alexandria, Nov. 27-Dec. 2, 1 death; Cairo, Dec. 9-16, 9 cases, 6 deaths.
Great Britain: Bristol, Dec. 12-19, 1 case.
Guatemala: Guatemala City, to Dec. 21, 600 cases, 200 deaths.
India: Bombay, Dec. 8-15, 5 deaths; Calcutta, Nov. 25-Dec. 5, 14 deaths; Rangoon, Nov. 28-Dec. 5, 1 death.
Indo China: Saigon, Nov. 21-28, 1 case.
Italy: General, Dec. 20-27, 38 cases, 10 deaths; Genoa, Dec. 8-15, 1 case; Naples, Dec. 20-27, 24 cases, 10 deaths.
Java: Batavia, Nov. 1-Dec. 5, 7 cases, 1 death.
Mexico: Mexico City, Nov. 7-Dec. 5, 22 deaths.
Persia: Tabriz, Oct. 9-Dec. 9, present.
Peru: Lima, Dec. 10, 4 cases.
Porto Rico: Mayaguez, Dec. 19-26, 1 case.
Portugal: Lisbon, Dec. 12-Jan. 2, 7 cases.
Russia: Moscow, Dec. 5-19, 38 cases, 16 deaths; Riga, Dec. 12-19, 1 case; St. Petersburg, Dec. 5-12, 7 cases, 2 deaths.
Servia: Belgrade, Dec. 5-12, 2 deaths.
Turkey: Constantinople, Dec. 13-20, 6 deaths.

YELLOW FEVER

Brazil: Para, Dec. 12-26, 5 cases, 5 deaths.
Dutch Guiana: Paramaribo, Dec. 1-31, 18 cases, 4 deaths.
Ecuador: Guayaquil, Nov. 28-Dec. 12, 4 deaths.
Mexico: Mexcanu, vicinity of, Dec. 26-Jan. 2, 1 case, 1 death; Merida, 2 cases; Sodzil, plantation, 1 case; Vera Cruz, 2 cases, 1 death.

CHOLERA—INSULAR

Philippine Islands: Manila, Nov. 28-Dec. 5, 7 cases, 5 deaths; Provinces, 360 cases, 227 deaths.

CHOLERA—FOREIGN

India: Bombay, Dec. 8-15, 16 deaths; Calcutta, Nov. 28-Dec. 5, 9 deaths; Madras, Dec. 5-11, 5 deaths; Rangoon, March 28-Dec. 5, 1 case.
Persia: Tabriz, Dec. 9, present.
Russia; General, Nov. 28-Dec. 19, 778 cases, 352 deaths.
Siam: Bangkok, Nov. 1-30, present.

PLAGUE

Brazil: Rio de Janeiro, Nov. 28-Dec. 13, 13 cases, 6 deaths.
Ecuador: Guayaquil, Nov. 28-Dec. 12, 3 deaths; Mialgro, Dec. 16-20, 6 cases, 2 deaths.
Egypt: General, Dec. 18-30, 31 cases, 4 deaths.
India: General, Nov. 28-Dec. 5, 2,196 cases, 1,626 deaths; Bombay, Dec. 8-15, 8 deaths; Calcutta, Nov. 28-Dec. 5, 6 deaths; Rangoon, Nov. 28-Dec. 5, 3 deaths.
Indo-China: Saigon, Nov. 21-28, 1 case, 1 death.
Peru: General, Nov. 20-Dec. 3, 55 cases, 25 deaths; Lima, 7 cases.
Turkey: Bagdad, Nov. 28-Dec. 12, 6 cases, 1 death.
Siam: Bangkok, Nov. 1-30, present.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

MEDICAL LAWS IN STATE LEGISLATURES

The legislatures in most states meet biennially, the najority during the first week in January of the odd year. egislatures are now in session in the following states: rizona, Arkansas, California, Colorado, Illinois, Indiana, ansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, ontana, Nebraska, New Hampshire, New Mexico, New York, evada, North Carolina, North Dakota, Ohio, Oklahoma, regon, Pennsylvania, South Carolina, South Dakota, Tenessee, Texas, Utah, Vermont, Washington, West Virginia, isconsin and Wyoming. In addition, the Florida legislature ill meet in April and the Georgia legislature in June. In any of these states, the increasing interest in public health nd its protection and regulation by the state is marked; in me states the members of the legislature are showing more terest than in any previous year. We hope to keep our aders informed regarding bills introduced in the various ate legislatures on matters affecting public health. Some f the more important bills will be abstracted. So far, the llowing measures have been reported to us:

INDIANA

Three bills of interest to the medical profession have been troduced. (1) A bill for the prevention of the pollution streams; (2) a bill providing for the sanitary features school houses hereafter built in Indiana as well as for medal inspection of schools; (3) a housing bill. These bills ve been carefully prepared in the light of experience gained by the state board of health for a number of years past and have been cordially received by the legislature.

KANSAS

House Bill 1 is a vital statistics bill introduced by Mr. Allen of Wyandotte County. Another bill which will be introduced shortly provides for the appropriation of $10.000 for the use of the state board of health in inaugurating a campaign throughout the state against tuberculosis, the essential feature of which will be the assemblage of an exhibit under the care and direction of a competent lecturer. These two bills are in the interest of the public health.

SOUTH DAKOTA

House Bill 2 is an act to prevent the manufacture and sale of adulterated or misbranded drugs. The U. S. Pharmacopeia and National Formulary are recognized as standards both as to nomenclature, strength, quality and purity, with the provision that a "plain statement on the package of the standard of strength," etc., will exempt the manufacturer from complying with the Pharmacopeia or National Formulary. The state board of pharmacy is authorized to enforce the act. The rules and regulations contained in the national Food and Drugs Act are to be applied so far as possible.

House Bill 12 creates a state hospital and farm for inebriates to which persons addicted to the use of alcoholic liquors, morphin, cocain or other narcotic drugs can be committed either on their own application or on that of their friends. Furnishing any person so committed with any narcotics or intoxicating liquors is made a felony. The regulation and management of the hospital is put in the hands of the state board of charities and correction.

House bill 36 is also a bill for the regulation of drugs which differs from House Bill 2 in the following particulars: The definition of adulteration in House Bill 2 includes any deviation from the standard of the U. S. Pharmacopeia or National Formulary, and also specifies that a preparation is adulterated if it falls below the professed standard or quality under which it is sold. House Bill 36 makes no mention of any standard but defines adulteration as consisting of, (1) the addition of any substance which will reduce, lower or injuriously affect the quality, strength or purity of the preparation; (2) if the strength, quality or purity of the preparation fall below the professed standard under which it is sold; (3) if the contents of the package should be removed in whole or in part and other substances placed inside of the package; (4) if the preparation be an imitation of or is offered for sale under the name of another article. The provisions regarding misbranding are more explicit in House Bill 36 than in House Bill 2. The principal difference, however, is that House Bill 2 places enforcement in the hands of the state board of pharmacy, while House Bill 36 places it in the hands of the dairy and food commissioners. House Bill 36 also creates a referee board consisting of the president of the state board of health, the president of the state board of pharmacy and the state chemist.

House Bill 74 is similar to House Bill 12, providing for the examination of persons addicted to the excessive use of liquors, morphin, cocain and other drugs. House Bill 116 establishes a sanitarium for tuberculosis at Custer, S. D., and places the management in the hands of the state board of charities.

TEXAS

No copies of bills from Texas have been received, but a newspaper clipping states that a bill establishing a state board of health and one establishing a tuberculosis sanitarium will be introduced. The state board of health bill is a combination of the bill drawn by the state health department and that drawn by the State Medical Association of Texas, and provides for seven members of the state board of health with the state health officer as the executive officer of the board. The bill for a tuberculosis sanitarium calls for an appropriation of $150.000 or more for the establishment of a tuberculosis sanitarium in southwest Texas, the institution to be under state control.

Vermont Adopts an Optometry Law

The Vermont legislature has passed an optometry bill, which we regret to say, has been signed by the governor, and has become a law, as we announced editorially in THE JOURNAL, January 23, page 303.

In Section 1 optometry is defined as "the employment of any means, other than the use of drugs, for the treatment of the powers of vision and the adaptation of lenses for the aid thereof." A state board of examiners is established of three persons engaged exclusively in the practice of optometry, who have been residents of the state and actively engaged in the practice of optometry for at least five years. The usual provisions for the organization and perpetuation of the board follow. Persons desiring to practice "optometry" must be over 21 years of age, with a preliminary education equivalent to at least two years in a high school and must be graduates of a "recognized standard school of optometry maintaining a two years' course of study of at least six months of each year." Persons who have been continuously engaged in the practice of optometry for more than two years prior to the passage of the act are exempt from examination. Duly licensed physicians are exempt, also persons who "neither practice nor profess to practice optometry, but who sell spectacles, eye glasses or lenses on prescriptions from physicians or registered optometrists or as merchandise from permanently located places of business."

Vermont is the eleventh state to adopt a law recognizing and licensing "optometry." The law, as indicated above, attempts to distinguish between "optometrists" and those who simply sell spectacles, eyeglasses or lenses. The law also specifically distinguishes between physicians and optometrists. As the definition of optometry given in the first section includes the treatment of the powers of vision and the adaptation of lenses for the aid thereof, it would be difficult to see how any limitation could be put on the work of the optometrist, as he has authority to measure the power of vision in any case, whether the cause of the limitation of the powers of vision be an ordinary, normal presbyopia, a glaucoma or an atrophy of the optic nerve. He is also authorized to use any means whatever except drugs. The question whether a cataract operation, for instance, followed by the use of glasses, would not be authorized by this law, is one which the courts will have to determine. In a word, there has been established in Vermont, as in some other states, a distinct class, midway between the spectacle fitter and the legally qualified physician, which is now authorized by the state to treat practically all diseases of the eye so long as its members do not use drugs. They are required to have a preliminary education equivalent to two years of high school work and to be graduates of a recognized standard school of optometry maintaining a two year course of six months each, while the legally qualified physician, who may limit his practice to diseases of the eye, is required to pass an examination which requires a four year course of eight months each. In other words, the law just adopted admits optometrists to the same privileges as legally qualified physicians who are oculists, yet only requires of them one-half of the qualifications exacted of physicians. It would be most interesting to secure a decision from the supreme court of the state as to whether such a law is not class legislation and therefore unconstitutional.

Dr. McCormack in Minnesota

Dr. J. N. McCormack devoted the second week in January to filling appointments in Minnesota, speaking in St. Paul Tuesday evening under the auspices of the St. Paul Institute of Arts and Sciences, and on Wednesday and Thursday evenings in Minneapolis, the Wednesday evening address being for the public and the one Thursday evening for physicians. On Friday, January 15, he attended the Southwestern Minnesota Medical Society at Pipestone, in connection with which Dr. McCormack spoke in the afternoon to the members of the society and in the evening addressed a public audience at the City Hall. In addition, Dr. McCormack addressed the Minnesota State legislature on the subject of sanitary legislation and the conservation of the public health.

Reports from members of the local profession are unanimous in stating that his visit has been productive of great good to the people of the state. Dr. H. M. Bracken, executive officer of the State Board of Health, writes: "His visit will be a great help both in dealing with civic matters and with legislative problems. As to public health work, Dr. McCormack's visit has been of great assistance. I only wish he might have been in the state in the early fall when we could have secured more attention from the present legislators."

Dr. F. F. Wesbrook of Minneapolis, writes: "We have most thoroughly enjoyed Dr. McCormack's visit and our only regret was that he could not stay longer."

Dr. Arthur Sweeney says: "It was a great pleasure to have Dr. McCormack with us and he has produced an immense amount of benefit. The Ramsey County Medical Society gave him a warm welcome and he stimulated it to a new sense of its responsibilities. His public meeting was a splendid affair, the hall being packed to the doors and not a soul left until he had said his last word. I have heard many comments of the most favorable nature from those who heard him. His greatest work was done in the legislature. He talked to the senate and the house, the governor being present, for over an hour. The array of practical medical statistics he gave them was most conclusive, and they are prepared to go the limit on milk inspection, school inspection, and the regulation of quackery. I am more encouraged now than ever before over the prospects in our state, and I believe that for years to come we will reap the benefit of Dr. McCormack's visit. He is a true missionary, and is doing, in my opinion, the most valuable work that is being done by the Association. I write this from the fulness of my realization of our needs."

Germania Life Insurance Company Restores Five Dollar Rate

The Germania Life Insurance Company of New York has issued a circular to its examiners announcing that on and after Jan. 1, 1909, the company will pay five dollars for each complete examination and report, with two dollars additional for a microscopic examination of the urine.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Sixth Month—Fourth Weekly Meeting

Surgery of the Intestines (Continued)

RUPTURE OF THE INTESTINES

Location and character of lesion. Difficulty in diagnosis. Necessity for early operation. Operation in rupture of small intestine, of colon.

EMBOLISM AND THROMBOSIS OF MESENTERIC VESSELS

Pathology of embolism, of thrombosis. Symptoms and diagnosis. Indications for operative treatment. Technic.

APPENDICITIS

CLASSIFICATION.—A. Non-suppurative Appendicitis: 1. Endo-appendicitis (catarrhal). 2. Interstitial appendicitis, (a) hyperplastic, (b) obliterative. B. Suppurative Appendicitis: 1, Intratubular; 2, intramural; 3, peri-appendicular. C. Perforative Appendicitis. D. Gangrenous Appendicitis.

DIAGNOSIS AND INDICATIONS for operation in each type.

CONTRAINDICATIONS to operation.

INTERVAL OPERATION.—Position of appendix. Incision, McBurney, Harrington, Battle, Kammerer. Search for appendix Treatment of stump of appendix.

ABSCESS IN DISEASE OF APPENDIX.—Influence of position of appendix on site of abscess. Incision, search for appendix drainage.

GUNSHOT WOUNDS OF INTESTINES

Patho'ogy and complications. Diagnosis. Indications and contraindications to operative treatment. Technic; intestinal suture, enterectomy, drainage.

Monthly Meeting

Preparation of the Patient for an Abdominal Operation.
Diagnosis and Treatment of Acute Intestinal Obstruction.
Details of the Operative Treatment of Gunshot Wounds of the Stomach and Intestines.

Marriages

Herbert L. Thompson, M.D., to Miss Nymah McLenehan of Chicago, January 20.

Louis L. Hirsch, M.D., Providence, R. I., to Miss Esther Harris of Chicago, January 19.

Abner E. Gore, M.D., Marshall, Mo., to Miss Adele Fleming of Columbia, Mo., December 30.

E. Lee Gowdy, M.D., Campbellsville, Ky., to Miss Flora Finucan of Lebanon, Ky., January 12.

Guy Johnson, M.D., Traverse City, Mich., to Miss Madge Lesure of Menominee, Wis., recently.

Albert Charles Purcell, M.D., Streator, Ill., to Miss Mayme Wolfe of Eagle, Ill., January 5.

Benjamin C. Shuler, M.D., Shenandoah, Va., to Miss Frances Gore, at Stanley, Va., January 12.

Charles Samuel Bryan, M.D., to Miss Helen Marie Fenrich, both of Vincennes, Ind., January 14.

Harrie Sanborn Garland, M.D., Sapulpa, Okla. to Miss Rose Edith Kinsman of Kansas City, January 14.

Deaths

Henry Reed Stiles, M.D. New York University, New York ity, 1855; one of the founders of the Long Island Hisical Society; a health inspector of New York City for ree years; later medical superintendent of the State Homeoathic Hospital for the Insane, Middletown; professor of ervous and mental diseases in the New York Woman's Medal College from 1882 to 1885; for a time editor of the *oledo Blade;* a historian and genealogist; died at his home Hillview, N. Y., January 8, from cerebral hemorrhage, ged 76.

James Fenton Bryant, M.D. New York University, New ork City, 1867; a member of the Medical Society of Virnia, Seaboard and Southside Virginia medical societies, and sociations of surgeons of the Southern Railway and Seaard Air Line; a Confederate veteran; a member of the ard of visitors of the Medical College of Virginia, Richond: formerly superintendent of schools of Southampton unty; died at his home at Franklin, Va., January 16, ed 67.

Alexander Conde Smith, M.D. Northwestern University edical School, Chicago, 1887; a member of the American edical Association; who entered the Public Health and arine-Hospital Service in 1889; was made passed assistant rgeon in 1893, and promoted to surgeon in 1904; died in ercy Hospital, Pittsburg, January 15, aged 48, as the relt of injuries received six days before by being thrown from horse.

Louis C. Bruning, M.D. University of Louisville, 1895; of iles City, Mont.; a member of the American Medical Assotion and the Tri-County Medical Association of Eastern ntana; assistant surgeon of volunteers with Philippine vice in 1898 and 1899; captain and assistant surgeon rst Infantry, Montana Volunteer Militia; a member of the ate Board of Health; died in Chicago, January 12, aged 41.

Charles Carroll Shinnick, M.D. Hahnemann Medical College, icago, 1878; of Oakland, Cal.; formerly a member of the ard of health of Oakland; surgeon to the South Dakota ate Soldiers' Home, and member and twice secretary of the ate Board of Medical Examiners of Utah; a veteran of the il War; died in Santa Cruz., Cal., January 12, from onic nephritis, aged 60.

Roscoe Ellsworth Brown, M.D. Medical School of Maine, unswick, 1876; a member of the American Medical Association and Gynecological Society of Boston; visiting surgeon to the Whidden Memorial Hospital; consulting surgeon to the Soldiers' Home, Chelsea, and formerly city physician of Everett, Mass.; died at his home in Everett, January 7, aged 57.

Edwin R. Chadbourne, M.D. College of Physicians and Surgeons, New York City, 1879; a member of the American Medical Association, and New York Academy of Medicine; a specialist in diseases of children; formerly of New York City; died suddenly at his home in Pasadena, Cal., January 10, from emphysema, complicating an acute bronchitis, aged 53.

Henry L. Goodman, M.D. Missouri Medical College, St. Louis, 1893; a member of the American Medical Association; for ten years medical inspector in the Department of Health of New York City; died at his home in New York City, January 11, from the effects of carbolic acid said to have been self-administered while mentally irresponsible, aged 36.

Stewart V. Groesbeck (license, S. D., 1887), a member of the American Medical Association; a veteran of the Civil War; formerly postmaster of Marshall, Minn.; register of deeds and coroner of Lyon County, Minn.; surgeon at the National Home for Disabled Volunteer Soldiers, Hot Springs, S. D.; died in that institution, December 31, aged 68.

Joseph Harris Stonestreet, M.D. College of Physicians and Surgeons, Baltimore, 1885; a member of the Medical and Chirurgical Faculty of Maryland; school commissioner of Montgomery county; and local surgeon for the Baltimore and Ohio Railroad; died at his home in Barnesville, January 13, from pneumonia, aged 48.

Henry D. Sill, M.D. College of Physicians and Surgeons, New York City, 1892; a member of the American Medical Association, and president of the Medical Society of Otsego County; physician to Thanksgiving Hospital, Cooperstown, N. Y.; died at his home in Cooperstown, January 11, from typhoid fever, aged 42.

Walter J. Russell, M.D. Jefferson Medical College, Philadelphia, 1889; a member of the American Medical Association, and once president of the McKean County (Pa.) Medical Society; formerly visiting physician to Bradford Hospital; died at the State Hospital for the Insane, Warren, January 8, aged 48.

James Wallace, M.D. Rush Medical College, 1879; of Newport, Ind.; a member of the Indiana State Medical Association; a member of the local board of U. S. Pension Examining Surgeons; died at the home of his sister in Cayuga, Ind., January 18, from cancer of the prostate and intestines, aged 59.

Benjamin Franklin Betts, M.D. Hahnemann Medical College, Philadelphia, 1868; professor of gynecology in his alma mater from 1876 to 1895; consulting gynecologist to Hahnemann Hospital, Philadelphia; died suddenly, from heart disease, at his home, January 16, aged 63.

Simon P. Deahofe, M.D. Medical College of Ohio, Cincinnati, 1882; a member of the American Medical Association; died at his home in Mineral Point, Wis., January 7, from the effects of a gunshot wound of the skull, self-inflicted, while temporarily insane, aged 56.

William B. Anderson, M.D. Kentucky School of Medicine, Louisville, 1861; University of Louisville, 1885; major and surgeon in the Confederate service during the Civil War; died at his home in Vincennes, Ind., January 4, from acute cystitis, aged 69.

James Richard Johnson, M.D. University of Iowa, Keokuk, 1869; a veteran of the Civil War; died suddenly at his home near Avenstoke, Ky., January 15, from heart disease, complicated with pneumonia and cancer of the liver, aged 64.

Henry Clay Allen, M.D. Cleveland Homeopathic Medical College, 1861; Queen's University, Kingston, Ont., 1872; dean and professor of materia medica in Hering Medical College, Chicago; for several years editor of the *Medical Advance;* died at his home in Chicago, January 22, from heart disease, aged 72.

Ingeborg Taustrom, M.D. University of Stockholm, Sweden, 1886; Harvard Evening Medical College, Chicago, 1896; a member of the American Medical Association; died at her home in Finlayson, Minn., June 13, aged 55.

James Miller Ross, M.D. Eclectic Medical College of Philadelphia, 1857; coroner of Clearfield County, Pa.; and the oldest practitioner of DuBois; died at the home of his son-in-law in Brockwayville, January 4, aged 79.

G. H. Gilreath, M.D. Atlanta (Ga.) Medical College, 1883; died December 24, at his home near Farmington, Ga., aged about 60.

Frank Clay Maxon, M.D. Eclectic Medical College of the City of New York, 1878; some time coroner of Columbia county, N. Y.; trustee and health officer of Chatham; died at his home January 6, aged 68.

A. M. D. Hendrickson, M.D. University of Tennessee, Nashville, 1879, 1881; University of Louisville, 1884; in 1902 a member of the Indiana State Legislature; died at his home in Magnet, January 7, aged 54.

Lucy Harkey Adams, M.D. Northwestern Ohio Medical College, Toledo, 1890; Grant University, Chattanooga, Tenn., 1901; died at her home in Beechview, Pittsburg, January 11, from pneumonia, aged 51.

Langdon Cheves Nesbitt, M.D. Medical College of the State of South Carolina, Charleston, 1850; died at his home in Woodruff, S. C., October 10, from malignant disease of the kidney, aged 82.

William Aitcheson, M.D. University of Michigan, Ann Arbor, 1873; a member of the American Medical Association; died at his home in Ortonville, Mich., January 10, from pneumonia, aged 62

George Green, M.D. Rush Medical College, Chicago, 1870; of Aurora, Ill.; died at the home of his sister in Waltham, Mass., January 9, from typhoid fever complicating pneumonia, aged 74.

Clarence L. Freidline, M.D. Eclectic Medical Institute, Cincinnati, 1903; coroner of Somerset County, Pa.; died at his home in Stoyestown, from disease of the stomach, January 11, aged 30.

John Lincoln Gardner, M.D. Rush Medical College, Chicago, 1883; a member of the American Medical Association; died at his home in Rochelle, Ill., January 15, from pneumonia, aged 53.

Andrew Henry Getty, M.D. New York University, New York City, 1897; a member of the Medical Society of the State of New York; died at his home in Athens, January 14, aged 59.

Harold Carl Geyer, M.D. College of Physicians and Surgeons, New York City, 1901; of Cold Springs, N. Y.; died in Frankfort, Germany, January 9, from diabetes, aged 34.

Mary Winegar Moody, M.D. University of California, San Francisco, 1882; a member of the Medical Society of the State of California; died recently in San Francisco.

D. W. Callahan (license, Ohio, 1896); a practitioner of Gustavus, Ohio, for more than twenty years; died suddenly at his home, January 13, from cerebral hemorrhage.

Cadwallader Hicks, M.D. University of Louisville, 1872; a member of the American Medical Association; died at his home in Mount Vernon, Ind., January 12, aged 61.

H. Clay Davis, M.D. University of Louisville, 1858; a member of the Kentucky State Medical Association; died at his home in Braxton, January 11, from pneumonia.

Harvey C. Heald, M.D. College of Physicians and Surgeons, Chicago, 1899; of Millard, Neb.; died in a hospital in Omaha, January 10, from disease of the liver, aged 35.

Charles Wilson Bresenham, M.D. Boston University, 1880; of Millers Falls, Mass.; died suddenly in Athol, Mass., January 9, from acute alcohol poisoning.

Seymour Chauncey Wilcox, M.D. Geneva (N. Y.) Medical College, 1841; died at his home in New Albany, Ind., January 12, from senile debility, aged 90.

Joseph A. Muenich, M.D. Rush Medical College, Chicago, 1879; died at his home in Jefferson, Wis., January 7, from cerebral hemorrhage, aged 64.

Johannes R. Bielenburg, M.D. (license, Iowa, 1886); died at his home in Keystone, Iowa, January 7, from carcinoma of the stomach, aged 75.

Sorin S. Ewell, M.D. Medico-Chirurgical College of Philadelphia, 1881; died at his home in Vienna, Md., January 8, from pneumonia, aged 82.

Frank M. Smith, M.D. University of Louisville, 1876; died at his home in Cloverport, Ky., December 25, after a lingering illness, aged 63.

John A. Gordon, M.D. Memphis (Tenn.) Hospital Medical College, 1887; died at his home in Healdton, Okla., January 2, aged 70.

John Easton, M.D. McGill University, Montreal, 1852; died at his home in Brockville, Ont., January 11, aged 87.

Kensey Johns, M.D. Medical College of Virginia, Richmond, 1847; died at his home in Norfolk, January 3, aged 85.

Book Notices

Synthèse et Constitution des Albuminoïdes. (Les Actualités Chimiques et Biologiques. No. 10) Par Emm. Pozzi-Escot. Paper. Pp. 110. Price, 1.50 francs. Paris: Jules Rousset, 1909.

This pamphlet gives a good account of the character and reactions of the proteins, of the products of their decomposition and the conception of their constitution obtained by this method. The various attempts at synthesis are described and the results achieved are detailed. The hope is expressed that eventually the synthesis of proteins as they exist in the organism will become possible and that in the gradual progress we shall arrive at a thorough knowledge, not only of the constitution and properties of the proteins themselves, but also of those intermediate products of their decomposition which constitute the toxins and antitoxins that play so large a part in the pathogenesis and therapy of disease.

A Manual of Diseases of Children. By John Ruhräh, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Second Edition. Thoroughly Revised. Pp. 423, with illustrations. Flexible Leather. Price, $2.00. Philadelphia: W. B. Saunders Co., 1908.

This book has been revised and brought up to date. Important additions are the chapters on medical inspection of school children, danger of contagion after infectious diseases, and return of children to school after exposure to contagion. The list of bibliographic references is fairly complete and unlike most bibliographies the references are accessible, being confined, practically, to articles in the English language.

Diseases of the Ear. By Hunter Tod, M.A., M.B., B.C. (Cantab.), F.R.C.S. (Eng.), Aural Surgeon to the London Hospital. Cloth. Pp. 317, with illustrations. Price, $3.00. New York: Oxford University Press, 1907.

This work is practical and concise, and should be of value to the general practitioner who is frequently the first to be consulted in diseases of the ear, especially in small towns. The chapter on aural complications of acute infectious and other diseases is good, but too short. The book is not intended for the specialist.

Neurologic and Mental Diagnosis. A Manual of Methods. By L. Pierce Clark, M.D., Senior Attending Physician, Hospital for Nervous Diseases, New York, and A. Ross Diefendorf, M.D., Lecturer in Psychiatry in Yale University. Cloth. Pp. 188, with illustrations. Price, $1.25. New York: Macmillan Company, 1908.

The object of this volume, as stated in the introductory note, is "to aid the student and general practitioner to make thorough and systematic examinations in nervous and mental diseases." It consists of two sections, one on neurologic diagnosis by Dr. Clark and the other on methods of examination in cases of mental disorder by Dr. Diefendorf, to which is appended a glossary of terms used in psychiatry. In the first section Dr. Clark gives a very fair summary of methods, covering most of the needs of the general practitioner, which is made more useful by the numerous illustrations. Instructive examples of methods of recording case histories are given and, while the section is not exhaustive by any means and would not completely fortify the practitioner against a rigid examination by a clever and well-crammed lawyer in a medicolegal case, as in the noted Thaw trial, it will be a fairly useful guide in diagnosis. Some of the more or less important symptoms which are not specially mentioned will be called to the attention of the observant student by the methods of examination here suggested. The second part, that on mental diagnosis, consists of a chapter on history-taking and mental and neurological examination, followed by one containing a series of clinical cases intended "to demonstrate these methods and give an insight into the more common forms of insanity." This first chapter is comparatively brief and to the point. The plan of the second is to give typical cases, according to the now popular classification of Kraepelin. The troubl will be in the atypical ones, which are sufficiently numerou to be considered. The glossary of psychiatric terms is decidedly incomplete, and some of the definitions could be improved; the ordinary conception of alcoholic pseudoparesis, fo example, is not, we believe, that of hallucinatory dement in which the symptoms of Korsakoff's disease exist; and number of such frequently used terms as "psychasthenia," "cyclothymia," etc., are not included. Elsewhere in the book there are one or two slips of the proof-reader which may be mentioned, such as the use of the contraction for minims instead of millimeters in esthesiometric measurements and employment of the term "astereognostic sense," which seems hardly correct. These, however, are minor defects that are not misleading or important. The book as a whole will be found useful by those for whom it is intended.

Means for the Prolongation of Life. Third and Enlarged Edition of a Lecture Delivered Before the Royal College of Physicians on Dec. 3, 1903. By Sir Hermann Weber, M.D., F.R.C.P., Consulting Physician to the Mount Vernon Hospital for Consumption. Cloth. Pp. 214. Price, $1.00. London: John Bale Sons & Danielsson, Ltd., 1908.

There is nowhere to be found a more rational and succinct account of the hygiene of mature life than is contained in he 200 pages of Sir Hermann Weber's book, which with he present issue reaches its third edition. Weber refrains rom any detailed description of the underlying pathology of enescence and avoids discussion of the abstruse problems sur-ounding that subject, which have lately engaged the atten-ion of Metchnikoff, Minot and others. The book aims to ccept the facts of the situation without controversy, and on practical basis to lay down the rules of hygiene best dapted to preserve health and vigor in old age and postpone he advent of senility. There is a directness and simplicity bout the manner in which the subject is developed that makes this little book an interesting and impressive one. The language is simple, dignified and untechnical. The book an be recommended to intelligent lay readers as well as to he medical profession.

Arteriosclerosis. By Louis M. Warfield, A.B., M.D., Instructor n Medicine, Washington University Medical Department. Intro-uction by W. S. Thayer, M.D., Professor of Clinical Medicine, ohns Hopkins University. Cloth. Pp. 165, with illustrations. Price, $2.00. St. Louis: G. V. Mosby Medical Book Co., 1908.

This monograph on a most important subject contains nothing new and is not a satisfactory compilation of what is nown. The style is discursive and sometimes colloquial. he first two chapters are devoted to anatomy and physiology, he latter subject occupying only eight pages. The chapter n pathology is one of the best in the book. We had hoped r a full consideration of the symptomatology and diagnosis of arteriosclerosis in the various organs and parts of the ody, but the subject is not dealt with as systematically or s fully as is desirable. In the pages devoted to symptoms Warfield says: "The epileptiform and apoplectiform attacks hich occur in Stokes-Adams disease are due to the sclerosis the cerebral vessels." This is a generalization, the truth which, we believe, has not been demonstrated. The last ages summarize what has been said at greater length in rlier ones.

An Inquiry on Enteric Fever in India. Carried Out at the ntral Research Institute, Kasauli, Under the Direction of Lieunant-Colonel D. Semple, M.D., Director of the Institute, and ptain E. D. W. Greig, M.D. No. 32 of Scientific Memoirs by Officers the Medical and Sanitary Departments of the Government of dia. Cardboard. Pp. 108. Price, 1s, 2d. Calcutta: Superinndent Government Printing, 1908.

In this memoir great stress is laid on the importance of the phoid-carrier in spreading typhoid fever in India. As the sult of numerous experiments and observations the conusion is reached that the conditions encountered outside a man host are not favorable to the prolonged existence of e typhoid bacillus. It will be noted that this conclusion is harmony with many recent experiments on the vitality of e typhoid bacillus in water and soil. The writers of this emoir state without reservation that the problem of the preation of typhoid fever among the British troops in India is e detection and isolation of the individuals harboring typhoid cilli.

A Laboratory Guide for Histology. By Irving Hardesty, B., Ph.D., Associate Professor of Anatomy in the University of lifornia; with a chapter on laboratory drawing by Adelbert itts Lee, M.D., Assistant in Anatomy in the University of Calrnia. Cloth. Pp. 193, with 30 illustrations, 2 in color. Price, 50. Philadelphia: P. Blakiston's Son & Co., 1908.

This volume is well prepared, and the sequence of subjects is od, so that no teacher would err in adopting the book for his use. The chapter on laboratory drawing is not only unique, but valuable, inasmuch as the importance of drawing specimens can not be overestimated as an aid in study. As is so often the case, too much time is given to the study of the central nervous system in proportion to that devoted to the other tissues and organs.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Kansas: Topeka, Feb. 9. Sec., Dr. R. A. Light, Chanute.
Nebraska: State Capitol, Lincoln, Feb. 3-4. Sec., Dr. E. J. C. Sward, Oakland.
New York: Albany, Feb. 2-5. Chief of Examinations Division, Dr. Charles F. Wheelock.
Wyoming: Cheyenne, Feb. 10-12. Sec., Dr. S. B. Miller, Laramie.

The Ohio Association of Medical Teachers

The fourth annual meeting of the Ohio Association of Medical Teachers was held in Columbus, December 28. The following papers were read: "What Should Be Taught in Anatomy," W. E. Lewis, Miami Medical College, Cincinnati; "A Graded Anatomy Course," Chas. W. Moots, Toledo Medical College; "Methods in Teaching Internal Medicine," C. F. Hoover, Medical Department Western Reserve University, Cleveland; "What Should Be Taught the Medical Student in Chemistry," J. U. Lloyd, Eclectic Medical College, Cincinnati; "The Medical Flavor in Medical Chemistry," Park L. Myers, Toledo Medical College; "Pedagogic Methods in Medical Colleges," W. J. Means, Starling-Ohio Medical College, Columbus; "Recent Changes in State Medical Law and a Report of the Work of the State Medical Board for the Past Year," E. J. Wilson, State Medical Board; "The University Idea," C. E. Walton, Pulte Medical College, Cincinnati; "The Teaching of Pediatrics," S. W. Kelly, Cleveland College of Physicians and Surgeons; "The Proposed Requirement of One Year of Literary College Work as a Prerequisite to Entrance to a Medical College," E. J. Wilson, State Medical Board.

There was practical unanimity as to the advisability of the colleges in Ohio raising their entrance requirement to include one year of literary college work in biology, chemistry and physics. The association passed a resolution commending the State Medical Board for conducting practical examinations in biology, bacteriology and embryology and recommended that clinical medicine be added to the list of branches in which such examinations are conducted.

The following officers were elected for the ensuing year: President, Dr. James U. Barnhill, Columbus; vice-presidents, Drs. W. E. Lewis, Cincinnati, and J. A. Thompson, Cincinnati; secretary, Dr. E. I. McKesson, Toledo; treasurer, Dr. Charles W. McGavran, Columbus. The executive committee consists of the above officers and the following: C. E. Walton, Kennon Dunham and J. K. Scudder, Cincinnati, W. S. Kelly and F. C. Waite, Cleveland.

Louisiana Homeopathic November Report

Dr. C. R. Mayer, president of the State Board of Medical Examiners (Homeopathic), reports the written examination held at New Orleans, Nov. 2, 1908. The number of subjects examined in was 10; total number of questions asked, 40; percentage required to pass, 75. Only one candidate, a graduate of the University of Michigan, 1908, appeared for examination and he passed with an average of 92 per cent.

District of Columbia April, July and October Reports

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written examinations held at Washington, April, July and October, 1908. The number of subjects examined in was 17; total number of questions asked, 80; percentage required to pass, 75.

At the examination held in April, the total number of candidates examined was 17, of whom 10 passed and 7 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
George Washington Univ.	(1905) 75.9; (1907)	78.8, 79.7, 82
Georgetown University	(1905)	77.7
Howard University, Washington	(1907)	80.6
Woman's Med. Coll. of Baltimore	(1906)	77.6
New York University Med. Coll	(1891)	81.8
University of Pennsylvania	(1906)	89.6
University of Edinburgh, Scotland	(1896)	82
FAILED		
National University, Washington	(1901)	51.5
George Washington University	(1907)	62.7, 68.0
Howard University, Washington	(1907)	49.6
Maryland Med. Coll	(1907)	62.5
Tufts Coll. Med. School	(1900)	63.1
Jefferson Med. Coll	(1882)	63

At the examination held in July, the total number of candidates examined was 35, of whom 21 passed and 14 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University, Washington	(1907) 87; (1908)	83.6
Georgetown University	(1907) 85.6; (1908)	85.6
George Washington University,	(1905) 81.7; (1907) 75.4, 85.1, 86.5; (1908) 77.4, 79.2, 79.6, 82, 84.9, 85, 86.5, 86.9, 88.5, 89.9, 90.2.	
Johns Hopkins Med. School	(1908)	86.9
Woman's Med. Coll. of Pennsylvania	(1908)	96.4
FAILED		
National University, Washington	(1902)	64.9
George Washington University,	(1907) 70.7, 74; (1908)	56.8, 64.9, 71.2.
Howard University	(1907) 54.9, (1908)	73.5
Georgetown University	(1903)	72.5
Tulane University of Louisiana	(1903) 68.4; (1908)	70.7
Baltimore Med. Coll	(1907)	55
Leonard Med. School	(1908)	43
Jefferson Med. Coll	(1908)	73.4

At the examination held in October the total number of candidates examined was 27, of whom 14 passed and 13 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Columbian University, Washington	(1904)	76 7
George Washington University,	(1906) 75.1; (1908)	75 3, 75.9, 77.8, 81.1.
Howard University, Washington	(1908)	83.8
Georgetown University,	(1908) 76.6, 77.1, 85.4,	80.9
Johns Hopkins Med. School	(1906)	79.2
Baltimore Med. Coll	(1908)	78.1
Harvard Med. School	(1898)	81
FAILED		
National University, Washington	(1902)	58.9
Howard University	(1908) 65.2, 74.6,	74.7
George Washington University,	(1905) 47.5; (1907) 71.8; (1908)	67.8, 69.4, 72.7.
Tulane University of Louisiana	(1908)	71.8
Maryland Med. Coll	(1908)	56.5
Baltimore Med. Coll	(1907)	63.8
Jefferson Med. Coll	(1908)	74.5

Kentucky November Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, November 17-19, 1908. The number of subjects examined in was 10; percentage required to pass, 70. The total number of candidates examined was 43, of whom 19 passed and 24 failed. Two candidates were licensed without examination, one through reciprocity and the other under the exemption clause. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Louisville	(1908) 73, 76, 79, 79, 83, 83,	84
Louisville and Hospital Med. Coll.,	(1906) 78; (1908) 72, 73,	74, 79, 83.
Kentucky School of Med	(1908)	80, 81
Hospital Coll. of Med., Louisville	(1906)	72
Barnes Med. Coll	(1904)	80
Woman's Med. Coll. of Pennsylvania	(1907)	90
Meharry Med. Coll	(1908)	71

FAILED	Total Grad.	No.	Total Exam'd.
Louisville and Hospital Med. Coll.	(1908)		10
University of Louisville	(1907) (7, 1908)		8
Kentucky School of Med	(1908)		2
Louisville National Med. Coll	(1908)		1
University of Tennessee	(1908)		1
Meharry Med. Coll	(1908)		2

LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Pennsylvania	(1903)	Virginia

LICENSED UNDER EXEMPTION CLAUSE	
University of Louisville	(1899)

Massachusetts November Report

Dr. Edwin B. Harvey, secretary of the Board of Registration in Medicine, reports the written and oral examination held in Boston, November 10-12, 1908. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 77, of whom 53 passed, including 2 non-graduates, and 24 failed, including 2 non-gaduates. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Illinois Med. Coll	(1903)	76.3
American Med. Miss. Coll	(1906)	75
Chicago Coll. of Med. and Surg	(1908)	75.5
Johns Hopkins Med. School	(1905)	80.7
College of P. and S., Baltimore	(1907) 81.2; (1908)	77.3
Baltimore Med. Coll	(1908) 76.5,	82.5
University of Maryland	(1908)	79.8
Medical School of Maine	(1906)	77
Harvard Med. School:	(1906) 80.2; (1907) 83; (1908) 75,	77.6, 79.5, 80, 80.8, 82, 84.
Tufts Coll. Med. School,	(1906) 81.4; (1908) 75, 75, 75.3,	75.7, 75.8, 76.2, 76.4, 76.5, 76.7, 76.9, 77, 77.4, 79.5, 80, 80.
College of P. and S., Boston	(1905) 75, 77; (1908)	75.9
Boston University	(1907)	75
University of Michigan	(1907)	77
Dartmouth Med. School	(1907)	80.8
Long Island Coll. Hospital	(1906)	80.8
University and Bellevue Hosp. Med. Coll.	(1906) 79.1; (1907)	82.2
North Carolina Med. Coll	(1904)	75.2
Cleveland Homeopathic Med. Coll	(1880)	82.4
Woman's Med. Coll. of Pennsylvania	(1908)	80.9
University of Vermont	(1906) 77.7; (1908) 78.4,	82.2
University of Athens, Greece	(1900)	75
FAILED		
Howard University, Washington	(1907)	70.4
Chicago Coll. of Med. and Surg	(1908)	57.3
Hahnemann Med. Coll. and Hosp., Chicago	(1885)	62.3
Baltimore Med. Coll.,	(1905) 60.2, 60.2, 73; (1908) 70, 70.3,	73.4, 73.5, 73.5.
Maryland Med. Coll	(1908)	63.5
Boston University	(1908)	73.2
Tufts Coll. Med. School	(1908) 69.7, 69.7	70.9
College of P. and S., Boston	(1908) 58. 64.3	65.8
University Coll. of Med., Richmond	(1907)	56.1
Laval University, Canada	(1905)	63.6
University of Palermo, Italy	(1891)	67

Missouri November Report

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at Kansas City, November 23-25, 1908. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 46, of whom 25 passed and 21 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Exam'd
Hahnemann Medical College and Hospital, Chicago	(1903) (1906)	2
Rush Med. Coll	(1901)	1
Keokuk Med. Coll., Col. P. and S	(1908)	1
University of Kansas	(1908)	1
University of Louisville	(1907)	1
Kentucky School of Med	(1908)	1
Baltimore Med. Coll	(1908)	1
Johns Hopkins Med. School	(1906)	1
St. Louis University	(2, 1906) (2, 1908)	4
University Med. Coll., Kansas City	(1908)	1
Homeopathic Med. Coll. of Missouri	(1908)	1
Kansas City Hahnemann Med. Coll	(1908)	2
Washington University, St. Louis	(1906) (1908)	2
Western Reserve University	(1907)	1
University of Pennsylvania	(1903)	1
Woman's Med. Coll. of Pennsylvania	(1907)	1
Meharry Med. Coll	(1908)	2
University of Palermo, Italy	(1893)	1
FAILED		
University of Arkansas	(1908)	1
Washington University, St. Louis	(1908)	2
Kansas City Hahnemann Med. Coll	(1908)	1
University Med. Coll., Kansas City	(1908)	3
St. Louis Coll. of P. and S.,	(1906) (1907) (4, 1908)	6
Barnes Med. Coll	(1907)	1
American Med. Coll., St. Louis	(1906) (1908)	2
Ensworth Med. Coll	(1908)	1
Creighton Med. Coll	(1908)	1
Lincoln Med. Coll	(1907)	1
Meharry Med. Coll	(1907) (1908)	2

Nebraska November Report

Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Nov. 4-5, 1908. The number of subjects examined in was total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 18, of whom 16 passed and 2 failed. Seventeen reciprocal licenses were granted at this meeting. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
Hahnemann Med. Coll. of the Pacific	(1908)	86.8
Denver and Gross Coll. of Med	(1908)	86.8
College of P. and S., Chicago	(1888)	90
College of P. and S., Keokuk	(1896)	89
Louisville Med. Coll	(1907)	90.7
University of Nebraska, (1891) 88; (1895) 85; (1897) 90; (1902) 80, 84; (1903) 88.		
Creighton Med. Coll	(1908)	76, 84.1
Lincoln Med. Coll	(1908)	79.5
University of Pennsylvania	(1889)	90.7
Meharry Med. Coll	(1908)	82.8

FAILED

College.	Year Grad.	Per Cent.
Creighton Med. Coll	(1908)	*73.6
Nebraska Coll. of Med	(1908)	*67.1

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Hahnemann Med. Coll., Chicago	(1907) (1908)	Illinois
Northwestern Univ. Med. School	(1908)	Illinois
Chicago Col. of Med. and Surg	(1908)	Illinois
College of P. and S., Chicago	(1905)	Illinois
Rush Med. Coll	(1904) (1907)	Illinois
Dunham Med. Coll	(1900)	Illinois
Hering Med. Coll	(1908)	Illinois
Curtis-Physio Medical Institute	(1894)	Nevada
College of P. and S., Baltimore	(1896)	Illinois
University of Minnesota	(1895)	Minnesota
Barnes Med. Coll	(1908)	Illinois
Creighton Med. Coll	(1907)	Iowa
Lincoln Med. Coll	(1908)	Kansas
University of Nashville	(1899)	Kansas
Medical Coll. of Virginia	(1900)	W. Virginia

* Second examination.

New Jersey October Report

Dr. J. W. Bennett, secretary of the New Jersey State Board of Medical Examiners, reports the written examination held at Trenton, Oct. 20-21, 1908. The number of subjects examined was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 56, of whom 40 passed and 16 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
ale Medical School	(1908)	80.8, 82.7
oward University, Washington	(1907) 79.4; (1908)	80, 82.2
edical Coll. of Georgia	(1901)	75.4
ahnemann Med. Coll., Chicago	(1908)	79.9
ollege of P. and S., Baltimore	(1907) 75.4; (1908)	82.1
niversity of Maryland	(1908)	82.1
altimore Med. Coll	(1906) 79.5; (1907) 75; (1908)	79.5, 79.8
ohns Hopkins Med. School	(1906) 85.7; (1908)	80.8
niversity and Bellevue Hosp. Med. Coll	(1908)	79.3, 82.3
ong Island Coll. Hosp	(1906) 83.3; (1908)	77.3, 79.2
ornell Univ. Med. Coll	(1908)	86.7
olumbia Univ. Coll. of P. and S., New York	(1904) 81.1; (1906) 81.6; (1907)	81.8
estern Pennsylvania Med. Coll	(1908)	78.7
niversity of Pennsylvania	(1907) 75.4, 85.2; (1908)	84.9, 86.7
efferson Med. Coll	(1899) 75.5; (1908)	82.8, 88.8
ahnemann Med. Coll., Philadelphia	(1906)	81.1
oman's Med. Coll. of Pennsylvania	(1905)	83
edico-Chirurgical Coll., Philadelphia	(1908)	80.8, 82.2
niversity of Vermont	(1907)	76
cGill University Quebec	(1905)	79.8
ueen's University, Ontario	(1908)	85.4

FAILED

College	Year Grad.	Per Cent.
niversity of California	(1905)	73.4
niversity of Louisville	(1907)	67.5
entucky School of Med	(1906)	62.5
aryland Med. Coll	(1908)	69
altimore University	(1903)	67.7
niversity of Michigan	(1880)	67.4
ng Island Coll. Hospital	(1881) 71.5; (1907)	73.7
w York University Med. Coll	(1880)	71.3
bany Med. Coll	(1902)	71.2
ahnemann Med. Coll., Philadelphia	(1895)	73
niversity of Naples, Italy, (1896) 68.3; (1905) 65.8;	(1906)	71.7
niversity of Rome, Italy	(1896)	67
yal University of Turin, Italy	(1900)	69.7

New Mexico October Report

Dr. J. A. Massie, secretary of the New Mexico Board of ealth and Medical Examiners, reports the written examination held at Santa Fe, Oct. 12, 1908. The number of subjects examined in was 13; total number of questions asked, 100; rcentage required to pass, 75. The total number of candites examined was 7, of whom 6 passed and 1 failed. Twenfive applicants were licensed on presentation of satisfactory edentials. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1908)	88.8
Southern Med. Coll., Atlanta	(1886)	75
Barnes Med. Coll	(1908)	77.[illegible]
University of Tennessee	(1888) 78.4; (1890)	76.3
University of Nashville	(1905)	79.6

FAILED

College	Year Grad.	Per Cent.
Medical Coll. of Georgia	(1907)	73.3

LICENSED ON CREDENTIALS

College	Year of Grad.
George Washington Univ	(1900)
Atlanta Med. Coll	(1875)
Northwestern Univ. Med. Coll	(1894) (1906)
Indiana Med. Coll	(1906)
University of Iowa	(1883)
University of Kansas	(1890)
Louisville Med. Coll	(1876) (1894) (1905)
University of Louisville	(1895) (1898)
Hospital Coll. of Med., Louisville	(1906)
Kentucky School of Med	(1893)
College of P. and S., Baltimore	(1906)
University of Michigan	(1874)
Missouri Med Coll.	(1880) (1896)
University Med. Coll., Kansas City	(1903)
St. Louis Coll. of P. and S.	(1900)
Marion-Sims Beaumont Coll. of Med.	(1899) (1903)
University of Buffalo	(1906)
Medical Coll. of Ohio	(1900)
Memphis Hospital Med. Coll.	(1891)

Society Proceedings

AMERICAN ASSOCIATION FOR CANCER RESEARCH

Meeting held at University of Pennsylvania, Nov. 27, 1908

The President, Dr. James Ewing, New York, in the Chair

The Antitryptic Power of Cancer Sera

Dr. Richard Weil, New York: During the year a new property supposed to be characteristic of cases of cancer has been described. This is the so-called antitryptic power of the blood serum. It has been known for some years that the blood of an animal can be made to develop an antiferment to trypsin by administering subcutaneous injections of pancreatic extract. Recently it has been shown that the serum of untreated animals inhibits the action of trypsin in varying degrees. Brieger and Trebing, in a series of investigations, showed that this antitryptic power was present in 91.6 per cent. of human cancer cases, and in only 23.7 per cent. of other cases. They used the serum plate method of Marcus. Recently Bergmann and Meyer tested the antitryptic power of the serum in 20 cases of cancer and in 91 of other diseases; they found an antitryptic action of the serum in 92.7 per cent. of the cancer cases and in 24.2 per cent. of non-cancerous cases. They used the casein method of Gross. The two sets of results agree closely. In my work, 22 cases of cancer, 2 of rodent ulcer, and 29 non-cancerous cases were examined in regard to the antitryptic power of the serum. The results obtained by the serum plate method and the casein method were compared and found to agree fairly well. In both methods the proteolytic action is tested. The serum plate method is less reliable and sharp cut than the casein method. By the latter method the following results were obtained: In the cancer cases, 82 per cent. were positive, 18 per cent. negative. In the non-cancerous cases, 25 per cent. were positive and 75 per cent. were negative. Neither case of rodent ulcer was positive. The terms positive and negative denote accurately measurable quantative differences in the antitryptic power of the serum. These results are not so striking as those obtained by the German observers; nevertheless, they demonstrate that the reaction is almost twice as frequent in cases of cancer as in other diseases. This may be regarded as additional evidence of certain striking alterations in the biologic characteristics of the serum in cancer. The method at present is not of diagnostic value.

Hemolytic Effects of Human Serum

Dr. Richard Weil, New York: About a year ago I reported that in dogs affected with lymphosarcoma the serum was frequently hemolytic toward the red cells of normal dogs, and that this hemolytic action was resisted by the red cells of other dogs growing the same form of tumor. On the basis of a number of preliminary observations I hazarded the statement that in human cancer an analogous condition would be found. Since then, this hypothesis has been amply vindicated by the work of Crile, Janeway, Epstein and Ottenberg, and Blumgarten along the same line of investigation. The characteristic reaction failed to occur in incipient cases of cancer unless complicated by some other condition. It was absent in the majority of cases of rodent ulcer. It occurred only in cases in which the new growth gave microscopic or macroscopic evidence of necrosis. The tendency was for the reaction to disappear in cases of open or ulcerated growths. The reaction occurred in a certain number of other conditions. The following interpretation of these facts is offered for consideration: The hemolytic power of the serum is not due to any substance or action peculiar to cancer. It may be due either directly to the absorption of the products of tissue necrosis or autolysis, or it may be the result of some reaction to these products. The same explanation holds of the majority, though not all, of the cases of other diseases in which the same serum reaction is obtained. This includes cases of tuberculosis, gummatous syphilis, resolving pneumonia, breaking down fibroids, Hodgkin's disease, and other conditions in which necrosis, caseation, or autolysis of tissue occurs. So far as the diagnostic posibilities of this method are concerned, more facts must be gathered before any practical application should be attempted. For the present, the method is not available for clinical purposes.

Results of Testing Blood Serum in Thirty-five Cases of Cancer, for Hemolytic Properties on the Normal Red Blood Corpuscles

Dr. H. H. Janeway, New York: In the technic used 1 c.c. of serum was mixed with a 10 per cent. emulsion of red cells, which had been washed 4 times. Six mixtures, including the controls with normal serum and salt solution, were prepared for each test. Of the 35 tested, 8 were a very early stage of cancer of the face of the rodent ulcer type. They were all negative, and it has seemed wise to exclude these from the percentages, as both clinically and pathologically they are at least for such a long time in their history, so different from the usual form of cancer. Of the two late cases of rodent ulcer, both were large steadily advancing and ulcerated growths. One gave a reaction, while the other did not. Including these in the remaining 27 cases, there were 20 late cases of malignant tumors, of which 8 yielded a positive reaction, or 40 per cent. There were 7 cases of early malignant tumors, of which 4 were positive, or 57 per cent. Of the normal sera none showed any hemolysis, but one case of chronic mastitis, used as a control, did show marked hemolysis. As compared with normal sera, it is evident that the possession of isohemolysins is a striking feature of the sera of patients with malignant disease. The diagnostic value of the reaction may be considered from two standpoints. If negative, it is clear that the case can not be regarded with certainty as free from cancer. If positive it is to be regarded with likelihood, as a case of malignant disease, provided certain complicating infections giving the same reaction, such as advanced tuberculosis, can be excluded. Although I have not examined other conditions of disease, it is evident from the results of others (Weil, Ascoli, etc.), that the typical reaction occurs in a very small proportion as compared with cases of cancer. It is certain, as previously stated, that, if the serum were tested on a large variety of corpuscles, both from ascertained cases of cancer, and from normal individuals, the percentage of positives could be very considerably increased. Such a technic would not be difficult, if the reaction should become firmly enough established, to permit utilization of only a fractional part of the serum, and the use of the red blood corpuscles from a number of normal individuals: as in these cases, the normal corpuscles can be readily obtained by simply pricking the ear. Such a course would seem to be justifiable, as there is such unanimity among all observers that the serum from normal individuals rarely possesses isohemolytic properties. Tentatively, it might be suggested that in suspected cases of cancer the serum should be tested, as herein described against the normal corpuscles emulsion. If negative, it would be advisable to make a second and more comprehensive test in the manner suggested. At the present stage in our experience, however, sufficient evidence is not at hand to give this test any great diagnostic value.

Deviation of Complement by Means of the Serum of Sarcoma Rats

Dr. George H. A. Clowes, Buffalo: The hemolytic system employed in this series of experiments consisted of (1) goat corpuscles; (2) amboceptor, serum of a rabbit immunized against goat corpuscles which had been heated to 57 C. in order to destroy complement; (3) complement, normal guinea-pig serum. The tumor extracts employed were (1) 20 per cent. tumor material in absolute alcoholic; (2) 20 per cent. tumor material in 0.25 per cent. aqueous phenol. In this series of experiments the sera of over 50 rats suffering from sarcoma in various stages of development were tested regarding their capacity for deviating complement when used in conjunction with alcoholic or phenol extracts. As a general rule, it may be said that while no deviation was obtained from the sera of rats having large tumors of 50 grams or over, a marked differential effect was to be noted in several cases in which tumors weighing from 2.5 to 5 grams had taken from 10 to 30 days to develop. This reaction was not uniformly obtained. In certain cases, the sera of rats having tumors weighing approximately 5 grams gave no reaction when tested with various concentrations of both alcoholic and phenol extracts. In no case was it found possible to differentiate between serum of normal rats and of those with large tumors by means of this test. It should be noted that while the differential effect was frequently to be noticed whereby rats with small tumors could be distinguished from normal rats and those having large tumors, the sharpness of the test was found to be dependent to a great extent on the guinea-pig complement employed, the sera of certain normal guinea-pigs being apparently unaffected by the deviating bodies present in the rat sarcoma. We tested at the same time the serum of a dog suffering from lymphosarcoma, supplied to us by Dr. Beebe, in comparison with one which had recovered and normal individuals. The heated sera of the dog with a small sarcoma and the recovered dog exhibited a distinct reaction when compared with two normal dogs, using the extract of a rat sarcoma and also of human carcinoma. This same differentiation was still to be noted two weeks later, by which time the small lymphosarcoma had undergone spontaneous recovery. From the results obtained in the series I am forced to the conclusion that the phenomenon of complement deviation bears some relationship to that of immunity exhibited during and after spontaneous recovery, the most marked differential effect being noted in those cases in which tumors develop relatively slowly and recover spontaneously after having reached a weight of approximately 5 grams.

The Hemolysin Test in the Serum of Sarcoma Rats

Dr. George H. A. Clowes, Buffalo: The same series of rats as that employed in the other experiments was tested with a view to determining the extent to which the serum of a individual suffering from sarcoma is capable of causing hemolysis of normal corpuscles. The animals were divide into three groups, those with large tumors, those with smal tumors and normal. Corpuscles and serum were prepare separately from each of these series and tested all against all In the individual tests 1 c.c. of a 5 per cent. suspension o corpuscles was incubated for two hours with 0.5 c.c. of serum of the rat to be tested, a control series being carried out i which the serum had previously been heated to 57 C. I three such series of experiments in which 36 rats were em ployed, a very faint hemolysis, scarcely recognizable, wa noted in two cases only, those being rats with tumors weigh ing respectively 2.5 and 4 grams. It would be quite impo sible, however, to make use of this test for diagnosis of ra sarcoma.

Transplantations of the Uterus and the Bearing of th Results Obtained on Some Problems of Tumor Growth

Dr. Leo Loeb, Philadelphia: Pieces of uterus were tran planted into the subcutaneous tissue of guinea-pigs in a proximately fifty cases. In the majority of experiments t central part of the transplanted piece becomes necrotic, the peripheral parts, unstriated muscle, blood vessels and some glands remain alive. This holds good in experiments in which the pieces were transplanted into another individual of the same species as well as in experiments in which the pieces were transferred into the same individual whose uterus had been extirpated. There was, however, one marked difference in cases in which autotransplantation (transplantation into the same individual) and heterotransplantation (transplantation into another individual of the same species) had taken place. In the former case, in a certain number of cases in which the uterus had been transplanted from two to nine days after ovulation, diciduomata developed in the transplanted piece; in cases in which the uterus had been transplanted into another individual of the same species deciduomata did not develop, with one exception, even if ovulation had taken place from two to nine days before the operation in the animal into which the uterus had been transplanted. There seems, therefore, to be a marked difference between the body fluids of different individuals of the same species, and although such a difference in the body fluid does not prevent the remaining alive of certain parts of the transplanted uterus, it seems, in the majority of cases, to prevent an excess growth leading to the production of deciduomata. There exists an analogous condition in the growth of tumors. In the large majority of cases tumors grow only if transplanted into the same animal in which they have originated; they can not be successfully inoculated into other individuals of the same species. In this case also the difference in the constitution of the body fluids in different individuals of the same species prevents that excess growth which is the characteristic feature of tumor growth. We are therefore able to give a more complete analysis of the factors underlying a certain kind of tumor-like growth than has been possible heretofore. The growth of deciduomata depends on three factors: First, the presence of preparing (sensitizing) substances secreted by the ovaries at certain periods; second, a mechanical stimulus, the energy of which can be quanti-atively varied; third; a specific condition of the body fluids which varies in different individuals of the same species.

This report is merely a preliminary one. Further experiments are being carried out and the outcome of these experiments will determine whether or not the conclusions given an be considered as definite.

Characteristics of Spontaneous Cancer in Mice

Dr. John W. Hunter, Philadelphia: During the last two ears I have studied spontaneous tumors occurring in 20 mice. In 5 mice the tumors were multiple, 1 mouse having tumors, 3 mice had three tumors, and 1 mouse had 2. All hese neoplasms were subcutaneous and for the most part ituated on the ventral aspect of the abdomen. These rowths usually began with a single unit—a simple acinus. In its further growth the form which the tumor takes is modified by (1) the energy of growth, (2) by the internal ressure, (3) by the resistance of the surrounding tissues. In these tumors three main structures are noted: (1) Simple alveoli, (2) larger ducts or alveoli, (3) cell masses. The rger ducts may show papillary ingrowths The cell masses sult from a crowding together of the alveolar structure. hey may undergo central degeneration and give rise to ducts or alveoli filled with colloid or empty, or sometimes may ow papillary ingrowths. I found fundamental differences the structure the widest noted being often found in the me tumor. The principal interest which attaches to mul-ple tumors lies in deciding whether or not they are metas-ses. In general, I found that the subcutaneous tumors in e same mouse were more nearly alike in structure than the mors in different mice; but this fact is not at all striking. e nine tumors of Mouse 3, the two of Mouse 5, the three of ouse 6, and the three of Mouse 15 were all very similar in ructure, consisting of small alveoli with more or less ten-ncy to cell massing. Tumors 2 and 3 of Mouse 17 were of ghtly different structure from the above, showing small veoli and large ducts but no cell masses, while Tumor 1 of is mouse revealed a combination of papillary and alveolar rmation. This similarity of structure would favor the idea that they are metastases, but, on the other hand, there are many reasons for believing them to be primary growths: (1) Their position is under the skin and not elsewhere; (2) their location is that of primary growths; (3) their origin is not in lymphatic glands; (4) ducts are present in their periphery; (5) they are about the same size.

DISCUSSION

Dr. Leo Loeb, Philadelphia: I desire to call attention to one mode by which apparently multiple tumors can be formed in a mouse. In one case I observed that a secondary tumor developed in the subcutaneous tissue of a mouse within a few days in direct approximation to the primary tumor. The most probable interpretation of this observation would be the following: The sprouting out or separation of certain parts of the primary tumor takes place and gives origin to a secondary tumor. Very soon ingrowing connective tissue separates entirely these two new growths. A similar process of new formation has been observed and recently described in lymph glands.

A Mucin-Containing Multilocular Cyst of the Ovary

Dr. Guthrie McConnell, St. Louis: In 1852, Scherer examined the material obtained from ovarian cysts and found two bodies that he called met-albumin and par-albumin. Further contributions were made by Scherer in 1865 and by Eichwald, but little was added to the original description. In 1882 the subject was taken up by Hammarsten who examined the contents of forty ovarian cysts. As a result of these investigations he concluded that the characteristic element of ovarian fluids was a substance to which he gave the name of pseudomucin. He also was of the opinion that the material called met-albumin by Scherer was the same as pseudomucin, while par-albumin was a mixture of pseudomucin and albumin, the latter largely in the form of serum albumin. Hoppe-Seyler in 1903 was of a similar opinion. In addition to pseudomucin, various substances known as mucoids are present in these tumors. One of these, occurring in the form of a jelly-like material, was described in 1895 by Mitjukoff and given by her the name of paramucin. Briefly summarized, there are mucin, pseudomucin and paramucin, the two latter being found in ovarian cysts, the first, according to Wells, is not found in such growths. In the case of a white woman, aged 45, the material was obtained *intra vitam* and examined chemically by the routine methods. It was found to differ from both pseudomucin and paramucin in its reactions, but to resemble true mucin in the following respects. On being boiled with acid it yielded a product that reduced Fehling's solution, it dissolved in very weak alkali solutions and was precipitated by the addition of acetic acid.

Primary Sarcoma of the Spleen

Dr. Guthrie McConnell, St. Louis: In February, 1907, a man of 29 strained his left side while lifting a trunk. This was followed by pain and difficulty in breathing. As a result he had to give up his work for two weeks. For several months following he was free from pain, then it again appeared, being worse at night. He finally improved gradually but noticed a swelling on the left side about the ninth rib. This slowly increased in size, but was not painful. In July, 1908, he was operated on, portions of two ribs being removed and the swelling examined. An *x*-ray picture had already shown that the trouble was below the diaphragm. On getting through the chest wall there was opened a cavity about the size of two fists. This was filled by a brownish-red, thick grumous material, resembling broken down splenic tissue The walls of the cavity were smooth. Microscopic examination of the tissue showed it to be spleen but scattered throughout it were found numerous small masses of atypical cells surrounding blood spaces, giving the appearance of a perithelial sarcoma or endothelioma. The patient made an uneventful recovery. Since the operation he has gained in weight, and at present, some four months later, is in good health.

The Reactions of Regenerating Tissues on the Animal Body

Dr. Charles R. Stockard, New York: Experiments have been conducted on animals regenerating new tissues in order to determine whether or not normal undifferentiated growths exert injurious or malignant effects on the bodies from which they arise. The experiments show that new regenerating tissue has the power to continue growing at the expense and to the exhaustion of the old body tissues. The regenerating part requires a certain amount of food in order to grow, but this food may be obtained in ways which differentiated tissues can not make use of; in fact from starving tissues themselves. Since the new parts in regeneration are formed directly out of the old tissues, we may assume that the excessive capacity of assimilation of young parts is connected with their lack of differentiation and, therefore, lost when differentiation takes place and regained again when differentiation is lost. Regeneration exerts an effect which is in a degree malignant on animals as different medusæ and salamanders. The power of regeneration is only present to a limited extent in men and mammals, yet their general processes of growth are similar to those of lower animals.

DISCUSSION

Dr. Leo Loeb, Philadelphia: The interesting experiments of Dr. Stockard demonstrate the dependence of the growth of one part of the body on the other parts. His results take perhaps a position midway between two other sets of experiments. About fifteen years ago Miss Bickford showed that during the process of regeneration new organs are formed in tubularia through direct transformation of one part of the body into a new organ. Morgan gave to this process the name "morphallaxis." Another process differing in some respects but still related has been described in fishes by Miescher. This author found that at certain times in the life of a fish the growth of the ovaries takes place at the expense of the muscle tissue, which latter is partly used up in the course of the process.

I am not certain that the cachexia which we find frequently during the growth of malignant tumors is due to similar conditions. I am inclined to believe that such cachexia is due to secondary processes of an entirely different character. As to the effect of calcium and potassium salts respectively on the growth of tissues I am inclined to regard the difference in the contents of calcium and potassium salts in necrotic and in growing tissues as a secondary condition, and not as a cause of tumor growth. We know that calcium is liable to be deposited in necrotic areas of various kinds and that on the other hand the protoplasm of cells contains relatively more potassium in contradistinction to the surrounding body fluids which usually contain more sodium. I am not certain that control tests have been published which would establish that growing tumors have a much larger content in potassium than other organs rich in cells and poor in connective tissue. In Dr. Stockard's experiments, potassium in the surrounding body fluid seems to be favorable to tissue growth. This condition is different from the one found in growing tumors in which the potassium has been found inside the cells.

A Study of Heredity with Reference to Susceptibility to an Inoculable Tumor of Japanese Waltzing Mice

Dr. E. T. Tyzzer, Boston: An adenocarcinoma occurring in a Japanese waltzing mouse was successfully transplanted to normal individuals of the same variety. It has now been propagated by inoculation from animal to animal for more than two years and its inoculation into waltzing mice has invariably yielded a high percentage of positive results. In most experiments, 100 per cent. of the waltzing mice inoculated developed tumors. The inoculation of tame white or colored mice has in all cases resulted negatively. In order to obtain data concerning the inheritance of the susceptibility to this inoculable tumor, a certain stock of common mice were bred with Japanese waltzing mice. In the first experiment, the offspring of common males and Japanese waltzing females were inoculated with the result that tumors developed in every instance. The offspring of Japanese waltzing males and common females were then tried and these also were found susceptible in every instance. In each experiment, comparative series of an equal number of common tame mice, of Japanese waltzing mice, and of their hybrid offspring were inoculated with the same tumor at the same time. The inoculation of common mice resulted negatively in all instances, while tumors developed in all the Japanese waltzing mice, and also in the first generation of hybrid offspring irrespective of whether they were derived from a common mother or from a Japanese waltzing mother. It was at this time observed, and has since been found true in all succeeding experiments, that the average rate of tumor growth is more rapid in the series of first generation hybrids than in comparative series of Japanese waltzing mice. If the rate of tumor growth is compared in individuals rather than in the entire series, exceptions to this general rule are not infrequent; that is, in certain Japanese waltzing mice the tumor may attain greater size in a given time than in certain individuals of a comparative series of first generation hybrids. On the basis of results such as these, it was thought at that time that the susceptibility to an inoculable tumor might possibly be inherited in accordance with Mendel's law. Susceptibility and non-susceptibility would then be considered "characters," and in this instance susceptibility would be a dominant character since it was manifested in all the hybrids of the first generation. In order to test this hypothesis, the first generation of hybrids were bred *inter se*, and in the series of experiments which followed, fifty mice of the second generation were inoculated. They invariably failed to develop tumors, while control series of both Japanese waltzing mice and first generation hybrids developed tumors in every instance. So far only three mice of the third generation have been inoculated, and these three gave negative results. Thus it is evident that neither susceptibility nor non-susceptibility to the inoculable tumor used are of themselves of the nature of Mendelian characters. It does not appear, however, that on these grounds the influence of heredity is to be disregarded, for there remains the distinct racial difference of common mice and Japanese waltzing mice in their susceptibility to the tumor used.

The Relationship of Spirochetes to Cancer Mice

Dr. H. R. Gaylord, Buffalo: This paper is a continuation of observations published in 1907 in *The Journal of Infectious Diseases*, on a spirochete in primary and transplanted carcinoma of the breast in mice. Continuation of the search for spirochetes in hardened sections stained by the Levaditi method, of primary mouse tumors, showed spirochetes present in large numbers at the margins of 40 primary tumors out of 48 examined. Of these 4 tumors were contaminated and were discarded, 4 were not contaminated and did not contain spirochetes, so far as the sections examined would indicate. Having determined the great frequency of these organisms in primary tumors, it became desirable to investigate the blood of mice suffering with tumors and also the blood of mice from various sources, to ascertain the relative frequency of spirochetes in the blood. By use of the Reichert dark-groun illuminating apparatus, it was found that a large number of mice with primary and transplanted tumors had spirochetes in the blood. Ten mice without cancer from a breeding establishment in Massachusetts where cancer is endemic, showed 7 positive, 3 negative; 15 mice from the District of Columbia examined on the same date showed 11 positive, 4 negative; 10 more from the same source gave 6 positive, 4 negative; 1 from Detroit, Mich., gave 9 positive and 3 negative; 5 mice reared in the laboratory, 2 positive, 3 negative. From these observations it will be seen that spirochetes can be found i the blood of apparently normal mice in about 70 per cent. o all cases investigated at a given time. Since the publicatio of my original paper I find that the mouse spirochete can b stained, although with difficulty, with the Giemsa stain, an with the aid of the dark-ground illuminating apparatus th presence of a flagellum can be occasionally demonstrated. Attempts to find spirochetes in the enclosed tumors of animal other than mice have been entirely without result. The entir absence of spirochetes in enclosed human cancer, in cancer i animals other than mice, and the occurrence of occasiona strains of transplanted mouse cancer without the presence (spirochetes, are strongly opposed to any etiologic relatio between spirochetes and cancer in general. The extren prevalence of spirochetes in mice is amply sufficient to explain the presence of spirochetes at the margins of primary cancer in these animals.

Primary Lymphosarcoma in Dogs Treated with Injections of Fluid Blood from Recovered Dogs

Dr. H. R. Gaylord, Buffalo: As further evidence of immunity in the blood of animals recovered from lymphosarcoma, as shown by the transfusion experiments of Crile and Beebe, I report three cases of lymphosarcoma, all in bull dogs, one bitch and two dogs, which were treated by injection of fluid blood from an immune dog furnished by Dr. Beebe. The blood was taken directly from an artery into a test tube containing Hirudin in salt solution which prevented coagulation of the blood, and the injection was made into the base of the tumors with the result that all tumors so treated retrograded and ultimately disappeared. All three dogs have remained free from tumors since the time of treatment to date, about four months. The apparent importance of preventing coagulation of the blood suggests the possibility that the leucocytes play an important rôle in the preservation of the immune characteristics of the blood of recovered animals, and suggests the desirability of isolating the leucocytes of immune animals, a series of experiments to this end having already been undertaken.

An Epidemic of Cancer of the Thyroid in Brook Trout in a Fish Hatchery

Dr. H. R. Gaylord, Buffalo: This is a preliminary report on the investigation of a fish hatchery, in which an epidemic of carcinoma of the thyroid in two-year-old brook and brown trout exists at the present time. In this hatchery, the water supply is from a spring coming out of a hillside, which runs into a basin or pond from which it is piped to a small reservoir and then through a series of tanks which draw their supply directly from the reservoir. Carcinoma of the thyroid was discovered in a fish in the basin on the hillside two years ago. One year ago, this basin was emptied and restocked with young fish and feeding was practiced for the first time in this upper pond. Of the tanks fed from the water passing through this pond, one tank containing 3,700 brook trout 2 years old, hatched from eggs brought from a hatchery in an adjoining state where the disease is not known to exist, showed 700 fish in various stages of the disease. The outbreak occurred in the early autumn and fresh cases are coninually developing. In an adjoining tank, which has no connection whatsoever with the tank in question, are 200 brown rout reared from eggs hatched on the premises. Between 3 nd 4 per cent. of these fish show disease. The infected ish at no time have come in direct contact with the fish in he upper pond where the disease is known to have existed; either at any time have the brook trout and the brown trout een in contact with each other. I believe that the state of ffairs found in this fish hatchery point very strongly to the nfectious nature of this form of cancer and that the conagion is water-borne. It is possible that feeding liver into he waters of the fish hatchery has some relation to the outreak in this case. I know of a second fish hatchery where he disease was endemic for a number of years, and where the eding of liver has been changed to the feeding of chopped a fish and in the last three years the disease has disapeared. I also know of two other fish hatcheries in which he disease is endemic, and I am undertaking a systematic nd careful study of a number of fish hatcheries for the purose of further determining the conditions under which the isease occurs.

DISCUSSION

Dr. James Ewing, New York: Two years ago I received veral fish which came from a hatchery, the location of hich I do not know. Some of the tumors were large and icroscopic sections showed them to be rapidly growing carnoma of marked virulence.

Dr. Coley, New York: I sent Dr. Ewing the specimens of ncer in fish two years ago. They were obtained from a prite hatchery in central Pennsylvania, at which time there ere a considerable number of fish suffering from the same sease.

NEW YORK ACADEMY OF MEDICINE

SECTION ON SURGERY

Regular Meeting, held Jan. 8, 1909

Dr. Ellsworth Eliot in the Chair

Direct Blood Transfusion for Gastric Hemorrhage

Dr. Charles H. Peck: This patient, a woman, was admitted to the hospital on July 1, after having had ten severe hemorrhages from the stomach in seven days. On account of her critical condition operation was deferred and the following day fresh bleeding occurred. Transfusion of blood was decided on, the woman's husband being the donor. The flow was maintained for thirty-five minutes with immediate improvement to the patient. Before the transfusion was begun the hemoglobin was 30 per cent., the red cells 999,000 and the blood pressure was 105; immediately after transfusion the hemoglobin was 60 per cent., the red cells numbered 2,400,000 and the blood pressure was 144. On July 7 her pallor increased and hemoglobin was again 30 per cent. and red cells 1,040,000 and gastroenterostomy was performed. There were no macroscopic evidences of ulcer and her convalescence was uneventful, the patient leaving the hospital twenty-four days after the gastroenterostomy. The case was interesting because of the direct benefit following the blood transfusion. I am unable to say just what part gastroenterostomy played in the recovery.

Sarcoma of the Calf of the Leg

Dr. John F. Erdmann: The illness of this patient, a dentist, aged 22, began two years before he saw me. His right calf was swollen and larger than his left. The calf gradually increased in size, becoming hard and fixed. It was semifluctuant and the size of a cocoanut. The circumference was 19½ inches. I excised the tumor, taking away with it the gastrocnemius, together with all tissue that looked suspicious. The man made a perfect recovery; he has no difficulty in walking or standing and can raise the body while standing on the affected foot alone.

Direct Blood Transfusion with Description of a Simple Method

Dr. John A. Hartwell: The improved method of end-to-end suture of the donor's artery and the recipient's vein, as practiced by Carrell, gives perfect results in animals, and has been used with success in the human subject. It is, however, a very difficult operation, and in the hands of many surgeons has failed because of the formation of a clot. Its success depends on the most rigid asepsis, and a careful attention to every detail. My experiences, as well as those of others, led me to devise some simpler and more certain method for the transfusion of blood. The radial artery of the donor is dissected out for a distance of two inches, or more if convenient, under cocain anesthesia. The small branches are isolated and tied, and a ligature thrown around the distal end, but not tied. The wound is covered with a moist, warm pad. An accessible vein in the forearm of the recipient, below the bend of the elbow, is exposed for the same length. If possible, a small tributary is dissected free for an inch at some point central to the proposed site of anastomosis. This is loosely clamped at its distal end. A ligature is then tied around the distal end of the main vein, and the vein divided just central to it. If needed, a light obstructing clamp is put on the vein higher up, but this is not always required. The adventitia is carefully stripped from the cut end of the vein, and three sutures of fine silk impregnated with petrolatum are passed through the media and intima on the cut circumference of the vein. The wound is then covered with a moist warm pad. The artery ligature is then tied, an obstructing clamp is gently placed on its exposed central part, and the artery is divided with sharp fine scissors just above the ligature. The adventitia is removed from the cut end, and then a small roll of it is slid upward along the artery for a distance of an inch or more, and left attached. Through this a silk ligature is passed, tied and cut about one-half of an inch long. The artery is then immersed in liquid petrolatum, and by means of a small forceps gently grasping it at about one inch from its cut end, is passed directly into the mouth of the vein, which is held open with the three sutures. The arterial wall is sufficiently rigid to make this step easy. One, or if need be two, of the venous sutures are then clamped either to the suture in the adventitia, or to a radial branch, in order to prevent the separation of the two vessels, and the excess of venous circumference is clamped so as to hold the artery snugly, but not to constrict it. The obstructing clamps are then removed, and the flow proceeds. The dangers to the recipient attending the operation fall under four heads, viz., a hemolytic action of one blood on the other, the entrance of blood or air emboli into the circulation, the use of a donor who had some undemonstrable communicable blood disease, and overdistention of an enfeebled right heart. The following conclusions are offered: 1. The operation of direct blood transfusion as practiced with suture and canula shows a large percentage of unsatisfactory results. It requires special instruments and unusual skill for its successful execution. 2. The direct entrance of the artery into the vein has proved a simpler and more satisfactory method in a large series of experiments and in one clinical case. 3. At present we have no means of obtaining accurate knowledge of the quantity of blood entering the vein. The changes in hemoglobin, red cell count, pulse rate and blood pressure must all be given weight in estimating this quantity. Actual weighing of the donor may solve the problem. 4. The operation is not without danger from hemolysis, embolus or overdistention of the right heart, but with proper care these should be avoidable. All the animals used in the work were fully anesthetized with ether.

Plastic Surgery of Blood Vessels and Direct Transfusion of Blood

Dr. Isaac Levin: This late development of vascular surgery is due to the special difficulties encountered in dealing with this organ. Here, in addition to the usual aseptic precautions, the surgeon has to take into consideration the possibility of a secondary hemorrhage and the formation of thrombosis with subsequent arrest of the circulation and embolism in some vital organ. To implant an arterial segment successfully means to avoid the formation of an intravascular thrombus after operation. Blood remains fluid so long as it circulates in a vessel lined with unimpaired living endothelium. Should the endothelium be injured a thrombus must form. In the implantation of arterial segments of different animal species, and segments that have been kept for days in an ice box at a temperature of 0 and 1 C., the question presents itself whether these segments remain alive or whether it is possible to implant devitalized arterial segments. In collaboration with Dr. John Larkin, I performed a series of experiments with the transplantation of devitalized segments. The technic followed was that elaborated by Dr. Carrell. In the first series of experiments we transplanted into the abdominal aorta, in two dogs and two cats, segments of the abdominal aorta of the same species of animals placed for a few minutes in boiling water. In the second series, we transplanted into the abdominal aorta, in two dogs, segments of a human ureter procured at a fresh autopsy and hardened in 4 per cent. formalin. In both series the circulation in the femoral arteries ceased soon after the operation, paralysis of the lower extremities developed, and the animals died within twenty-four hours. The autopsies showed that the implanted segment had collapsed and presented a much smaller lumen than the abdominal aorta of the host. In a third series, we implanted in the abdominal aorta in two dogs and two cats segments of the abdominal aorta of the same species hardened in 4 per cent. formalin. The segments selected had the same lumen as the abdominal aorta of the host. The result in every experiment was the formation of thrombus, paralysis of the lower extremities and death within two or three days after the operation. We then selected segments with a wider lumen than the aorta of the host. One animal did well for ten days and then died. Both anastomoses held perfectly; the implanted piece was patent without any thrombi. A second animal also did well for ten days, but died under anesthesia given for the purpose of dressing the wound. These results seemed to show that for ten days the blood was passing through a dead canal and it remained fluid. It seems only necessary that the implanted tube have a very smooth surface, that its lumen correspond perfectly with the lumen of the rest of the blood vessels and the line of anastomosis be perfectly smooth and even. The temporary anastomosis required for the direct transfusion of blood is more readily and quickly accomplished with the aid of some mechanical appliance.

Clamp Designed for Direct Blood Transfusion

Dr. Isaac Levin: This clamp requires less complicated technic and less time for the performance of the operation than Crile's instrument does. The instrument is an artery clamp without the grooves. At the tip of each blade there is attached a small canula with a smooth bore, and at the inner edge of each canula are attached four small pin points and on the other surface of the canula four grooves are cut. When the clamp is closed the pins of one canula lie in the grooves of the other. At the beginning of operation the halves of the canula are separated; the vein is pushed through one canula and its wall is hooked on the pins. The same is done with the artery and the other half of the clamp. Then both halves are united and clamped. Both blood vessels are thus connected with the serous surfaces.

Discussion on Blood Vessel Surgery

Dr. George E. Brewer: I have ideas similar to those of Dr. Hartwell, and have experimented with the result that I present two glass tubes that I have made. At each end there is a small nodule and a sulcus in which the vessel is to be tied. It is coated with a liquid paraffin. I have tried these tubes on animals with success; the operation is easy and the results marvellous. I have taken a dog; bled him until he was apparently dead, then transfused from another dog until the first one was resuscitated and the second nearly dead, repeating this many times. This is but a preliminary report of my work.

Dr. George Woolsey: When I saw Dr. Crile perform the operation it looked easy, but I found that the technic was not so easy. The great improvement shown is in the time consumed in operating.

Dr. C. Clarence Sichel: I performed transfusion on a woman who had a profuse hemorrhage following delivery, the donor being the husband. The glass tube was used and a perfect recovery followed the operation.

Dr. Charles H. Peck: I have used the canula for transfusion in three cases successfully.

Dr. Clarence A. McWilliams: In four cases I have transfused with the Crile method, two being successful and two being failures. The failures were due to the fact that the radial arteries were small, the canulæ also were small, and when the vein was pulled through there was no lumen left. The Crile method was somewhat uncertain.

Dr. Charles A. Elsberg: I have devised a simplified transfusion canula which has proved successful in my hands.

Exarticulation of Shoulder for Carcinoma of the Humerus

Dr. Joseph Wiener: A Russian, aged 56, had had endocarditis for several years. About a year and a half ago he sustained a fracture of the upper third of the humerus, which was followed by good union. About six months ago he began to have pain in the right arm, which steadily grew worse. During the past two months there was complete disability of the right arm. The whole upper extremity was seen to be atrophied from the disease. At the upper third of the humerus there was a bony tender swelling. A small hard nodule was noted in the median line of the prostate. There were no urinary symptoms. The fluoroscope showed the bone in the upper third of the humerus to be completely destroyed. Exarticulation at the shoulder was performed. The tumor involved the shaft of the humerus and had perforated into the muscles. A diagnosis of metastatic carcinoma possibly primary in the prostate was made.

Other Papers Read

"Fracture of the Os Magnum," by Dr. E. W. Peterson; "Foreign Body in the Intestines," by Dr. W. S. Schley; "Supracondyloid Fracture of the Left Humerus, with Malposition of the Fragments," by Dr. Joseph Wiener.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

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(*Concluded from page 322*)

Repair of the Internal Ring in Oblique Inguinal Hernia

Dr. F. Gregory Connell, Oshkosh, Wis.: The methods of radical cure of oblique inguinal hernia may be divided into two unequal divisions: 1. That in which the result is an anatomic reproduction of the normal relations. 2. That in which the resulting relations are markedly different from the normal. The various steps in the anatomic repair of oblique inguinal hernia consist of, (1) the removal of the sac, with redundant parietal peritoneum; (2) repair of the internal ring; (3) protection of the ring by suture of the internal oblique muscle to Poupart's ligament; (4) reunion of the aponeurosis of the external oblique muscle with the formation of a proper external ring.

Diagnosis and Treatment of Renal Calculi

Dr. Daniel N. Eisendrath, Chicago: The number of cases in which calculi are found in both kidneys simultaneously is increasing. The chief points in the diagnosis, so far as symptoms are concerned, are hematuria, pain and passage of calculi. X-ray diagnosis is of value, and also a thorough knowledge, before operating, of the *x*-ray functional action of each kidney. The treatment is chiefly surgical. The operation of choice is nephrotomy and pyelotomy.

DISCUSSION

Dr. W. D. Haines, Cincinnati: The mistake of operating on one kidney without knowing the condition of the opposite one has been the undoing of several men. I do not wholly agree with Dr. Eisendrath that he would not operate for stone in case he could not find x-ray evidence of it. I removed a stone from the kidney year before last in the face of the disputing evidence of the *x*-ray. A very competent man made several exposures and could not find a stone; but the patient had the symptoms of continuous microscopic blood in the urine for quite a period of time; he had pus in the urine, and typical colic coming on at various times, and I thought that with these three symptoms, even though the *x*-ray did not show a shadow, I would be warranted in operating, and so in this instance did so, removing the stone. While I like the laboratory method of making a diagnosis, we must not get away from making it without the aid of the laboratory.

Dr. M. L. Harris, Chicago: The clinical history of cases in which the stone is in the substance of the kidney is often obscure. I have just had such a case, and removed stones from a man who was sent to me with a diagnosis of chronic appendicitis, because of the indefiniteness of the symptoms and the fact that he had a little tenderness and more or less pain on the right side. In these cases, the pain is indefinite and more or less continuous, but is increased by violent exercise or labor. He was a laboring man and complained of backache. Continued microscopic examinations of the urine showed very few red blood cells, but they were practically constant. Considering the pain, the presence of blood cells n the urine, and a vague sense of discomfort in the lumbar region high up, some *x*-rays were made which showed that he cause of the discomfort was a calculus in the parenchyma of the kidney, not communicating at all with the pelvis. It was removed with gratifying result.

Dr. B. B. Davis, Omaha: In the case of a woman, pregnant ive months, on whom I operated with the idea of anchoring movable right kidney, much to my surprise, I found a large tone, very rough and lobulated, in the pelvis of the kidney. This was removed, the kidney anchored at the same time, and he woman made a good recovery, went on to term, and was delivered safely at the end of nine months.

Dr. W. W. Grant, Denver: In a case of cystic adenoma in which I operated, the symptomatology simulated kidney tone; I removed the kidney. It has been nearly two years ince the operation, and the patient, a woman, has been perfectly well.

Removal of the Gall Bladder

Dr. Archibald MacLaren and **Dr. H. P. Ritchie**, St. Paul: Cholecystectomy was performed twenty-one times in 165 operations on the gall bladder, liver and pancreas. Pain is the most constant symptom and was definitely localized in the gall bladder in all cases, except two, in which the symptoms were ascribed to other abdominal conditions. Inflammatory history was obtained in fourteen cases. The occurrence may have been remote, recent, or immediate. Tumor was found in seven cases. Ages of patients ranged from 25 to 74 years. There were four cases in males and seventeen in females. The gall bladder was without stones in four cases. In six histories there was evidence of jaundice, in three of these cases there was a stone in the common duct, and in the other three a stone was found in the cystic duct. Three cases showed perforation of the gall bladder. In two cases the gall bladder was removed at a second operation. The cystic duct was tied nine times, and drained with tube nine times. Once the forceps was left *in situ*. The reasons for removal of the gall bladder were: Contracted and useless gall bladders in ten cases, dilated and hypertrophied in six cases, phlegmonous and gangrenous gall bladders, one case, empyema two cases, mucous fistula two cases. Results: three deaths have occurred—14.2 per cent. mortality. The gall bladder was removed in three cases in which the common duct was involved. We believe in leaving the gall bladder in common duct cases for the purpose of cholecystenterostomy if it could be so used when needed. Both drainage and ligation of the cystic duct are proper procedures and depend on the individual case.

The greatest interest in the pathology of the gall bladder is centered in the gross changes. Each specimen should be studied for malignancy, but usually ends in demonstrating different degrees of changes resulting from infection or circulatory interference. No specimen of our series was removed until it was definitely shown that the organ was irreparably damaged. It is difficult to lay down rules for the removal of the gall bladder. The fear of a second operation has been the cause of the excision of organs which might have been saved. In nine cases contracted and cystic gall bladder empyema from typhoid fever and other conditions were left and the patients remained well from varying periods up to nine years. Often after drainage bile will not commence to flow until the fourth or even up to the seventh day. There are many cases in which the gall bladder is so definitely diseased that there would be no question as to the necessity of removal. Those cases in which it is difficult to decide are cases of cystic gall bladders in which the stone has been impacted a short time, or those which present small hemorrhagic spots, or moderate-sized perforations. And we believe with Deaver that in case of doubt we should drain. Pancreatic disease occurs frequently in gall-bladder diseases and drainage is necessary for cure. The fact must not be overlooked when the question of cholecystectomy is to be considered. Cholecystectomy is influenced by the surgeon's own experience, and we must not look at the records of others and tell patients that the mortality from this operation has been reduced to 2 or 3 per cent., forgetting that the man whom we are unconsciously quoting has only attained his 3 or 4 per cent. by a greater experience than our own, and no doubt through bitter trials and losses.

New Incision to Reach the Bile Tracts

Dr. Clifford U. Collins, Peoria, Ill.: This incision through which to reach the bile tracts begins at the inner edge of the right rectus muscle within two inches of the ensiform cartilage, and extends diagonally downward and outward through the skin, fat and anterior wall of the sheath. The rectus muscle is separated from its sheath and retracted outward. The same diagonal incision is then made through the posterior wall of the sheath and peritoneum. A short transverse incision from the upper end through the linea alba, and another from the lower end through the linea semilunaris complete it. The advantages are: 1. There is not a continuous opening down through the layers of the abdominal wall. The opening through the aponeurotic structures are protected by the uninjured muscle, which lies between them. 2. The intercostal nerves are not injured as they enter the muscle through its outer border. 3. It makes a stronger closure when drainage is required. The tube or gauze holds the rectus muscle to the outer side. When it is removed, the muscle slides over to its former bed and places a barrier of uninjured muscle across the drainage tract. 4. No injury is done to the muscular structure. An instrument to facilitate the removal of stones from the first portion of the common duct consists of forceps with an incomplete ring at the end of each jaw covered with rubber tubing. If the stone is found in the first portion of the comon duct, or can be pushed up into the first portion, the lower jaw of the forceps is passed into the foramen of Winslow below the stone. When the jaws are closed, the incomplete rings will surround the stone and it may be drawn up into the incision.

Pericolitis

DR. JABEZ N. JACKSON, Kansas City, Mo.: Pericolitis has been said to be due to adhesions about the colon, mostly of unknown origin. I believe that there is a form with a distinct pathologic identity, and characterized by a distinct clinical picture, and for which an operation is suggested. Thus far my experience is limited to five experiences of rather recent date, and while therefore not conclusive, has been sufficiently satisfactory to warrant hope in its future. This pericolitis is characterized by the formation of an apparently entirely new layer of distinctly vascularized peritoneum in which the vessels are parallel and appear to begin on the outer side at the root of the mesocolon, whence they advance on to the colon and then generally pass in the direction parallel to the long axis of the ascending colon. This membrane serves to bind the ascending colon close to the posterior abdominal wall, and the longitudinal strands tend to produce a shortening and often a marked angulation of the colon. Sometimes this membrane passes across the ascending colon and up on to the transverse colon, which is then drawn downward and to the right until the transverse colon parallels the ascending colon and a distinct angulation is produced at the hepatic flexure above and below where the transverse colon turns back. With this latter condition the stomach is always drawn down and a mechanical gastroptosis is produced. The general effect of this membrane is a mechanical interference with the free peristalsis of the colon, also the stomach, thus producing stagnation, distention, pain, flatulency and a train of nervous symptoms distinctly neurasthenic in character. This condition is believed to be of very frequent occurrence, and must have been observed by all surgeons of experience, but thus far has not been adequately described. I have found that this membrane can be dissected off *in toto*, and when this is done the mobility of the colon is restored.

Gastric and Duodenal Ulcer

DR. W. D. HAINES, Cincinnati, Ohio: From 1 to 4 per cent. of all cases in which autopsy was performed in Europe and the United States exhibited ulcer evidence ranging from active ulcer to carcinoma. Lymph anastomosis may be traced from the stomach until the flow is emptied into the general circulation. The gland-bearing tissue between the lesser curvature of the stomach and the pancreatico-splenic group of glands should be removed in operating for cancer of the pylorus. By pushing an instrument through the crater of the ulcer-producing artificial perforation, ligating the surrounding varicose vessels and turning in the margin of the ulcer by two layers of serous sutures, local rest is obtained for the inflamed indurated tissues, and a gastrojejunostomy completes the technic. Nearly all gastric cancers have their origin in chronic ulcer. I recommend excision of the ulcer-bearing area after the method of Rodman, when practical, as the best method of dealing with chronic ulcer.

Mistakes in Diagnosis in the Upper Abdomen

DR. JAMES E. MOORE, Minneapolis: I make no effort to elucidate obscure or moot points in diagnosis, but endeavor to point out some common errors that can and should be avoided. The principal reasons for mistakes in diagnosis in all regions of the body is lack of careful and systematic examination, and the two special reasons for mistakes in the upper abdomen are difficulty in palpation and the comparatively recent origin of upper abdominal surgery. I cite a case in which two operations had been done, one for appendicitis, and one for gallstones, and in which the whole trouble was due to splanchnoptosis. I desire also to direct attention to the dangers of a false history given by a neurasthenic patient, especially every female patient, coming for examination for conditions in the upper abdomen accompanied by abdominal crises, should be carefully examined with a view of establishing the presence or absence of splanchnoptosis because of the dangers of mistaking crises due to ptosis of organs, for gallstones and for other conditions. It is not safe to conclude in the presence of splanchnoptosis that the patient is not suffering from other pathologic conditions, because they are often combined. The evidences of ptosis of the various organs are so plain that they should always be discovered when proper examination is made. The liver is more frequently misplaced and misshapen than is generally understood, and is liable to give rise to mistaken diagnoses. There is danger of overlooking pathologic conditions amenable to surgical treatment in neurasthenic patients. Pott's disease in its early stages, when located in the middle or upper dorsal region, causes pain that has frequently been the cause of mistaken diagnoses. This mistake can usually be avoided by ascertaining the presence or absence of the spine.

Surgical Types of Abdominal Tuberculosis

DR. WILLIAM L. HAGGARD, Nashville: After the lungs and bones, the intestines, pelvic organs and peritoneum are the strongholds of tuberculosis. The duodenum and esophagus seem practically immune, due to the rapid passage of the contents of these tubes which allows no opportunity for microbial fixation. The stomach immunity seems to be due to the destructive action of the gastric juice on the tubercle bacilli. There are nine instances of primary tuberculosis in the literature and fifty-seven cases of secondary involvement of the stomach. The small intestines are usually involved secondarily, but primarily oftener than was formerly believed. About 25 per cent. of tuberculosis is said to gain entrance into the system through the intestinal mucosa. It is a disorder of child life, due most probably to infected cow's milk. Intermittent pain and diarrhea are the chief symptoms; strictures and peritonitis are the principal sequelæ. Nearly half of the cases of intestinal stenosis are caused by tuberculosis. Eighty-five per cent. of abdominal tuberculosis occurs in the ileocecal region. Swallowed bacilli are causative. Chronic obstruction sometimes results. Chronic peritonitis with ascites is usually tubercular. Abdominal tuberculosis occurs in females in proportion of 4 to 1. The Fallopian tubes account for this greater prevalence. Patients failing to improve under treatment should have an exploratory laparotomy. Simple laparotomy cured only those cases of the ascitic variety in which the tube becomes adherent, and the tubercular process thus becomes obliterated. Recurrent cases require removal of the focus of disease in the tubes for permanent cure. The ulcerative and fibrous type are unsuited to operation. The suppurative form is usually fatal in spite of operation. Aside from sacculated peritonitis the most constant tumor is the thickened, sausage-shaped omentum lying transversely above the umbilicus. Diagnostic tuberculin was found to give positive results in the majority of cases. Only a third of the medical cures were permanent. Operation gives 85 per cent. of cures. Advanced visceral tuberculosis contraindicates operation. Abdominal operation should include examination of the cecal region, and the pelvis, with removal of all foci without drainage. The operative mortality is not over 3 per cent. I observed postoperative tuberculous wound infection in three cases. Fresh air, sunshine, rest, nourishment, and the tuberculin bacillary emulsion are important.

Peritoneal Adhesions

DR. A. W. ABBOTT, Minneapolis: The cause of peritoneal adhesions is often questionable. Rough handling, hemorrhage and traumatism are given more credit than they should receive. The relation between adhesions and symptoms is very contradictory. Extensive adhesions often are not accompanied by symptoms; and, *vice versa*, severe symptoms are accompanied by very few adhesions.

The Versatile Omentum

Dr. Frederick A. Dunsmoor, Minneapolis: I use the omentum as a patch for wounded intestine, denuded peritoneum, or to fill in ulcerations which are not readily or safely closed. When large pus cavities are opened, after removing the pus and wiping contaminated parts with iodoform gauze, the omentum is in all cases, where possible, made to adhere to the infected part instead of using a drainage tube. 1. It seems sensible to follow natural and physiologic efforts in attempts to cure. 2. The functions of the omentum to combat infection and drain dangerous elements from the peritoneal cavity are well established. 3. We should aim to secure the assistance of such functions, and at the same time use ingenuity to prevent permanent adhesions which might be harmful. 4. We should deprecate the wasteful amputation of parts of the omentum appearing redundant or occupying the hernial sac. 5. Damaged over-affected or strangulated portions of the omentum should be removed, in order that greater utility may be possible from the remainder.

Colles' Fracture

Dr. J. W. Andrews, Mankato, Minn.: Diagnosis can be made by inspection. Crepitus and increased mobility are rarely present. An anesthetic is necessary for complete reduction, if not for accurate diagnosis. The injuries sustained by the soft tissues are extensive and important. In this form of fracture rapid bony union is the invariable rule. The prevention of deformity is not always possible.

The Cancer Question

Dr. J. E. Summers, Omaha: Cancer deserves equally as much attention by the laity as does tuberculosis. More women die of cancer than of tuberculosis. In a better education of the public lies the hope of the prevention of cancer. In its early recognition lies the promise of cure.

Other Papers Read

The following papers were also read: "Splenic Anemia," by Dr. Van Buren Knott, Sioux City, Iowa; "Abdominal Tuberculosis," by Dr. W. D. Haggard, Nashville; "The Surgeon and His Ideals," by Dr. W. E. Rochford, Minneapolis; "Diagnosis and Treatment of Cancer of the Uterus," by Dr. George C. Barton, Minneapolis; "Abdominal Pregnancy; Report of a Case, with Operation and Delivery of the Living Child," by Dr. J. N. Warren, Sioux City, Iowa; "Treatment of Retrodisplacements of the Uterus," by Dr. A. C. Stewart, Duluth, Minn.; "Technic of Cleft Palate Operations," by Dr. J. R. Eastman, Indianapolis; "Accidents and Complications in Goier Operations," by Dr. Charles H. Mayo, Rochester, Minn.; "Plastic Surgery of the Abdominal Wall," by Dr. R. C. Coffey, Portland, Ore.

Medicolegal

mportant New Ruling on Waiver of Privilege by Plaintiff in Malpractice Case

The Court of Appeals of New York says that the case of Capron vs. Douglass was to recover damages against the defendant, a physician and surgeon, for malpractice in treating fracture of the tibia and fibula of the plaintiff's leg. On the rial evidence by the plaintiff and his witnesses tended to how that the defendant was called as a surgeon to attend he fracture, and that he was negligent in reducing the fracure and in his subsequent care of the patient. After several weeks it was discovered that there had been no union, and the laintiff was then removed to a hospital, where an operation was performed by a Dr. G., aided by a Dr. D., one of the hospital's staff of surgeons, after which there was a union of the actured bones and recovery, but with the usefulness of the g somewhat impaired.

The contention of the defendant was to the effect that he had properly reduced the fracture, placing the broken bones in apposition, but that he was disappointed in their failure to unite, and that the cause of such failure was one that could not be determined by an external examination of the limb, and was only discovered after the plaintiff had been removed to the hospital and an incision made at the place of the fracture, when it was discovered that some of the muscles of the leg had intervened between the broken ends of the bones, preventing their coming together and forming a union. This condition of the fractured bones was discovered by Dr. G. at the hospital, who performed the operation, and was testified to by him as a witness for the defendant, without objection by the plaintiff. The defendant then called as a witness Dr. D., who assisted Dr. G. in the operation, but his evidence was excluded on the objection of the plaintiff's counsel, under the provisions of Section 834 of the New York Code of Civil Procedure.

Section 834 provides: "A person duly authorized to practice physic surgery, . . . shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity." Section 836 provides that the provisions of the section apply to a surgeon, "unless the provisions thereof are expressly waived on the trial or examination by the person confessing, the patient or client. . . . The waivers herein provided for must be made in open court, on the trial of the action, or proceeding, and a paper executed by a party prior to the trial, providing for such a waiver shall be insufficient as such a waiver."

There could be no question with reference to the discovery made by Dr. G. and Dr. D., in their operation on the plaintiff at the hospital, coming within the express language of the provisions of Section 834 of the Code, and the testimony, therefore, under ordinary circumstances would be privileged. But the question here presented was as to whether such privilege had been waived by the plaintiff on the trial. He and his counsel sat by, and permitted the testimony of Dr. G. to be given without interposing any objection thereto, thereby waiving the privilege which the plaintiff might have availed himself of had he seen fit. He had thus permitted the condition of his broken limb to be given to the public in an open trial, thereby forever preventing it and its condition from being a secret between himself and his physician.

The intent of the legislature in enacting the statute making such information privileged was, doubtless, to inspire confidence between the patient and his physician, so that the former could fully disclose to the latter all the particulars of his ailment without fear that he might be exposed to civil or criminal prosecution, or shame and disgrace, by the disclosure thus made, and thus enable the latter to prescribe for and advise the former most advantageously.

It would seem that under certain authorities the plaintiff, by admitting the evidence of Dr. G. to be given with reference to the discovery made at the operation, thereby also must be deemed to have waived the privilege as to Dr. D., who was there assisting Dr. G. in the operation. But the court prefers to place its decision in this case on broader grounds.

This action, as we have seen, was for malpractice. The plaintiff, both in his complaint and in his testimony, fully disclosed all of the details of his affliction as it existed both at his home and at the hospital. He gave in much detail how the fractures occurred, how they were treated, his pain and suffering, and so far as he was able to comprehend, when not under the influence of anesthetics, the particulars of the operation at the hospital. He himself had therefore given to the public the full details of his case, thereby disclosing the secrets which the statute was designed to protect, thus removing it from the operation of the statute. In other words, he had waived in open court on the trial all information which he might have kept secret, by disclosing it himself.

The character of the action necessarily called for a disclosure of his condition and the treatment that was adopted by the defendant and those assisting him. To hold that the plaintiff might waive the privilege as to himself and his own physicians, and then invoke it as to the defendant and his physicians, would have the effect of converting the statute into both a sword and a shield. It would permit him to prosecute with the sword, and then shield himself from the defense by the exclusion of the defendant's testimony. It would enable the plaintiff to testify to whatever he pleased with reference to his condition and the treatment adopted by the defendant, without fear of contradiction. The plaintiff could thus establish his cause of action, and the defendant would be deprived of the power to interpose his defense by reason of the closing of the mouth of his witnesses by the provisions of the Code referred to. Such a construction of its provisions the court thinks was never contemplated by the legislature. It would lead to unreasonable and unjust results. Instead thereof, the court prefers a construction of the provisions of the Code to the effect that when the privilege of the plaintiff has been once waived by him in court, either by his own testimony or by that of others given with his knowledge and consent, and his physical condition has been given to the public, the door is then thrown open for his opponent to give the facts as he understands them. This, to the court's mind, affords a more just and equitable rule, and is the one that was evidently contemplated by the legislature.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

January 14

1 *Football Injuries of the Harvard Squad for Three Years Under Revised Rules. E. H. Nichols and F. L. Richardson, Boston.
2 *Typhoid Carriers Found in a Series of Typhoid Fever Patients at the Time of Their Discharge from the Boston City Hospital. W. T. Graham, C. L. and J. E. Overlander and M. A. Dailey, Boston.
3 Reminiscences of America. M. Boehm, Berlin.
4 Epidemic of Dengue in the Philippine Islands. H. W. Jones, U. S. Army.
5 How May the Medical and Scientific Spirit Best be Promoted in Our Institutions? C. A. Drew, Bridgewater, Mass.

1. **Football Injuries.**—Nichols and Richardson analyze the injuries received by the Harvard football squad during the season of 1905, under the old rules, and the seasons of 1906, 1907 and 1908 under the revised rules. They conclude that not only has the number of injuries been markedly diminished, but there has been a diminution in the average of severity, and the character of the game has been changed for the better, not only from the point of view of the player and the spectator, but also from that of the surgeon.

2. **Typhoid Carriers.**—As the result of careful experiments at the Boston City Hospital, Graham, C. L. and J. E. Overlander and Dailey found 23 per cent. of a series of 65 typhoid patients showing typhoid bacilli in the stools and urine for ten days before their discharge. The authors urge that the stools and urine of all typhoid patients be examined for typhoid bacili during the last ten days preceding their discharge from medical care, and those patients with positive stools or urine should be detained. If at the end of ten weeks bacili are still present, the patients should remain under the supervision of the Board of Health wherever they may go, until they cease to be carriers.

Medical Record, New York

January 16

6 Darwinism and Malaria. R. G. Eccles, Brooklyn.
7 Vaccine Treatment of Typhoid. W. H. Watters and C. A. Eaton, Boston.
8 Practical Value of Tincture of Iodin and Iodin Catgut in Major Surgery. W. T. Dannreuther, New York.
9 *The Immediate Versus the Deferred Operation for Extra-uterine Pregnancy. A. Sturmdorf, New York.
10 A Cyst of the Prostatic Vesicle. N. A. Mikhailoff, St. Petersburg, Russia.
11 Early Recognition of Esophageal Stricture. S. Lange, Cincinnati.

9. **Operation for Extrauterine Pregnancy.**—Sturmdorf argues against the deferred operation for ruptured tubal pregnancy. He refers to the theory that not abdominal hemorrhage, but operative shock added to the shock incidental to the rupture of the tube, is the cause of the mortality. He cites three factors brought forward in support of this contention: 1. Active bleeding from the ruptured vessel is not observed during operation; 2, the amount of blood lost is never lethal, according to physiologic laws; 3, pregnant bitches with severed arteries never bleed to death. He states that he knows of no operation for shock and that if shock and not the loss of blood is the cause of death, then any operation, immediate or deferred, is contraindicated. In answer to the first point he states that the absence of visible spurting from the ruptured artery is due to a natural series of events. A hemorrhage occurs, severe enough to produce syncope, that means cerebral anemia, which results in a diminution of frequency and force of the cardiac systole and prolongation of its diastole; as a consequence there is a slowed blood current which favors clotting. This is Nature's remedy for grave hemorrhage. The abdomen is opened, and the intra-abdominal pressure is found to be increased in proportion to the amount of the extravasation; the incision converts this hypertension into a hypotension, as a result of which the large abdominal veins dilate at the expense of the arterial contents. The uterus or tubes being drawn into the incision are angulated, thus obstructing the circulation through the ovarian arteries. And yet we find those who are surprised at the absence of spurting. Dogs can not bleed to death from severance of ovarian arteries. Even the carotid may be severed in a dog without fatal results, owing to the excessive development of the elastic tunic in canine blood vessels. Nevertheless, while dogs do not bleed to death from rupture of their arteries, women do—as witness the fatal results following the accidental slipping of ligatures from tied ovarian arteries after operations for other pelvic conditions.

The studies of Crile and others show conclusively that an absolute differentiation between shock and concealed hemorrhage is clinically impossible. Nor can a hemoglobin estimation, as recently advocated, aid in this differentiation. The immediate result of hemorrhage on the blood is quantitative and not qualitative, consequently the last drops must show the same hemoglobin content. We bleed our blood as a whole and not our hemoglobin only. Every active therapeutic effort must be directed against the etiologic factor. This etiologic factor is the ectopic pregnancy—remove it. The contributory and fatal factor is the ruptured vessel; seal it by the only measures known to surgery—prompt ligation. In short, says Sturmdorf, let us leave dogs and theories aside and operate promptly in ectopic gestation.

New York Medical Journal

January 16

12 *The Rôle of the Bureau of Health in Public Vaccination. A. C. Abbott, Philadelphia.
13 *Smallpox Before and Since the Discovery of Vaccination. J. F. Schamberg, Philadelphia.
14 *The "So-called" Dangers of Vaccination. W. N. Welch, Philadelphia.
15 *Legal Aspects of Vaccination. H. L. Carson, Philadelphia.
16 James Blake. J. W. Wainwright, New York.
17 Treatment of Neurasthenia by Static Electricity. J. H. Branth, New York.
18 Further Report on the Jungle Plant (Combretum Sundiacum) in Morphin Addiction. W. D. Silkworth, New York.
19 *The Sexual Factor in Tuberculosis. W. H. Peters, Providence, R. I.

12 to 15. Abstracted in The Journal, Jan. 2, 1909, pp. 69, 70.

19. **The Sexual Factor in Tuberculosis.**—In this article Peters refers to a former article (The Journal, March 21, 1908) and summarizes the opinions of men experienced in the treatment of this disease, to whom he had addressed a letter requesting their views on the management of the sexual factor, its relation to the home treatment, and their opinion as to abnormal sexual desire in the consumptive adult. The consensus of opinion from the men interviewed shows that the majority were of the opinion that increased sexual desire is not a condition due to the toxins generated in the tuberculous; that such a desire is due chiefly to idleness, and that occupation on the part of the consumptive is a necessary adjunct to the treatment. Sexual indulgence, however, is a serious bar to the home treatment; married patients gain faster in sanatoria.

Lancet-Clinic, Cincinnati

December 9

20 Points in the Use of Massage and Passive and Active Mobilization in Treatment of Traumatic Joint Affections. H. A. Oldenborg, Chicago.
21 Antepartum Hour-Glass Contraction of the Uterus. S. C. Carson, Greensboro, Ala.
22 Odontomata. B. M. Ricketts, Cincinnati.

Medical Fortnightly, St. Louis

January 11

23 Touring the Lands Where Medical Science Evolved. R. G. Eccles, Brooklyn.
24 Education and Organization in the War on Tuberculosis. G. Homan, 'St. Louis.

Virginia Medical Semi-Monthly, Richmond

January 8

25 Surgical Tuberculosis with Special Reference to Tuberculin in Diagnosis and Treatment. R. T. Taylor, Baltimore.
26 Diagnosis and Treatment of Tuberculosis of the Testicle. W. L. Peple, Richmond, Va.
27 Diagnosis and Treatment of Pneumonia. J. H. Dunkley, Saltville, Va.
28 Diagnosis, Treatment and Prognosis of Pneumonia. T. J. Hughes, Saltville, Va.
29 Carcinoma of the Breast. H. M. Taylor, Richmond, Va.
30 Frequency of the Absence of Skin Lesions in Syphilis. E. D. Starke, Norfolk.
31 New Standards in Medical Education, and Some of Their Results. R. H. Whitehead, Charlottesville, Va.
32 *Existing Relations Between the General Practitioner and the Specialist. J. W. Bovee, Washington, D. C.

32. Abstracted in THE JOURNAL, Nov. 7, 1908, p. 1624.

Journal of the Michigan State Medical Society, Detroit

December

33 Infective Possibilities of Cow's Milk. C. H. Johnston, Grand Rapids.
34 Diet in Gynecology. J. H. Kellogg, Battle Creek.
35 Neglected Fields in Medicine. W. S. Anderson, Detroit.
36 Nostrums and Proprietary Preparations. W. T. Dodge, Big Rapids.
37 Perplexing Points in Serum Therapy. M. P. Kemp, Detroit.
38 Technic of Suprapubic Prostatectomy. G. H. Palmerlee, Detroit.

International Clinics, Philadelphia

Vol. IV, Eighteenth Series

39 Advance of Physical Therapeutics. J. H. Pratt, Boston.
40 Treatment of Gastric Ulcer Based on the Results of One Hundred and Forty Cases. J. A. Lichty, Pittsburg.
41 Psychotherapeutics, with Special Reference to the Influence of the Mind on the Body. C. D. Palmer, Cincinnati, Ohio.
42 Treatment of Gout. J. W. Wainwright, New York.
43 Splanchnoptosis—Enteroptosis—Glénard's Disease. T. R. Brown, Baltimore.
44 Primary Splenomegaly (Splenic Anemia). E. P. Weber, London.
45 Gangrenous Appendicitis, with Spontaneous Cure Due to Discharge Through Intestine. A. L. Benedict, Buffalo.
46 Acute Dilatation of the Stomach. A. G. Nicholls, Montreal.
47 Fractures of the Skull. G. T. Vaughan, Washington, D. C.
48 Traumatic Lesions of the Semilunar Cartilages of the Knee-Joint. A. N. McGregor, Glasgow, Scotland.
49 Pneumonia Complicated by Pneumococcic Arthritis. A. Hand and J. H. Jopson, Philadelphia.
50 Personal Observations on Bier's Hyperemia. G. W. Ely, Pittsburg, Pa.
51 Paronychia Lateralis. C. G. Cumston, Boston, Mass.
52 Buried Catgut and a Subcuticular Stitch in Plastic Operations on the Perineum. B. M. Anspach, Philadelphia.
53 Series of Malignant Ovarian Neoplasms. F. G. Bushnell, Brighton, Eng., and M. P. Kerrawalla, London, Eng.
54 Work on the Gynecologic Ward of the Western General Hospital, Montreal. A. L. Smith, Montreal.
55 New Form of Scoliometer. H. Hudson, Philadelphia, Pa.
56 Rôle of Insects in the Transmission of Disease. M. A. Brown, Cincinnati, Ohio.
57 Pseudobulbar Palsy. J. H. Lloyd, Philadelphia.
58 Neurasthenic Syndrome. D. J. McCarthy, Philadelphia.
59 Relation which Hypertrophy of the Various Tonsils of Waldeyer's Ring Bears to the Etiology of Disease. R. B. Scarlett, Philadelphia.
60 Symptomatology of Anterior Poliomyelitis. J. H. McKee, Philadelphia.
61 Serotherapy Treatment of Epidemic Cerebrospinal Meningitis. C. H. Dunn, Boston.
62 Etiology and Treatment of Pernicious Malaria. W. H. Deaderick, Marianna, Ark.
63 Bronchial Calculi. C. B. Farr, Philadelphia.

Denver Medical Times and Utah Medical Journal

December

64 Criticism of Modern Training School Methods from the Standpoint of the Surgeon. H. G. Wetherill, Denver, Colo.
65 The Three Graces. C. B. Dyde, Greeley, Colo.
66 Phases of Medical Economics. G. E. Neuhaus, Denver.
67 The Doctor in Politics. W. J. Fairfield, Delta, Colo.
68 Surgical Comments. C. E. Tennant, Denver.
69 National Department of Public Health as a Factor and Incentive to State and Local Efforts. W. T. Hasler, Lehi, Utah.
70 Scleroderma, Gangrene of Lung and Removal. A. J. Hosmer, Salt Lake City.
71 Oral Sepsis or Unclean Mouth as Cause of Disease. N. H. Packard, Springville, Utah.

Western Medical Review, Omaha, Neb.

December

72 Serodiagnosis of Syphilis. A. Schalek, Omaha, Neb.
73 *Artificial Obstetrical Dilatation of the Cervix Uteri. A. B. Somers, Omaha, Neb.
74 Some Difficult Complicated Confinement Cases (concluded). J. R. Gilbert, Morrill, Neb.
75 Correction of Septal Deformities. H. L. Burrel, Omaha, Neb.

73. **Dilatation of Cervix.**—Somers says that the methods of dilatation that most nearly imitate natural processes are to be preferred. The method that induces or accelerates labor should be chosen, rather than a method of forcible dilatation, for the purposes of delivery without producing labor. The earliest stages of dilatation can be best accomplished by bladed steel dilators. The next degree of dilatation can best be accomplished by hydrostatic bags. The final degree of dilatation may be safely accomplished in selected cases by manual methods. Rapid forcible dilatation by any and all methods is to be condemned, except in case of emergency with the most urgent indications, and should be ranked with Cesarean section as a major operation. Cervical incisions should be resorted to only when the supravaginal cervix is fully dilated and then only by experienced operators.

Journal of Abnormal Psychology, Boston

October-November

76 Psychologic Factors in Dementia Præcox—An Analysis. A. A. Brill, New York.
77 *My Life as a Dissociated Personality. B. C. A.
78 *The Unconscious. M. Prince, Boston.

77. **Dissociated Personality.**—This is an account, by the subject herself, of her experiences as a multiple personality. She shows considerable intellectual power coupled with training in psychology, which makes her introspective observations valuable.

78. **The Unconscious.**—Prince discusses conscious and unconscious memory, the formation of complexes, the formation of complexes in hypnotic and other associated conditions of the personal consciousness, the composition of dormant complexes, the conservation of complexes, and the formation to a great extent of the dormant consciousness from the sifted experience of ourselves and our predecessors.

Vermont Medical Monthly, Burlington

December

79 *Specialism in Medicine. G. H. Gorham, Bellows Falls.
80 *Puerperal Eclampsia. W. N. Bryant, Ludlow.
81 *Furo Scribendi* or *Furo Loquenda* (*sic*). W. A. Lyman, Burlington.
82 Extrauterine Pregnancy. W. J. Aldrich, St. Johnsbury.

79. **Specialism.**—Gorham says that it is rare for a man to become a successful specialist unless he is first a successful general practitioner. He sketches an advanced course of three years study in a specialty, to be taken after the conclusion of ten years in general practice, and suggests that this course should lead to a higher degree. We do not need more specialists, but more men thoroughly trained in some special line of medical work. He particularly criticizes the pseudospecialists with whom the country is studded and pleads for a more intimate relation between the general practitioner and the specialist.

80. **Puerperal Eclampsia.**—Bryant discusses the subject in general and concludes that the total output of urinary solids in the twenty-four hours is of much greater significance than the presence or absence of albumin in the urine. In the treatment of the eclamptic state, veratrum viride, in suitable cases, given hypodermically to effect in heroic doses, has the endorsement of practical men and the prestige of eminent authority, and deserves high rank as a remedy in this disease.

Wisconsin Medical Journal, Milwaukee

December

83 *Causal Factors in the Production of Monsters. C. R. Bardeen, Madison.
84 Diagnosis and Treatment of Hip-Joint Disease. V. F. Marshall, Appleton.
85 Use of Trichloracetic Acid. M. Iverson, Stoughton.

83. **Monsters.**—Bardeen discusses the development of the embryo, and considers faulty implantation of the ovum most frequently the cause of abnormal development and arrest of development of the human ovum. He refers to experimental

data as showing how readily monsters may be formed by mechanical or chemical means in the lower forms of life. The results of tubal pregnancy show how frequently pathologic embryos or monsters may be produced by an unfavorable environment acting on the human ovum. There is no evidence, he asserts, that maternal impressions have anything to do with the production of monsters.

Journal Oklahoma State Medical Association, Guthrie

December

86 Gangrenous Inflammation of the Cecum. V. Berry, Wetumka.
87 Sanitary Problems of the Canal Zone—How We Are Solving Them—Organization and Methods. W. C. Gorgas, U. S. Army.
88 State Medicine and Allied Sciences, with Suggestions for Sanitary and Social Legislation. J. M. McComas, Elk City.
89 Tumor Pathology. J. D. Hughes, Shawnee.
90 Opsonic Index and Bacterial Vaccines. W. W. Rucks, Guthrie.
91 Tuberculin and Tuberculin Therapy. L. M. Warfield, St. Louis.

Pennsylvania Medical Journal, Athens

December

92 *Opportunities of the Medical Profession in the Far East. T. G. Simonton, Pittsburg.
93 *Diseases of the Ear from a Medical Standpoint. W. H. Cameron, Pittsburg.
94 *Nasal Accessory Sinus Complications, Following Influenza, with Treatment. G. A. Dillinger, Pittsburg.
95 *Personal Experiences in the Surgery of Simple Types of Goiter. J. M. Wainwright, Buffalo, N. Y.
96 *Surgical Treatment of Malignant Goiter. E. Martin, Philadelphia.
97 Relations of the Thyroid Gland. S. P. Beebe, New York.
98 *The Roentgen-ray in Exophthalmic Goiter. J. C. Price, Scranton.
99 Fees and Fee Bills. W. H. Hartzell, Allentown.
100 Contract Practice. J. B. Donaldson, Canonsburg.
101 Is Lodge Practice a Preventable Evil? A. B. Hirsh, Philadelphia.
102 Fees for Services to Corporations. G. W. Wagoner, Johnston.
103 Influence of Hospitals on the Doctor's Income. C. H. Ott, Sayre.
104 Medical Practice as Seen from the Outside. J. B. Walker, Philadelphia.

92. Abstracted in The Journal, Oct. 3, 1908, p. 1178.

93. Abstracted in The Journal, Oct. 17, 1908, p. 1356.

94. Abstracted in The Journal, Oct. 24, 1908, p. 1456.

95. **Surgery of Simple Goiter.**—Wainwright reports statistics of 18 patients operated on, of whom 13 were females and 5 were males. Ten cases occurred in people born in Wales or of Welsh parentage, which would apparently show that the Welsh are prone to this disease. All the patients recovered from operation, and 17 are alive and well to-day. One died of a rapid recurrence of malignant goiter five weeks after operation. There were no accidents due to the anesthetic, which was ether by the drop method, preceded by atropin. Primary union was obtained in all cases. The majority of patients ran a temperature of from 101 to 103 F. for four or five days after the operation. Tetany was not observed. Under ordinary circumstances operations for the simple type of goiter present no more danger than those for hernia or many other operations of choice. All patients giving symptoms of pressure and all showing progressive enlargement should be operated on at once. Wainwright follows Crile's rule, of leaving behind an amount of thyroid tissue about equal to the size of the normal gland.

96. **Surgical Treatment of Malignant Goiter.**—Martin says that in recent years radical cure of malignant goiter has appeared distinctly probable, provided early diagnosis be made. As this can never be made with certainty, operation, if done early, will sometimes be done on thyroids which subsequent examination will show to be benign. This is not to be regretted, for such an operation is a safe one, and a pathologic organ, which if allowed to remain might at some time undergo malignant change, ought to be removed. Distinction between the various kinds of malignant disease can not be made clinically. As the capsule of the gland offers considerable resistance, metastasis may occur early by the blood or lymph vessels, while the primary tumor is still intracapsular. In advanced cases diagnosis is easily made, but is likewise futile. Operation done early is comparatively simple and has a mortality so low as to give it absolute justification. Even after metastasis has occurred, it may be possible to remove the gland, together with the metastatic focus. With involvement of the trachea and esophagus and infiltration of the adjacent tissues, radical cure becomes a remote possibility, although complete extirpation regardless of structure has occasionally given good results.

98. **Roentgen-Ray Treatment of Exophthalmic Goiter.**—Price advocates the use of the rays in selected cases, especially in cases in which the surgeon refuses to operate, and in patients with symptoms not sufficiently severe to send them to surgeons.

American Journal of Medical Sciences, Philadelphia

December

105 *Treatment of Tetanus with Subarachnoid Injections of Magnesium Sulphate. R. T. Miller, Baltimore.
106 *Traction in Treatment of Hip Disease. W. H. Bradford and B. Soutter, Boston.
107 The Heart in Pulmonary Tuberculosis. L. Brown, New York City.
108 *The Heart During Early Period of Convalescence from Acute Infectious Disease. B. Robinson, New York.
109 *Non-Fatal Coma in Diabetes. C. N. B. Camac, New York City.
110 *Pathologic Changes in the Thyroid, as Related to Varying Symptoms in Exophthalmic Goiter. L. B. Wilson, Rochester, N. Y.
111 *Inferior Polioencephalitis in Child of Four—Recovery. C. F. Judson and H. Carncross, Philadelphia.
112 *The Gonococcus as a Factor in Infections Following Abortion or Full Term Delivery. F. B. Gurd, Montreal, Can.
113 *New Method of Staining the Diphtheria Bacillus. W. H. Rush, St. Louis.
114 Nature of Postoperative Femoral Phlebitis. W. H. Buhlig, Chicago.

105. **Magnesium Sulphate in Tetanus.**—Miller reports a case successfully treated by 2.5 c.c. injections of a 25 per cent. solution of magnesium sulphate into the meninges, 11 punctures being made in 13 days. Extensive paralysis followed each injection and involved all the muscles except those of the head, neck and diaphragm, and lasted approximately from 18 to 29 hours. The injections were followed several times by respiratory collapse, lasting from 11 to 14 hours, and the pulse dropped, though not to a dangerous level. Antitoxin was used daily for 14 days, with copious saline enemas and sedatives for a short time. The case was one of severe tetanus in a boy 8 years old. There can be no doubt as to the value of treatment in this case. A patient in violent spasm and continuous opisthotonos was repeatedly reduced to complete and lasting relaxation in the course of a few minutes by an intraspinal injection of magnesium sulphate; a result was thus achieved surely, promptly and safely, which can be but weakly approximated by the usual sedatives, and even then after hours instead of minutes. The chief danger in the use of intraspinal injections of magnesium sulphate lies in its direct depressing influence on the respiratory center; this effect was produced repeatedly. No constant effect of the injection of the magnesium on temperature was shown. Retention of urine was the rule, and it was necessary to catheterize the patient for nine days. The author abstracts the hitherto reported cases.

106. **Hip-Joint Disease.**—Bradford and Soutter discuss the various modes of dealing with hip-joint disease, and pay special attention to the method of traction. This method has been prejudiced by the use of expensive and elaborate appliances. They discuss the mechanics of the joint and report the statistics of hip disease at the Boston Children's Hospital, in which for thirty years some form of effective traction has been used. They say that traction can be employed without using expensive or elaborate apparatus; it does not demand unusual skill in nursing or from the surgeon, or more attention in the direction of the case than is within ordinary possibilities. It can be claimed that traction meets a pathologic indication during the acute stage, that is, the stage of muscular spasm; that when used it should be applied with the purpose of furnishing distraction, that is, checking undue bone crowding; that when efficiently applied it furnishes a satisfactory measure of fixation of the joint; and that when traction is employed better results are obtained than when it is not made use of during the course of treatment of hip disease.

108. **The Heart in Acute Infectious Disease.**—Robinson insists on the importance of paying proper attention to the

heart in all cases of infectious diseases, after the disease has been battled with. He emphasizes the necessity of not confounding pathologic lesions due to other and preceding causes with those due to the infectious disease under investigation. This is especially true of the lesions of pre-existing myocarditis. He then discusses the prophylactic treatment of the heart after typhoid fever, scarlet fever, pneumonia, etc.

109. Abstracted in THE JOURNAL, May 30, 1908, p. 1817.

110. **The Thyroid and Exophthalmic Goiter.**—In an elaborately illustrated article, Wilson discusses the pathologic changes in the thyroid gland in relation to the symptoms in exophthalmic goiter, and makes the following tentative statements from the clinical standpoint:

1. Very early acute cases show pathologically hyperemia and cellular hyperplasia, if not throughout the gland at least in much of it provided of course the more enlarged lobe has been removed.

2. Later acute, moderate, severe and very severe cases show greater parenchyma increase, and in many instances evidence of increased absorbable secretion. Speaking broadly, the parenchyma increase is in direct proportion to the intensity of the symptoms. The relatively few variations from this rule, may be accounted for by the varying resisting power of different individuals. When relatively small amounts of absorbable secretion are found in alveoli whose walls are crowded with actively functionating cells, we may fairly assume that the secretion has already been absorbed.

3. Cases which clinically are showing any remission of toxic symptoms show somewhere within the gland more or less evidence of decreased function in the exfoliation or marked flattening of parenchyma cells, or of probably decreased absorption, by the presence of thick, gelatinous, stainable secretion, the so-called colloid.

4. Patients who have recovered from their toxic symptoms and are now suffering principally from long, previously acquired heart or nerve lesions, or from myxedema (although no myxedema cases are included in the present list) show exfoliated or much flattened (probably non-secreting) epithelium and large quantities of well-stained. thick gelatinous, probably non-absorable, colloid. In this lass of cases it sems as futile to search for previous, causative arenchyma increase as to look for diphtheria membrane in the hroat of a patient suffering from postdiphtheritic paralysis.

5. The recently developed, very mild or moderately mild, cases f long standing show pathologically almost always some total arenchyma increase by the multiplication of aveoli, but apparntly not greatly increased functioning power of the individual arenchyma cells. Goiters of the adenoid type apparently pass hrough the same changes of hypertrophy and degeneration as hose of the papilliferous type.

6. Simple goiters should be regarded as multiple retention cysts illed with non-absorbable secretion, cell detritus, etc.

113. **Staining the Diphtheria Bacillus.**—Rush describes with olored illustrations a method of staining the diphtheria baillus for which he claims the following advantages: Accessiility of the necessary reagents; ease of preparing the staing solutions; wide working limits; and striking and characristic appearance of the organisms when so stained.

University of Pennsylvania Medical Bulletin, Philadelphia

December

15 Adenolipomatosis, with Report of a Case. C. K. Mills, Philadelphia.
16 *Comparative Study of Noma. C. Y. White and J. D. Blackwood, Philadelphia.
17 *Experiments Concerning Extrauterine Pregnancy and the Influence of Operation on the Course of Pregnancy. L. Loeb and J. W. Hunter, Philadelphia.
18 Stricture of the Esophagus; with Report of Eight Cases from the Children's Hospital of Philadelphia. A. P. C. Ashhurst, Philadelphia.

116. **Noma.**—White and Blackwood discuss the various eories put forth with reference to the etiology of noma and scribe a case in a wild animal (*Macacus rhesus*) showing e anatomic and clinical characteristics of the disease. A siform bacillus and spiral micro-organism resembling Vinnt's spirillum were found in the exudate and scrapings of e diseased area, there being also a great increase in spiral icro-organisms. The histologic examination showed the presce of rod-like and thread-like organisms similar to those scribed by Perthes, Brüning and others in the diseased ea, being especially located in the area of advancing disse. A spiral organism resembling Vincent's spirillum in njunction with a fusiform bacillus is found in the normal nkey's mouth. Fusiform bacilli are frequently present in all numbers in the mouths of monkeys. The authors make claim that the organisms present are the cause of this ndition of noma, but call attention to the fact that their dings are similar to those reported in a corresponding conion in human beings by others.

117. **Extrauterine Pregnancy.**—Loeb and Hunter give exrimental evidence to show that occlusion of the Fallopian tube does not lead to tubal pregnancy in guinea-pigs. In extended experiments in which an ovum most probably entered the peritoneal cavity, abdominal pregnancy has never been found to occur. The conditions on which the development of an extrauterine pregnancy depends are discussed, and the observation is recorded that it is possible to produce experimental deciduæ at will without previous fertilization of the ovum. Data are presented indicating the effect of extra-abdominal and intra-abdominal operation on the development and course of pregnancy in animals. As a whole, it follows from these observations that the normal development of pregnancy in animals is interfered with in many cases by extra-abdominal as well as by intra-abdominal operations; furthermore, that the result depends to some degree on the period at which the operation has been performed. The normal development of or the interruption of pregnancy is, therefore, not suitable as an indicator of conditions which are supposed to have a specific influence on pregnancy. After a preceding copulation, transplantation of pieces of the uterus may lead to the formation of a decidua in the transplanted piece, but the development of an embryo could not be observed under such conditions.

Archives of Internal Medicine, Chicago

December

119 *Comparison of the von Pirquet, Calmette and Moro Tuberculin Tests and Their Diagnostic Value. S. McC. Hamill, H. C. Carpenter and T. A. Cope, Philadelphia.
120 *Acidosis and Associated Conditions (concluded). J. Ewing, New York.

119. Abstracted in THE JOURNAL, June 6, 1908, p. 1930.

120. **Acidosis.**—Ewing concludes his paper with a consideration of the physiologic chemistry of acetone compounds. He discusses the sources of acetone compounds, their relation to carbohydrates, fats and proteins, the intestinal origin of acetonuria, the toxicity of acetone compounds and their relation to oxidation, and the physiology of lactic acid. He concludes with a consideration of the clinical types of acidosis—the acidosis of starvation, of pregnancy, cyclic vomiting, after anesthesia, and miscellaneous clinical types, namely in hysteria, cancer, psychosis, fever and that due to drugs. In concluding, he says that the work on acidosis reveals the exact nature and degree of a disturbance of metabolism which is of widespread occurrence and of prime significance in many diseases. To the physician it affords a means of diagnosis and an insight into the nature of the disease, otherwise likely to escape attention. To the pathologic anatomist it has disclosed the main factors in the pathogenesis of fatty degeneration. Read in terms of physiologic chemistry, acute degeneration of the liver becomes of first importance to the pathologist. In physiologic chemistry it shows that acidosis with the presence of acetone compounds usually results from abnormal metabolism of body or food fats, and to a less extent of protein, in which defective consumption of carbohydrates is an essential factor, and excessive excretion of ammonia a purely compensatory process. The therapeutic importance has possibly been overestimated. It seems time that the idea of a fatal abstraction of alkali in diabetic coma should give place to unbiased search for other factors in this disease, some of which may be affected by treatment. The study of acidosis shows clearly that the feeding of the healthy man as well as the diet of the sick can not be left to chance guided by appetite or ruled by tradition, but can be safely directed according to the laws of digestion and metabolism.

American Journal of Physiology, Boston

December

121 *Are the Anesthesia and Motor Paralysis Caused by Magnesium Salts Due to Asphyxia? S. J. Meltzer and J. Auer, New York.
122 *Diastases in the Blood and the Body Fluids. A. J. Carlson and A. B. Luckhardt, Chicago.
123 *Course of the Contraction Wave in the Stomach of the Rabbit. J. Auer, New York.
124 *Effect of Stimulation of the Accelerator Nerve on the Calcium, Potassium and Nitrogen Metabolism of the Isolated Heart. W. H. Howell and W. W. Duke, Baltimore.
125 Different Forms of Nitrogen in Proteins. T. B. Osborne, C. S. Leavenworth and C. A. Brautlecht, New Haven, Conn.
126 Effect of Salt Solutions on the Respiration, Heart Beat and Blood Pressure in the Skate. I. H. Hyde, Kansas City, Kans.

121. **Anesthesia and Motor Paralysis.**—In opposition to the objections of A. H. Ryan and C. C. Guthrie, that the anesthesia produced by magnesium salts is due to asphyxia, Meltzer and Auer show from their former papers and by new experiments that the magnesium salts paralyze respiration and produce anesthesia independently of asphyxia. The paralysis and anesthesia are not preceded by any stage of excitement, such as occurs in asphyxiated mammals, and no symptoms of asphyxia are exhibited if artificial respiration is maintained, although the animals are profoundly anesthetized.

122. **Diastases in the Blood and Body Fluids.**—Carlson and Luckhardt find the greatest prevalence of diastase in the blood serum. They find no constant difference in the concentration of the diastases in the portal and hepatic serum, nor does pancreatectomy affect the concentration of the blood and lymph diastase. Anesthesia appears to cause a slight decrease in the blood diastase. Neither a relative abundance of carbohydrates in the natural diet of a species, nor an increase of starchy foodstuffs in the diet, has any influence on the amount of diastase in the blood. All the facts so far at hand seem to point to the conclusion that the blood and lymph diastase are "discards" of the tissues in general. When once in the body fluids, these substances are in all probability on the road to destruction or elimination, and serve no further essential end in the body economy, at least so far as regards their starch-splitting power.

123. **Contraction of Stomach.**—Several observers have stated that the contraction wave of the stomach is simply peristaltic. On the other hand, early investigators, such as Beaumont, Hofmeister and Schutz, describe a wave which is peristaltic only so far as the antrum, where a marked constriction occurs and the antrum contracts as a whole, reaching its maximum after the antral sphincter has relaxed. According to Auer's observations on rabbits, which agree with those of other observers on dogs, the contraction wave of the stomach consists of two parts: The first wave begins near the esophagus and passes toward the pylorus, but skips a good portion of the preantral pouch. This is followed by a contraction of the antrum, which passes toward the preantrum and expels some of the gastric contents into the preantral pouch, so as to cause considerable bulging. The antrum then relaxes slowly, and with this relaxation the preantrum sinks away, usually without any sign of peristalsis.

124. **Stimulation of the Accelerator Nerve.**—In a previous article (*Amer. Jour. Physiol.*, February, 1908; abstracted in The Journal, March 28, 1908, p. 1079), Howell and Duke showed that there is an output of potassium from the heart substance during vagus inhibition. In the same paper they suggested that during stimulation of accelerator nerve there may be an output of calcium sufficient to account for the augmentation and, perhaps, for the acceleration of the beat. They attempted to prove this by direct experiments on the perfused heart. The results of these experiments were entirely negative, no increase in calcium being shown. Attempts to determine the nature of the nitrogen metabolism of the heart indicate that no purin bodies are produced by its activity. The heart appears to give off creatinin (or creatin) to the circulating liquid, and it will be interesting to determine how far this elimination is associated with functional activity.

Northwest Medicine, Seattle, Wash.

December

127 *Diagnostic and Prognostic Value of the Leucocyte Count in Surgical Diseases. J. E. Else, Pullman, Wash.
128 *Formation of Correct Habits, as a Factor in Treatment of Pulmonary Tuberculosis. E. A. Pierce, Portland, Ore.
129 Therapeutic Application of Bacterial Vaccines in Localized Tuberculosis and Some Other Bacterial Diseases. R. C. Matson, Portland, Ore.

127. **Leucocyte Count.**—Else discusses the literature, describes the technic, and concludes that the leucocyte count is one of the most accurate and sensitive indications to the patient's condition, and, in the presence of an infection, should not be overlooked any more than taking the temperature. The differential as well as the total count should always be made. Leucocytosis indicates absorbed pus, not retained pus. Other things being equal: (a) a low leucocyte count with a slight increase in the percentage of polynuclear cells offers a very favorable prognosis; (b) a low leucocyte count with a high percentage of polynuclear cells offers a very unfavorable prognosis; (c) a high leucocyte count with a high percentage of polynuclear cells offers a grave prognosis; (d) a high leucocyte count with a low percentage of polynuclear cells offers a favorable prognosis; (e) a rising leucocyte count indicates that the prognosis is increasing in gravity, especially if the percentage of polynuclear cells is high or increasing; (f) a falling leucocytosis with a high stationary or rising percentage of polynuclear leucocytes offers a grave prognosis, increasing in gravity; (g) a falling leucocytosis with a slight increase or a falling percentage of polynuclear cells indicates an improving prognosis. The total leucocyte count indicates the severity of the battle that is taking place between the resisting powers of the patient and the infection. The degree of increase in the polynuclear leucocyte percentage indicates the amount of toxin absorbed, as compared with the resistance of the patient.

128. **Correct Habits in Pulmonary Tuberculosis.**—Pearce urges the importance of forming correct habits in regard to rest, especially on occurrence of hemorrhage, avoidance of coughing, digestion, sleep, exercise, tobacco, expectoration, alcohol, sexual desire, wearing of beards, kissing, coughing, excitement, the sputum, bathing, discussion of the case, clothing, the drug habit, temperature record and use of the voice.

Journal of Cutaneous Diseases, New York

December

130 Keratosis Follicularis Resulting in Multiple Epithelioma: Report of a Case. G. W. Wende, Buffalo.
131 Xanthoma Diabeticorum and Lipoma Multiplex and Xanthoma Approaching the Diabetic Type with Diabetes Insipidus. W. A. Pusey and O. P. Johnstone, Chicago.
132 Case of Nævus Unius Lateris. A. Schalek, Omaha, Neb.
133 Pemphigus and Bullous Dermatoses. J. MacF. Winfield, New York.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

January 2

1 *Why and How the Surgeon Should Attempt to Preserve the Appendix. C. B. Keetley.
2 Renal Calculus, Diagnosis and Treatment. D. Newman.
3 *Absorption of Proteins. W. D. Halliburton.
4 *Treatment of Inguinal Hernia in Children. W. H. Evans.
5 Acromegaly, with Illustrative Cases. G. Rankin, and R. O. Moon.
6 Features of Some Chronic Affections of the Lungs in Children. T. Fisher.
7 *Prospective Cure for Elephantiasis. W. S. Handley.

1. **Preservation of the Appendix.**—Keetley endeavors to show: 1, That transplantation of the appendix, so that the whole or greater part of it from its root in the cecum lies permanently imbedded in the abdominal wall, will produce the good results of excising it; 2, that it is a practical and safe operation; and 3, that transplantation of the appendix in many cases should be preferred to appendicectomy; also that, when constipation requires to be treated surgically, appendicostomy should be the operation chosen. He reports cases and draws from them inferences as to the value of appendicostomy for various purposes, and adds some cases o cecostomy in which that operation had to be substituted because the appendix had either been removed or was impervious.

3. **Absorption of Proteins.**—Halliburton gives his reasons fo his change of views on the absorption of proteins, to whic Pavy called critical attention in the *Lancet*, Nov. 28, 190 (abstracted in The Journal, December 26, p. 2235).

4. **Inguinal Hernia in Children.**—Evans sums up his exper ence as follows: First, attempts may be made during tl first year by the careful application of a truss to induce a obliteration of the funicular process. But these attemp should not be continued beyond the end of the first year un less some condition is present which renders an operatio undesirable, while, on the other hand, it may be necessary operate at even an earlier age if the hernia can not be sati

factorily restrained by a truss. Second, a simple removal of the sac, if thoroughly carried out, is all that is needed to prevent a recurrence of the hernia in children.

7. **Elephantiasis.**—Handley reports an extension of the operation of lymphangioplasty, formerly reported by him as successful in relieving the "brawny arm" of breast cancer, to the treatment of elephantiasis arabum.

British Medical Journal, London

January 2

9 *Results of Operations for Carcinoma of the Tongue. H. T. Butlin.
10 *Operative Treatment of Intraoral Cancer. C. P. Childe.
11 *Surgery of Colitis. F. C. Wallis.
12 Treatment of Chronic Rheumatic and Rheumatoid Arthritis by Radiant Heat and Cataphoresis. C. F. Bailey.
13 Restoration of Vision in the Squinting Eye. A. A. Bradburne.
14 Persistent Thymus and Sudden Death. S. H. Daukes.

9. **Carcinoma of the Tongue.**—Butlin analyzes the results of his operations for carcinoma of the tongue in 197 cases. Among the inferences are the following: There are no advantages in postponing the operation on the glands until they are enlarged. The removal of the contents of the anterior triangle s hardly sufficient as a routine procedure, and he advises that he dissection be carried into the posterior triangle, and to he glands in the parotid region, removing even the lower art of the parotid salivary gland if necessary. His notes are nsufficient to decide the necessity of removing the glands on oth sides of the neck. A wider removal of the glands, hower, appears necessary, in the following cases: 1. Those cases n which the glands on both sides of the neck are enlarged. 2. Those cases in which the glands are affected only on the ide of the neck opposite the disease. 3. Those cases in which he disease is seated on both sides of the tongue, or in which t reaches to the middle line of the tongue. 4. Probably it ught to be done in those cases in which microscopic examination gives reason to believe that, although the primary disease s apparently only of small extent and depth, it is much more nalignant than usual; when, for instance, columns of cancer ells are found running deeply down between the muscular bers. Butlin's figures do not support Cheatle's suggestion as o the removal of the muscles in every case of cancer of onealf the tongue, but he thinks it desirable to carry it into ffect in more advanced cases, especially when the disease lies eneath the tongue in the floor of the mouth. The objections re impairment of speech and of mastication. He does not onsider the evidence in favor of removing the tissues beween the primary disease and the glands strong enough to ustify the extra risk involved. The anterior part of the orsum appears to be the least dangerous seat of cancer in elation to affection of the glands. In opposition to the general impression among surgeons, Butlin thinks that it may airly be assumed that cancer originating in the floor of the outh can be removed with a good prospect of success, provided it is not very extensive and has not involved the bone. s to recurrent disease, the results of operation for its reoval, whether of the tongue or glands, have been so bad hat operators are counselled to make the first operation as omplete as possible, in the belief that the only hope of the tient lies in the thorough manner in which this operation performed.

10. **Intraoral Cancer.**—Childe sums up the two main prinples that he advocates in the operative treatment of cancer tongue and floor of mouth as follows: The neck should ways be attacked first, with ligature of the lingual and cial arteries on one or both sides. This maneuver reduces e excision of the primary growth, provided that it can be tirpated without division of the jaw, to an insignificant and oodless operation, which can be frequently performed witht danger immediately after the neck operation. It enables e primary growth to be removed with greater precision. It es away with all necessity for preliminary laryngotomy or acheotomy. It cuts off the blood supply to the tumor in e interval, if the operation has to be divided into two ages. It will possibly starve cancer cells which may be left hind after attempted extirpation of the disease. In his exrience it is the key to the operation. A communication between the mouth and a large wound in the neck should always be avoided when possible. Unless the disease be situated in the tonsil or its neighborhood, and except the patient insist on a single operation, this can always be accomplished by dividing the operation into two stages in those cases in which, for the satisfactory removal of the disease, the lower jaw requires division. The neck, as before, is attacked first, and the lingual and facial arteries are tied. In a fortnight, the large wound in the neck is healed, the jaw is divided and the primary growth is excised, as before, bloodlessly. In conclusion, as regards final results, early diagnosis is the only hope. With this view, the therapeutic test of cancer by iodid of potassium should be relegated to the limbo of dangerous playthings. Immediate microscopic examination of a piece of the growth should be the only test, and the therapeutic test should never be employed unless the microscopic report is doubtful. It should then be pushed rapidly, and its effects not watched too long.

11. **Colitis.**—Wallis discusses acute and chronic colitis, classifying the latter into mucous, membranous, ulcerative and hemorrhagic colitis. The methods of surgical treatment at present used are appendicostomy, cecostomy, colostomy, and median posterior proctotomy, to which must be added cataphoresis. He discusses each of these and concludes that the sooner all forms of hemorrhagic or ulcerative colitis are submitted to surgical treatment, of which the best is the irrigation of the bowel through the surgical opening, the better. The aim is to get the colon free of infective contents. Chemical applications must be used with caution. The best treatment for ulcerative areas is cataphoresis. Of vaccines, Wallis' experience is insufficient to draw conclusions from. We can not yet arrive at definite conclusions as to surgical procedure in membranous colitis. He insists on the great importance of early examination by the sigmoidoscope.

Medical Press and Circular, London

December 30

15 *Rheumatoid Arthritis and Its Treatment. W. Murrell.
16 Diagnosis and Treatment of Breast Cancer. R. Morison.
17 Some Desirable Additions to the British Pharmacopeia. J. C. McWalter.
18 Compensation for Injuries and Payment for First Aid. G. Crichton.

15. **Rheumatoid Arthritis.**—Murrell considers this condition under the four following heads: 1. The chronic arthritis of middle-aged women. 2. Acute rheumatoid arthritis. 3. Senile osteoarthritis. 4. Various forms of the disease in children. The prognosis in most forms of rheumatoid arthritis is unfavorable with regard to the prospect of cure. Medicinally, the iodids internally, in large doses quite apart from any syphilitic taint, are useful, as is also arsenic, which, however, is slow acting and must be continued for weeks or months. Locally, persistent application of iodin is serviceable; warm baths and hot and cold salt douches may alleviate. Mechanical or electric vibration has proved useful. Residence during the winter in a hot, dry bracing climate has been followed by arrest of the disease. In hospital cases Murrell has recently used a serum which has acted admirably. Details of its preparation are given in his article on "Serum Therapy" in the *Encyclopedia Medica*, Vol. xii, 1902. He reports a noteworthy case benefited by this treatment.

Clinical Journal, London

December 30

19 Neurasthenia in Women. G. E. Herman.
20 How Cancer Patients Die. J. Bland-Sutton.
21 *Tubercle and Underwear. L. Williams.

21. **Tubercle and Underwear.**—Williams protests against the use of flannel or wool underwear, and says that of the two properties essential to wholesome underwear—warmth and the power of absorption—flannel possesses only warmth, while a high degree of absorptive power is hygienically the more important. The excrementitious moisture from the skin in those who wear flannel can not escape and lies imprisoned between the garment and the skin, thus rendering this layer impure and preventing cutaneous respiration. The tuberculous poison is a powerful vasodilator, so that the wearing of

flannel imitates closely the results which the bacillus itself affects, results presumably most advantageous to its development. Moreover, vasodilatation means low blood pressure, and this means physical latitude and mental lethargy. It is as important to supply abundant fresh air to the cutaneous respiration as to the pulmonary. To struggle against tuberculosis, the skin should be trained by cold bathing and exposure to other cold influences to perform adequately its contractile duties. Hot houses must be avoided, underclothing should be warm, absorbent and ventilated. Linen, cotton and silk undergarments can be made to imprison air in their meshes and are just as warm as flannel, and superior in absorptive and ventilating properties.

Bristol Medico-Chirurgical Journal

December

22 *Recent Work on Leukemia, and Some Allied Affections. J. M. Clarke.
23 *Causation of Certain Mid-diastolic Murmurs. C. Coombs.
24 Dilatation of Posterior Cerebral Vessels with Basal Hemorrhage in a Girl Aged 16. T. M. Carter.
25 A Medical Naval Volunteer on Duty at Quebec, July, 1908. W. K. Wills.

22. **Leukemia.**—Clarke says that a decisive answer to the question of the relation of leukemia to sarcoma can not be given with our present knowledge, and that at present it is extremely difficult to state where lymphatic hyperplasia ends and tumor begins; but the very fact of the indefinite number of gradations which are found between the cases at the two ends of the scale affords an additional argument against regarding leukemia as a sarcoma.

23. **Mid-diastolic Murmurs.**—Coombs summarizes his paper as follows:

> In aortic regurgitation, early rheumatic carditis, and adherent pericardium, diastolic murmurs are heard at the mitral area.
>
> In their principal features these murmurs are so much alike as to suggest a common mode of production.
>
> Autopsy shows that in all three diseases such murmurs may occur without valvular mitral stenosis being present.
>
> Probably in such cases the bruit is due to vibration in the blood sucked by ventricular diastole into an enlarged ventricle, through a mitral orifice not so much enlarged.

Dublin Journal of Medical Science

December

26 History of Medicine in Ireland. T. G. Moorhead.
27 *Old Documents in Medical Educational Practice. J. J. Walsh.

27. **Old Documents on Medical Educational Practice.**—Walsh reviews the evolution of legislation regulating medical practice and quotes the Bull of Pope John XXII (A. D. 1321) founding the medical school of Perugia, as well as the law of Frederick II regulating medical practice in the Sicilies, which last was published in The Journal, Feb. 1, 1908, p. 388.

Indian Medical Gazette, Calcutta

November

28 Recent Epidemic of Phagedenic Ulcers in Assam, with Remarks on a Bacillus Present in the Sores. R. L. Patterson.
29 Twenty Years of Puerperal Eclampsia at the Government Maternity Hospital, Madras. G. G. Giffard.
30 Gleanings from the Calcutta Postmortem Records. L. Rogers.
31 Pyorrhea Alveolaris; from a Tropical Standpoint. C. F. Badeoek.

Intercolonial Medical Journal of Australasia, Melbourne

November

32 An Epidemic of 135 Cases of Acute Anterior Poliomyelitis Occurring in Victoria. H. D. Stephens.
33 Serodiagnosis of Syphilis. K. Hiller.
34 Action of X-Rays on the Skin. F. J. Clendinnen.
35 Treatment of Stammering, with Special Relation to Respiratory Exercises. T. G. Leary.
36 Treatment of the Insane in Private Practice in Victoria. W. Beattie-Smith.

Annales de Dermatologie et de Syphiligraphie, Paris

November, IX, No. 11, pp. 609-672

37 Faviform Trichophyton-Fungi. R. Sabouraud.
38 Comparative Histopathology of the Skin. (Notes sur l'histopathologie comparée de la peau: tumeurs, folliculites à Demodex, botryomycose, etc.) C. Audrey and F. Suffran.

Annales de Gynécologie et d'Obstétrique, Paris

December, XII, No. 5, pp. 705-763

39 Racemose Ovarian Cysts. (Kystes racémeux de l'ovaire.) Le Jemtel.

Annales de l'Institut Pasteur, Paris

November 25, XXII, No. 11, pp. 833-928

40 Trypanosoma Congolense. A. Laveran.
41 Strains of Trypanosomes Resistant to Drugs. (Propriétés des races de Trypanosomes résistants aux médicaments.) F. Mesnil and E. Brimont.
42 Ankylostomiasis and Beriberi in Cochin China. F. Noc.
43 Significance of Colon Bacillus in Drinking Water. (Etude du Bacillus coli dans les eaux de Toulouse.) Guiraud and H. Maudoul.
44 New Form of Diplococcus. (Tetradiplococcus filiformans "Lodzensis.") S. Bartoszewlez.

Presse Médicale, Paris

December 19, XVI, No. 102, pp. 817-832

45 *Care and Future of the Prematurely Born. (Le prématuré). C. Maygrier.
46 Diagnosis and Treatment by Bronchoesophagoscopy of Certain Rare Intrathoracic Affections. Guisez.
47 Sexual Continence and Arteriosclerosis. P. Remlinger.
48 Gymnastic Exercises of the Ankle. (Gymnastique du cou-de-pied.) P. Desfosses.
49 Perforating Ulcer of the Foot, of Tuberculous Origin. (Mal perforant plantaire d'origine tuberculeuse.) L. Arnaud.

December 23, No. 103, pp. 833-840

50 Immunization Against Tuberculosis by the Digestive Route. A. Calmette.
51 Local Treatment of Skin Affections. (Le pansement de jour en dermatologie.) L. M. Pautrier.

45. **Prematurely Born Children.**—Maygrier warns against three great dangers that confront the prematurely born, chilling, defective feeding and infections. If infections can be warded off and the child fed with breast milk, even if it is drawn and fed with a spoon, a drop at a time, it is liable to grow up healthy and strong after it has been tided past the stage of extra helplessness. In his own and Budin's experience fully 90 per cent. have lived of the children born between the end of the sixth and eighth months.

Semaine Médicale, Paris

December 23, XXVIII, No. 52, pp. 613-620

52 Is the Jewish Race Immune to Alcoholism? (La race juive jouit-elle d'une immunité à l'égard de l'alcoholisme?) L. Cheinisse.
53 *Curability of Certain Cases of Tabetic Amyotrophy. (Comme quoi certaines amyotrophies du tabes reconnaissent une origine syphilitique.) J. Lhermitte.

53. **Connection of Tabetic Amyotrophy with Syphilis.**—Lhermitte concludes from a review of recent research that atrophy of the muscles occurs in about 20 per cent. of all cases of tabes, but that it may be the result of two separate processes. Besides the amyotrophy secondary to the true tabetic lesions of the spinal or cranial nerves, there may be amyotrophy due to progressive destruction of the motor cells of the gray matter in the spinal cord and medulla oblongata. In the latter case the process is independent of the tabes, and is merely the work of the same syphilitic virus causing the tabes and the sclerosis of the posterior cords. This has great practical importance, as it shows that the amyotrophy in these conditions may be arrested and possibly cured by specific treatment.

Archiv für Gynaekologie, Berlin

LXXXVII, No. 1, pp. 1-231. Last indexed Dec. 19, p. 2192

54 Cystic Formations in Abdominal Cavity. (Zur Kenntniss seltener cystischer Bildungen in der Bauchhöhle.) K. Himmelheber.
55 *Eclampsia. (Zur Klinik, Statistik und Therapie der Eklampsie.) L. Seitz.
56 Tuberculosis in Pregnant Women. (Zur Tuberkulose in der Schwangerschaft.) A. Rieländer and K. Mayer.
57 *Metastasis of Uterine Carcinoma in Organs with an Internal Secretion. H. Offergeld.
58 Twins with Excess of Amniotic Fluid for One and Lack of It for the Other. (Fall von einseitiger Polyhydramnie mit anderseitiger Oligohydramnie bei eineigen Zwillingen.) H. Hunziker-Kramer.
59 Influence of Syphilis on the Offspring. (Einfluss der Syphilis auf die Nachkommenschaft.) Gräfenberg.
60 Primary Carcinoma in the Fallopian Tube. W. Benthln.

55. **Eclampsia.**—Seitz writes from Döderlein's clinic at Munich to expatiate on the advantages of prompt delivery in the treatment of eclampsia. He reviews the experiences from fifteen different clinics to show that in 50 per cent. of all the cases the convulsions ceased after delivery. The proportion was about the same for the operative and the spontaneous births. The number of convulsions is no criterion for the

severity of the eclamptic intoxication. The reduced mortality shows the effects of treatment by prompt delivery. The mortality was 20.2 per cent. in 512 cases of spontaneous delivery and 24 per cent. in 982 cases in which version, the forceps or other operative intervention had been required. Omitting Schauta's 132 cases from these figures, as dating from before the eighties, the mortality is only 22 per cent. Early and rapid delivery is thus shown to be the best method of treating eclampsia. Outside of institutions, the general practitioner may dilate the cervix if necessary by traction on the inflatable bag or, by sacrificing the child, by traction on the leg after version.

57. **Metastasis of Uterine Carcinoma in Organs with Internal Secretion.**—Offergeld discusses the metastasis in the thyroid, suprarenals and kidneys, the latter more frequent than the others, although all are very rare. The causes for the rarity of the metastasis in these organs are the specific albuminoid bodies in them and their special metabolism. Metastasis can not occur in these organs, he says, until after the loss of the neutralizing and ferment functions of the liver.

Archiv für klinische Chirurgie, Berlin

LXXXVIII, No. 1, pp. 1-318. Last indexed Dec. 12, p. 2094.

61 Chronic Inflammatory Tumors in Abdominal Wall After Operations for Hernia. (Chronisch entzündliche Bauchdeckentumoren nach Hernienoperationen.) H. Schloffer.
62 Experimental Study of Histologic and Clinical Laws to which Plastic Operations on Bones Must Conform. (Gesetze der freien Osteoplastik auf Grund von Thierversuchen.) G. Axhausen.
63 *Pain in the Heel: Pathology of the Calcaneus and Achilles Tendon. (Ueber Fersenschmerzen.) H. Jacobsthal.
64 Prosthesis for Gunshot Damage to Lower Jaw. (Prothetische Nachbehandlung der Unterkieferschussverletzungen.) T. Hashimoto and others.
65 *Operative and Ultimate Results in Cancer of the Stomach. (Operations- und Dauererfolge beim maligner Geschwulstbildung des Magens.) F. Goldschwend.
66 *Amputation Aiming for Functional Utilization of All the Forces Left. (Amputatio humeri osteoplastica et antibrachii tenoplastica.) J. Elgart.
67 Fibroepithelial Changes in Breast. (Fibroepitheliale Veränderungen der Brustdrüse.) P. Theile.
68 Etiology of Congenital Atresia of Intestine and Esophagus. Kreuter.
69 Congenital Sacral Tumor of Tissue Belonging to Central Nervous System. (Ein aus Centralnervengewebe bestehender Tumor sacralis congenitus.) H. Scheuermann.

63. **Pain in the Heel.**—Jacobsthal reports 42 cases of various affections of the Achilles tendon or calcaneus causing pain, and discusses the diagnosis and treatment. The trouble was traumatic inflammation of the Achilles tendon, crushing, partial rupture, ossification, fibroma or inflammation in the environment in 16 cases, and in the others the calcaneus was involved, either exostosis, or an affection of the epiphysis, a spur on the calcaneus or the effects of contusion or else the diagnosis was still wavering. This experience shows the multiplicity of the causes that may induce chronic pain in the heel. In 13 cases there was also pain in the sole, and in 6 of these a spur was discovered.

65. **Cancer of the Stomach.**—Goldschwend reports the experiences with operative treatment of malignant tumors in the stomach at Brenner's clinic at Linz. A total of 60 radical operations for cancer were done and 179 palliative operations, with 155 operations for non-malignant affections.

66. **Amputation Aiming to Utilize the Functional Forces Left.**—Elgart aims to adapt the amputation to utilize all the functional forces still available in the stump, and he gives an illustrated description of an artificial hand and forearm constructed on these principles. The patient wearing it is able to flex his hand normally, bend and flex the elbow and fingers, the movements being very much like the normal types, while the construction of the prosthesis is very simple and the whole appliance is very light. The main point is to modify the technic of the amputation to give a firm hold for the various parts of the prosthetic appliance.

Beiträge zur klinische Chirurgie, Tübingen

November, LX, No. 3, pp. 431-825

70 Transplantation of Thyroid by Suture of the Vessels. (Transplantation der Schilddrüse mittels Gefässnaht.) R. Stich and M. Makkas.
71 Importance of Mediastinal Emphysema in Pathology of Pneumothorax. (Beitrag zur Kenntnis der Lungenverletzungen nach Brustwandkontusionen.) F. Sauerbruch.
72 *Operations in Posterior Cranial Fossa. (Operationen in der hinteren Schädelgrube.) B. Baisch.
73 Experimental Research on Transplantation of Small Intestine. (Dünndarmtransplantation an den Ort der Wahl.) P. Esau.
74 Surgery and Pathology of Cholelithiasis. H. Rimann.
75 Treatment of Diffuse Suppurative Peritonitis. N. Guleke.
76 Results of Treatment of Fractures of Leg with Zuppinger's Automatic Extension Apparatus. A. Wettstein.
77 Prosthesis of Lower Jaw. (Prothesenbehandlung nach Resektion und Exartikulation des Unterkiefers.) C. Kohen-Baranowa.
78 Resection of Lisfranc's Joint in Treatment of Talipes Cavus. (Resektion des Lisfranc'schen Gelenkes zur Therapie des Hohlfusses.) A. Hofmann.
79 Colloid Cancer of the Breast. (Der Gallertkrebs der Brustdrüse.) G. Gaabe.
80 Operative Treatment of Excessive Growth of Lower Lip. (Fall von Makrocheilie.) W. Wolf.
81 Treatment of Streptococcus Sepsis. O. Elsässer.

72. **Operations in the Posterior Cranial Fossa.**—Baisch describes two cases in which great improvement followed removal of a cyst in the cerebellum. The patients were 16 and 47 years old, respectively. In a third case the patient succumbed soon after the operation. In a fourth case a tumor in the cerebello-pontine angle, of traumatic origin, was removed with great improvement. In another case the assumed tumor was not found and the patient succumbed to hemorrhage in the subdural space, for which the operation was evidently responsible. The cases with favorable outcome are constantly increasing in number and the results growing better as the lesion is differentiated in time and removed before the optic nerve is irreparably injured.

Berliner klinische Wochenschrift

December 14, XLV, No. 50, pp. 2213-2256

82 Madelung's Deformity of the Wrist. (Ueber Madelung'sche Handgelenksdeformität.) R. Levy.
83 *Successful Treatment of Cysticercus and Echinococcus with Male Fern. (Behandlung des Cysticercus und Echinococcus mit Extract. filicis mar. aether.) de Renzi.
84 Toxic Action of Subcutaneous Saline Infusion and How to Prevent It. (Giftwirkung und Entgiftung des Kochsalzes bei subkutaner Infusion.) L. F. Meyer.
85 Thyreogenic Destruction of Albumin. (Zum thyreogenen Eiweisszerfall.) K. Mayer.
86 Hysteric Fever. F. Mörchen.
87 Present Status of Intravenous Therapy. F. Mendel. Commenced in No. 49.

83. **Treatment of Inaccessible Echinococcus and Cysticercus Infection with Male Fern.**—In case the lesions are beyond the reach of the surgeon, de Renzi has found that it is possible to influence them by administering extract of male fern. In the four cases in which he has applied this treatment the lesions were in the liver, lung or brain, and all the symptoms rapidly subsided under the influence of this medication. Among the effects testifying to the beneficial action of the drug was the invariable subsidence of the previous high eosinophilia, showing that there is an interchange of certain substances between the host and the parasites. In two cases the eosinophilia dropped from 9 and 8 to 1 per cent. The patients were all adults.

Deutsches Archiv für klinische Medizin, Leipsic

XCIV, Nos. 5-6, pp. 441-608. Last indexed Dec. 12, p. 2096

88 Measurement of Blood Pressure by von Recklinghausen and Korotkoff's Technics. (Zur Methodik der Blutdruckmessung.) G. Lang and S. Manswetowa.
89 Changes in Arterial Pressure in Heart Disease with Failing Compensation. (Zur Frage der Veränderung des arteriellen Blutdrucks bei Herzkranken während der Kompensationsstörung.) Id.
90 Percussion of Absolute Cardiac Dulness and Its Importance for Determination of Size of Heart. (Perkussion der absoluten Herzdämpfung und deren Wert für die Bestimmung der Herzgrösse.) Schieffer and A. Weber.
91 *Percussion. Goldscheider.
92 Supply of Oxygen in the Anemic. (Sauerstoffversorgung bei Anämien.) P. Morawitz and W. Röhmer.
93 Experimental Research on Behavior of Leucocytes After Injection of Extracts of Bacteria. (Verhalten der Leukocyten nach Injektion von Bakterienextrakten.) F. Lange.
94 Scleroderma and Addison's Disease. (Fall von Sklerodermie und Morbus Addisonii nebst Bemerkungen über die Physiologie und Pathologie des Sympathicus und der Nebennieren.) L. Lichtwitz.
95 Clinical Reliability of Comparative Opsonin Tests in Fresh and Twenty-four-hour Old Serum. J. Zeissler.
96 *Early Diagnosis of Pulmonary Tuberculosis by Examination of Stomach Content. T. Hausmann.

91. **Threshold Percussion.**—Goldscheider answers the objections that have been raised against his method of "threshold

value percussion," that is, percussion at the limit of audibility, and then describes its field of application and the technic to the minutest details, with illustrations, as also the physics of the mechanism involved. He shows that this technic not only affords unusually fine conditions for obtaining information but that it also produces conditions otherwise unattainable and especially favorable for clinical investigation. The divergent waves become imperceptible and with the threshold technic only the axial waves are perceived. It is percussion in its purest form.

96. **Early Diagnosis of Pulmonary Tuberculosis from Stomach Contents.**—Hausmann says that for years he has been in the habit of examining the apices of every patient who applies for any ailment, and that he has been surprised at the frequency with which he found a pathologic condition in persons who had applied for relief merely on account of some dyspeptic trouble. He always informs the patient of what he has found, but with the assurance that the apical lesion is readily curable at this early stage. Some of the patients apply to other physicians for confirmation of the diagnosis, and in many instances the other physician denied the correctness of the diagnosis. There was no appreciable expectoration in these incipient cases, but examination of the fasting stomach content before breakfast showed the presence of sputum unconsciously swallowed—with tubercle bacilli—and thus confirmed the diagnosis of an apical lesion and also disclosed that it was "open." The lack of expectoration, therefore, is no evidence that the apical lesion is still "closed," as otherwise might be accepted. He urges others to examine the fasting stomach content for the presence of sputum, believing that the number of cases of so-called latent tuberculosis will be found materially reduced when this is systematically done. He adds in conclusion that every general practitioner and specialist in gastrointestinal affections should make a special point of examining the apices in every patient, and thus be able to refer the patients to the lung specialist while the affection in the lungs is still in its most promising stage for complete recovery. As it is, the lung specialist never sees the patient until the lung symptoms have attracted attention and then the most promising stage is already past. By examining the fasting stomach content the differences of opinion between diagnosticians will be settled as also the question whether the patient is completely cured or not. It will also give the lung specialists more confidence in the diagnoses of the nonspecialists.

Deutsche medizinische Wochenschrift, Berlin

December 17, XXXIV, No. 51, pp. 2201-2248

97 Origin of Emphysema. (Zur Frage nach der Entstehung der Lungenblähung.) L. Hofbauer.
98 Paralysis of Left Atrium with Mitral Defects. (Lähmung des linken Vorhofes bei Mitralfehlern.) G. Joachim.
99 *Treatment of Acute Articular Rheumatism. (Behandlung des akuten Gelenkrheumatismus.) A. Plehn. Concluded in No. 52.
100 Increased Secretion and Acidity of Gastric Juice During Menstruation. (Steigerung der Sekretion und der Azidität des Magensaftes während der Menstruation.) I. M. Wolpe.
101 Importance of Spring Fixation in Treatment of Clubfoot. (Bedeutung des federnden Fixationsverbandes in der Klumpfussbehandlung.) J. Fränkel.
102 Bacterial Origin and Clinical Study of Brain Abscess. (Hirnabszesse.) Heyde.
103 Combined Apparatus for Lumbar Puncture, Injection and Measurement of Pressure. W. Kausch.
104 Experiences with Spinal Anesthesia. (Erfahrungen auf dem Gebiete der Medullaranästhesie.) W. Tomaschewski.
105 Nomenclature of Epithelial Mouse Tumors. H. Apolant.
106 *Simple Method for Drawing Breast Milk. (Einfaches Verfahren zum Absaugen der Muttermilch.) V. Bock.

December 24, No. 52, pp. 2249-2296

107 Treatment of Heart Disease with Oscillating Currents. (Behandlung der Herzkrankheiten mit oszillierenden Strömen.) T. Rumpf.
108 Multiple Subcutaneous Electrolysis. Method for Destruction of Hairs without Leaving Traces. (Multiple subkutane Elektrolyse, ein narbenloses Zerstörungsverfahren.) Kromayer.
109 Treatment with Radium Emanations. A. Fuerstenberg.
110 Simple Mask for Inhalation. (Einfache Inhalationsmaske.) A. Hartmann.
111 *Test of Tuberculin Immunity on New Principle. (Neue Method zur Prüfung der Tuberkulinimmunität.) M. Pickert and E. Löwenstein.
112 Alleged Bacteriolytic Property of Lecithin. (Ueber die angebliche bakteriolytische Eigenschaft des Lecithins und über die Immunisierung mittels Lecithin-Typhustoxine.) J. G. Sleeswyk.
113 Immunizing Action of Lecithin Extracts of Plague Bacilli. F. Vay.
114 Elimination of Atoxyl in Urine. (Nachweis und den Gang der Ausscheidung des Atoxyls im Harn.) F. Blumenthal.
115 The Appetite. W. Sternberg.
116 Treatment of Wounds with Plaster of Paris. (Wundehandlung mit Gips.) W. Pust.

99. **Treatment of Acute Articular Rheumatism.**—Plehn says that brief transient albuminuria is a frequent accompaniment of various untreated infections, but this transient catarrh of the urinary apparatus is of no more moment than the transient catarrh of the stomach which occurs almost regularly after large doses of quinin, etc. The salicylates should not be held responsible for it. He ascribes a specific action to salicylic acid in articular rheumatism as marked as the action of quinin in malaria and mercury in syphilis. But in order to obtain the desired result it must be given in sufficient dosage. The half-hearted dosage now customary leaves the door open for all kinds of complications which proper salicylic medication would effectually avert. The method which has been applied in his service for years is to give his patient, as soon as the heart and urine have been examined, 1 gm. (15 grains) of salicylic acid in powder form, repeating every two hours, or half this amount every hour, so that the patient takes 6 gm. (75 grains) each day, suspending at night. This is continued until the temperature has been normal for three days and all pains and other disturbances have disappeared. He then gives 4 gm. (60 grains) a day for a week, and the patient is kept in bed for three days longer without any drugs. The aching joints are dressed with dry cotton and placed on cushions as comfortably as possible. This method of treatment is applied in every case, irrespective of the severity, as he regards it as the minimum necessary to cut the disease short and to ward off complications. Only when the by-effects are too severe does he modify it and this modification generally avenges itself. Women do not tolerate the acid as well as men, and consequently he reduces the dosage to 5 and 3 gm. in their case. As a rule the dosage should correspond to about 0.08 gm. to the kilogram of weight. The dose is sometimes rejected by the stomach and has to be reduced on this account, but the appetite returned as soon as the fever and pains subsided, or even earlier, and the patients almost invariably gained in weight. The drug is never given on an empty stomach. Existing acute or chronic nephritis was always favorably influenced by this treatment. In 319 cases with the heart intact valvular trouble developed only in 2 cases and in these the method had not been strictly applied. In contrast to these, heart trouble developed in 36 out of 101 cases of recurring rheumatism in which the first attack had been treated elsewhere with the customary smaller dosage. He is convinced that his method of early, vigorous and long continued salicylic treatment saves the patient from complications on the part of the heart and pleura, while it has a direct curative action on incipient serous pericarditis and pure rheumatic affections of the myocardium. Salicylic acid in doses up to 8 gm. a day, even long continued, he asserts, has no toxic action on the heart. It can be given without fear in case of compensated valvular defects and old fibrous myocarditis. In the extremely rare cases refractory to salicylic medication, the disease may yield to intramuscular injection of quinin with antipyrin, or to intravenous injection of colloidal silver. Baths and packs may re-enforce the drugs, but can never take their place.

106. **Simple Method of Drawing Breast Milk.**—A widemouthed bottle is filled with boiling water. The water is then poured out, and the mouth of the bottle is cooled and applied over the nipple. As the bottle cools the milk spurts from the nipple and the breast is automatically emptied, while the milk is ready for use at once, keeping warm in the warm bottle.

111. **New Test for Immunity to Tuberculin.**—Pickert and Löwenstein have found that the tuberculin cutaneous reaction can be prevented if the tuberculin is mixed beforehand with serum from a tuberculous individual taking tuberculin treatment. Normal serum has none of this neutralizing power. Under the influence of tuberculin treatment this neutralizing property appears earlier and is more pronounced in the cases

with a favorable prognosis. Tests on 104 persons confirmed the constancy of this neutralizing property of the specific serum on the specific reaction to cutaneous inoculation of tuberculin.

Deutsche Zeitschrift für Chirurgie, Leipsic

November, XCV, No. 6, pp. 561-644

117 *Serum Treatment of Anthrax. (Serumbehandlung des Milzbrandes beim Menschen.) A. Läwen.
118 *Circular Suture of Vessels After Removing Aneurism at the Knee. (Beitrag zur zirkulären Gefässnaht am Menschen.) R. Stlch.
119 Experimental Research on Collateral Renal Circulation. (Zur Frage des Kollateralkreislaufs der Niere.) H. Flörcken.
120 *Surgical Treatment of Gastric Ulcer and Its Consequences. (Chirurgische Behandlung des Magengeschwürs und seiner Folgezustände.) H. Ito and Y. Soyesima.
121 *Treatment of Hypertrophy of the Prostate by Injection of Alien Blood.) (Behandlung der Prostatahypertrophie mittels Injektion von artfremdem Blut.) O. Jüngling.

December, XCVI, Nos. 1-3, pp. 1320

122 *The Scopolamin Combination Anesthesia. (Die Skopolamin-Mischnarkose.) P. Slek.
123 *Surgery of the Nerves and Anatomic Healing of Nerve Injuries. (Mitteilungen aus dem Gebiete der Nervenchirurgie mit einer einleitenden Abhandlung über die anatomischen Verheilung der Nervenverletzungen.) Bardenheuer.
124 Temporary Closure of Colon During Operations on the Intestine. (Temporärer Verschluss des Colon beim Resektionen oder Ausschaltung des Darmes.) Wilms.
125 Etiology and Treatment of Inflammatory Stenosis of the Rectum. (Aetiologie und Behandlung der entzündlichen Mastdarmstenosen.) V. Gaudlani.
126 *Surgery of Biliary Apparatus. (Zur Chirurgie der Leber und der Gallenwege.) A. Jenekel.
127 Chronic Juvenile Deforming Osteoarthritis. M. Matsuoka.
128 Splint to Remodel the Arch of the Foot After Fractures. (Schiene zur Modellierung des Fussgewölbes bei Frakturen der Fusswurzel, speziell bei Calcaneusfrakturen.) W. Müller.

117. **Serum Treatment of Anthrax.**—Läwen comments on the increasing tendency to less active measures in treatment of superficial anthrax, and declares that expectant treatment, supplemented by specific serotherapy, is giving very promising results at Trendelenburg's clinic, where it has been applied in seven cases with severe general symptoms. A large intravenous dose is advised, repeating the injection the next and following days if necessary, continuing with small subcutaneous doses. Sclavo and Mendez have had wide experience with this serotherapy, and they report reduction of the mortality to 5 and 6 per cent.

118. **Resection of Aneurism in Popliteal Space.**—Stich adds another to the twenty-four cases on record in which the artery or vein was successfully reunited by a circular suture with restoration of normal conditions in the circulation in thirteen and satisfactory condition in the others. His patient can now use his leg freely, although the foot on that side is still a trifle swollen and not quite so strong as the other. The various cases are summarized.

120. **Surgical Treatment of Gastric Ulcer and Its Consequences.**—This communication from Kyoto gives the details of 21 cases in which operative intervention afforded constant and permanent relief. No operation was attempted for gastric ulcer unless there were symptoms of stenosis.

121. **Treatment of Hypertrophy of the Prostate by Injection of Alien Blood.**—Bier's experience with injections of alien blood to induce atrophy in malignant tumors suggested the application of alien blood as a means of reducing the size of the enlarged prostate. The blood carries and produces the ferments active in various diseases, and transfusion of alien blood is a harmless means of inducing fever and aseptic inflammation. The blood used was from the pig or lamb, or from cattle, and was drawn from the spurting vessels in the neck as the animal was slaughtered, into a jar containing some glass beads. After two or three minutes it is well shaken. The blood thus defibrinated is taken up in a syringe with a needle 10 cm. long, and it is injected through the perineum, the patient being in the knee-elbow position, directly into the prostate, the needle guided by the finger in the rectum. About 2.5 c.c. of the blood are injected into the lobe first reached; the needle is then withdrawn until the tip reaches the edge of the lobe, when the same amount is injected into the surrounding tissue. The needle is then turned to reach the other lobe and the same amount is injected here and into the adjoining tissue, thus using about 10 c.c. for the total injection. The details of 15 out of the 21 cases in which this treatment has been given are described in detail. From 1 to 4 injections were made in the different cases at intervals of 8 to 10 days. In all but 4 cases the ability to urinate freely was much improved and micturition became less frequent, while the stream of urine became stronger. Nothing was done for the cystitis in these cases, but conditions improved in this respect after the injections of blood. The results on the whole are regarded as promising. Bier is convinced that persons with enlarged prostate seem to be in a more advanced senile condition than corresponds to their age, so that the depression and psychic disturbances sometimes observed after prostatectomy ought not to be ascribed to the operation. The best results from the injection of alien blood were attained in the acute cases with retention and tenesmus. The relief was so prompt that Jüngling thinks it can be explained only by the development of inflammatory edema causing the spasm of the sphincter to relax. The hyperemia induced is also a factor in the results.

122. **Combined Scopolamin Anesthesia.**—Sick has taken up the scopolamin technic again after he had discarded it on account of the death of a patient with severe advanced arteriosclerosis and senile gangrene, operated on under scopolamin and morphin; the patient died in twelve hours without rousing. The favorable experiences related since from other clinics have induced him to resume again this principle of combining minute doses of several anesthetics to produce the desired anesthesia without the toxic action of large doses of any of the drugs. During the last seven months he has performed 220 major operations under the combination of scopolamin with 0.0015 gm. of morphin half an hour before the operation —he warns expressly that this dose should not be surpassed—and then ether or chloroform.

123. **Surgery of the Nerves.**—Bardenheuer's article fills 200 pages, commencing with a study of the anatomic healing of nerves after injuries, and of the time required for regeneration and restoration of function. He then describes his personal experience with plastic operations on the nerves (eight cases), also with suture of the nerves, treatment of the nerves after amputations and infectious processes, reporting a total of forty-three cases in which he has operated on nerves. He upholds the neuron theory and the assumption that the function of the nerve is dependent on the continuity of the nerve fibers with the ganglion cells and on suitable nourishment from the blood. Everything promoting the circulation of blood in the region, promotes nourishment of the nerves and ganglion cells. In resections it is important, therefore, to shorten the muscles so that they are left taut and thus have to contract at the slightest voluntary impulse; this increases the circulation in the part. The nerve is best sutured with fine catgut, passed directly through it; restoration of function may occur in from three to six weeks, but often months are required or even years. He advises exposing the nerve if it gives the degeneration reaction in two weeks after the onset of paralysis resulting from compression of the nerve during an operation or childbirth. It is thus possible to free the nerve from a hematoma or to cure an existing lesion. He lays down a number of other rules deduced from his extensive experience which embraces nearly the entire field of nerve surgery.

126. **Surgery of the Biliary Apparatus.**—Jenckel reports the experiences at Braun's clinic at Göttingen with operative treatment of 7 cases of rupture of the liver, 2 of sarcoma, 4 of syphiloma, 5 of dubious diagnosis, and a case of non-parasitic cysts in the liver.

Jahrbuch für Kinderheilkunde, Berlin

December, LXVIII, No. 6, pp. 649-772.

129 Rachitic Myopathy. R. Blng.
130 *Relations Between Thymus and Nervous System. (Zur Physiologie und Pathologie der Thymus.) K. Basch.
131 *Intoxication in Course of Nutritional Disturbances. (Ueber alimentäre Intoxikation.) H. Finkelsteln.

130. **Relations Between the Thymus and the Nervous System.**—Basch relates that removal of the thymus of young dogs caused exceptional excitability of the peripheral nervous sys-

tem, as shown by electric tests. This throws new light on the relations between the thymus and nervous system. His experimental research has convinced him that the parathyroid bodies are not exclusively responsible for the etiology of tetany, but rather that a whole group of allied organs are involved. Among these the thymus takes a prominent place as reacting the most readily to general disturbances. In normal conditions the thymus seems to be connected with the growth of the body and the development of the bones in early life, and also with a certain reaction of the motor apparatus to the electric current.

131. **Alimentary Intoxication.**—Finkelstein continues his study of this subject, defining alimentary intoxication as the paradoxical reaction of the child, under the influence of disturbances from improper food, to the ingestion of sugar in amounts larger than the tolerance. He has previously shown that sugar has toxic properties for infants if given beyond the limit of tolerance. In the metabolism of a child whose nutrition is disturbed, fat has an injurious action on the sugar-assimilating functions. This causes less sugar to be assimilated than normal, the clinical manifestation of which is that the tolerance for sugar is reduced.

Medizinische Klinik, Berlin

December 13, IV, No. 50, pp. 1899-1936

132 Chorea in Children. (Chorea im Kindesalter.) F. Siegert.
133 *Modern Methods of Investigating the Internal Ear and Their Importance. (Moderne Untersuchungsmethoden des Vestibularapparates.) R. Barany.
134 *Artificial Foods. (Wesen und Bedeutung der künstlichen Nährmittel.) Lipowski.
135 *Dry Inhalation in Therapeutics. (Die Trockeninhalation nach dem Körtingschen System.) C. Schütze.
136 Experimental Research on Absorbing Capacity of Bowels During Forced Feeding and Muscular Exertion. (Resorptionskraft des Darmes bei Ueberernährung und Muskelarbeit.) F. Heinsheimer.
137 Advantages of Ocean Trip in Pulmonary Tuberculosis. (Bedeutung von Seereisen für die Therapie der Lungentuberkulose nebst Vorschlägen zur Ausführung.) W. Holdheim.

133. **Nystagmus.**—Barany reviews the important information that may be obtained from tests of the semicircular canals not only for affections of the internal ear, but for the diagnosis of tumors in the cerebellum and for estimation of the effects of trauma. He describes a fixator which records the amount of deviation of the eyes, a sliding button on a band around the forehead. To detect simulation of vertigo the patient's head is suddenly pushed over backward; nystagmus toward the affected side excludes malingering.

134. **Artificial Foods.**—Lipowski reviews the various foods on the market and remarks that if physicians would pay more attention to cooking for the sick, an important branch of the healing art, the artificial foods would not be so extravagantly over-estimated. Their only field, he thinks, is in long febrile and consumptive diseases, in which sufficient nourishment can not be obtained with ordinary food. They are also useful when it is important to refrain from exciting peristalsis in the digestive tract, as in the case of appendicitis or gastrointestinal ulceration.

135. **Dry Therapeutic Inhalation.**—Schütze describes a method for inhalation of extremely minute dry particles. The substance used is salt. The brine is sprayed into a strong current of air, the humidity graduated so that all the moisture in the spray is taken up by the air, leaving the minute particles of the spray to form a dry dust, permitting thus extremely fine division of the particles suspended in the air. He applies this method in sanatorium treatment, the medicated air flowing down into the hall from above, there being arrangements, of course, for heating and constant renewal of the air throughout the hall. The effect of this treatment has been particularly marked in chronic catarrhal affections of the air passages.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

December, XXVIII, No. 6, pp. 637-76

138 Tardy Lactation. (Zur Kenntnis Spätlaktation.) J. K. Friedjung.
139 Anatomy of Cysts of Labia Minora. (Zur Anatomie der Cysten der kleinen Schamlippe.) J. Bondl.
140 Structure and Function of Epithelium of Fallopian Tubes. (Bau und Funktion des Eileiterepithels beim Menschen und bei Säugetieren.) J. Schaffer. Concluded.

Münchener medizinische Wochenschrift

December 15, LV, No. 50, pp. 2596-2650

141 *Forcible Opening of Amniotic Sac for Artificial Premature Delivery. (Der Blasenriss bei der künstlichen Frühgeburt.) O. v. Herff.
142 Loss of Tendon Reflexes in Functional Nervous Affections. (Verlust der Sehnenreflexe bei funktionellen Nervenkrankheiten.) R. v. Hoesslin.
143 Excitability of Respiratory Center and Consumption of Oxygen in Natural and Artificial Sleep. (Ueber Veronalnatrium und die Erregbarkeit des Atemzentrums, sowie den Sauerstoffverbrauch im natürlichen und künstlichen Schlaf.) H. Winternitz.
144 *Determination of Parasites in the Blood. (Zum Nachweis von Parasiten im Blut.) C. Stäubli.
145 Blood-Pressure Raising Substances in the Blood in Nephritis. (Zur Frage der drucksteigernden Substanzen im Blute bei Nephritis.) Schlayer.
146 *Influence of Constriction Hyperemia on Local Tuberculin Reaction. (Einfluss der Stauung auf die lokale Tuberculinreaktion.) O. Aronade and A. Falk.
147 Clinical Unity of Paratyphoid. (Zur Frage der klinischen Einheit des Paratyphus.) E. Meinicke.
148 *Neuralgia of the Kidneys. (Zur Nierenneuralgia.) Urban.
149 *Hypertrophy of Trabeculæ in Bladder Wall as Early Symptom in Tabes Dorsalis. (Die Balkenblase als Frühsymptom bei Tabes Dorsalis.) F. Böhme.

141. **Opening the Amniotic Sac for Premature Delivery.**—von Herff states that his assistant, Schäfli, has collected from the literature 700 cases in which pubiotomy was done, with full details of 664 of the cases. They show a long list of mishaps, a maternal mortality of 4.9 per cent.; of the children, 9.6 per cent., with hematoma in 17 per cent.; severe laceration in 15.4 per cent., with the death of 12.6 per cent. of these women; injury of the bladder in 12 per cent. and thrombophlebitis in 8 per cent. In 120 women examined later there was hernia from the slit in the bone in 7.5 per cent., prolapse of the vagina in 24 per cent. and permanent incontinence of urine in 4 per cent. On the basis of these unfavorable showings, von Herff urges the necessity for artificial premature delivery as a routine measure instead of attempting pubiotomy. The simplest means to induce it is by opening the bag of waters, not by a puncture, but by tearing it open, allowing from 50 to 100 c.c. of fluid to escape, or even more. In 718 cases in his service in which this measure was applied, the total mortality of the children was 2.8 per cent. and none of the mothers showed any injury from it. In 78 women with contracted pelves childbirth was facilitated in this way in 100 instances. It is not attempted until he is convinced that it is practically impossible for the head to pass. Of the 101 children, 80 per cent. left the clinic in good condition and are still thriving, although in 73 per cent. of the women the true conjugate ranged from 7.5 to 8.5 cm. His aim is to facilitate as much as possible the difficult delivery in such cases, and nothing, he says, accomplishes this so simply and easily as this opening the bag by a simple tear, merely spreading the branches of the little instrument; an ordinary sound will not do. He adds that artificial premature delivery is contraindicated in primiparæ unless the pelvis is very much deformed. The state of the cervix and os is immaterial, but it is important to allow plenty of fluid to escape. The average duration of labor is about twenty-six hours, but in family practice it may be shortened by vaginal douches.

144. **Determination of Parasites in the Blood.**—Stäubli dissolves out the red corpuscles, which renders it much easier to detect the parasites. The freshly drawn blood is diluted with a large amount of 3 per cent. acetic acid and then centrifugalized. He found this method especially simple and convenient in differentiation of trichinosis, malaria, etc.

146. **Influence of Local Congestion on Local Tuberculin Reaction.**—Aronade and Falk noticed that the site of a specific local tuberculin reaction on the arm of a girl with miliary tuberculosis became covered with minute hemorrhages after application of a constricting band above, while the control papule showed nothing of the kind. They then attempted to induce this phenomenon artificially, and they report the results in 90 cases. The congestion hemorrhages were constantly observed, even after an interval of fully six weeks after the tuberculin inoculation. The diagnostic importance of the phenomenon consists in the fact that these hemorrhages may be observed even when there is no appreciable reaction to the tuberculin inoculation; they never occur at the control spots.

148. **Renal Neuralgia.**—Urban reports a case of unmistakable pure neuralgia of the kidney under observation for five years. The patient was a tailor's wife, 26 years old, and the recurring attacks of intense pain in the right side were ascribed to gallstones, but an exploratory laparotomy disclosed nothing pathologic. The attacks continued and the appendix was removed during an attack of acute appendicitis, but still the pains in the right side constantly recurred and the patient insisted on another operation. The right kidney was exposed and found apparently normal, but decapsulation was done, freeing the kidney completely from the capsule all around. The dull ache was banished, and there has been no recurrence of the pain since. The only explanation can be that the capsule did not fit the kidney. It seemed to be normal in every respect, but must have been a size too small.

149. **Hypertrophy of the Bladder Trabeculæ as Early Sign of Tabes Dorsalis.**—Böhme asserts that after exclusion of other causes which might induce hypertrophy of the bladder wall, its discovery is strong evidence in favor of tabes. In a certain number of cases it is the earliest appreciable symptom. Contrary to the hypertrophy observed with obstruction of the outlet, as in case of enlarged prostate or stricture, with the pure tabes "beam bladder"—as the Germans call the condition with hypertrophied trabeculæ—the ramifications of the trabeculæ are enlarged regularly and delicately throughout, not predominantly in the vicinity of the trigonum, fundus and side walls as is observed in case of enlargement of the prostate. The mechanism, however, is practically the same—the bladder seeking to compensate by extra muscular effort for the difficulty experienced in voiding its contents. Retention of urine in pure hysteria does not entail this enlargement of the trabeculæ—at least he observed no tendency of the kind in a case of hysterical paralysis of the bladder with retention of urine for seven weeks. He describes eight cases in detail; in all the patients applied to the physician merely for relief from the bladder symptoms and the difficulty in urination. The cystoscope revealed the hypertrophied trabeculæ, suggesting incipient tabes, confirmed by the later course of the cases. It was either the earliest symptom or accompanied some other early manifestation. The cystoscope is able to reveal the condition before a tendency to retention and residual urine develops.

Zeitschrift für klinische Medizin, Berlin

LXVII, Nos. 1-3, pp. 1-251, Koranyi Festschrift. Last indexed Jan. 2, p. 84

150 Threshold Percussion of Stomach. (Die Schwellenwertperkussion des Magens.) A. v. Koranyi.
151 Sensory Roots of the Spinal Cord. (Zur Physiologie und Pathologie der sensiblen Wurzeln des Rückenmarks.) R. R. Balint.
152 *Roentgen-Ray Treatment of Blood Diseases. (Röntgenbehandlung von Blutkrankheiten.) J. v. Elischer and K. Engel.
53 *Experimental Study of Origin of Nephritic Edema. (Entstehung der nephritischen Oedeme.) J. Bence.
54 *Diabetes Insipidus. K. Engel.
55 Phagocytosis and Opsonins. J. Kentzler.
56 Changes in Virulence of Tubercle Bacilli in Course of Specific Treatment. (Virulenzveränderung der Tuberkelbazillen im Verlaufe der spezifischen Behandlung.) G. Kiralyfi.
57 *Action of Kuhn's Lung Suction Mask in Heart Disease. (Wirkung der Kuhnschen Lungensaugmaske bei Herzkrankheiten.) G. Morelli.
58 Refraction Findings in Blood Serum After Ingestion of Salt. (Verhalten des Refraktionswertes des Blutserums nach Aufnahme von Kochsalz.) J. v. Benczur.
59 Connection Between Albumin Content of Blood Serum and Serous Effusions. (Zusammenhang des Eiweissgehaltes des Blutserums und der serösen Flüssigkeitsergüsse.) K. Engel and O. Orszag.
60 Perforation of Aortic Aneurism into Superior Vena Cava. A. Barcza.
61 Passage of Pancreatic Juice into the Stomach. (Uebertritt von Pankreassaft in den Magen.) B. Molnar.
62 Nitrogen in Sputum with Gangrene of Lung. (Stickstoffgehalt des Sputums bei Lungengangrän.) O. Orszag.
63 Inhibiting Action of Yoghurt Bacillus on Colon Bacillus. (Wirkung des Bacillus bulgarus auf den Bacillus coli.) T. v. Kern.
64 *Cammidge Pancreatic Reaction. N. Roth.
65 *Experimental Research on Antagonistic Action of Adrenalin and Calcium Chlorid. (Zur antagonistischen Wirkung des Adrenalins und Chlorkalziums.) F. Schrank.
66 Action of Antipyretics on Phagocytosis J. Kentzler and J. v. Benczur.

152. **Roentgen-Ray Treatment of Blood Diseases.**—Elischer nd Engel report from Koranyi's clinic 44 cases of leukemia, lymphosarcoma or mediastinal tumors treated with the Roentgen rays since 1904, and they discuss these experiences in detail. It is especially important that this treatment should be applied in the early stages; later, much more intensive treatment becomes necessary, with all its inherent dangers. They advise radiotherapy for all tumors in the mediastinum and all phenomena suggesting lymphomatosis and leukemia. They remark that it is impossibile to foretell whether enlarged lymph glands in the neck will develop into a simple lymphoma, pseudoleukemia, lymphosarcoma or tuberculous process, but as the Roentgen rays have a beneficial action in all these conditions, they advise early and vigorous Roentgen treatment without waiting for differentiation. In the early stages of cervical glandular processes and mediastinal tumors there need be no fear of destroying large masses of tissue with attendant intoxication, and consequently the treatment can be pushed with great energy. For ten or fourteen days they advise strong daily exposures for eight or ten minutes. Then the exposures are suspended while the patient's sensitiveness to the rays is determined and the appearance of by-effects awaited. After this period of observation the treatment is continued until signs of improvement or of the inefficacy of the measure become evident. They keep up the exposures for two or three months in case of a mediastinal tumor. If good results are not obtained with ten-minute exposures, the patient's susceptibility to the rays is so slight that it is useless to expect to influence the lesion unless the radiotherapy is applied so vigorously that an *x*-ray burn is almost inevitable. In leukemia the early commencement of treatment is even more important, as in the later stages the exposures must be made with great caution. At first short exposures are made to avoid inducing radiotoxic symptoms and especially to avoid injuring the sensitive capsule of the spleen. There are large masses of tissues to be influenced in leukemia and consequently there is the greater danger of intoxication from absorption of the decaying masses. After eight or ten exposures they suspend treatment for a week, but supervise the patient's blood and weight. It is particularly important not to begin treatment too vigorously in leukemia, and to supplement the radiotherapy with hygienic-dietetic measures. The patient must also be kept under supervision later and treatment resumed at the first sign of recurrence, even if only objective. The main point in leukemia is to work with as small dosage of the rays as possible, utilizing the late action of the rays. Patients unable to have the benefit of hygienic-dietetic measures and freedom from care are not so liable to derive benefit from the radiotherapy, but under favorable conditions it seems to postpone long the fatal outcome while relieving the patients of their pain. In many cases, however, notwithstanding great improvement, yet the danger of acute exacerbation seems to be made more impending by the radiotherapy. In one case, six courses of Roentgen treatment were given in less than four years and always with marked benefit, but there is no case on record of actual permanent recovery. The tissues in time seem to become immune to the action of the *x*-rays, which thus lose their influence. The tubes are of the 4 or 5 strength (Walter's scale), and a tin-foil filter is used with them. Of the 19 cases of leukemia, 10 of the 13 myelemic and 2 of the 6 lymphemic patients were very much benefited by the treatment.

153. **Origin of Nephritic Edema.**—Bence relates experiments which show that edema is the result of the passage of fluids from the tissues into the vessels, not the reverse, and that this occurs without the aid of fluid from without. If fluid is ingested it merely accelerates the process without modifying it essentially.

154. **Diabetes Insipidus.**—Engel reports seven cases studied from various points of view, especially to determine whether the kidneys had lost their ability to secrete a concentrated urine and whether this could be regained under favoring conditions.

157. **Suction Lung Mask in Heart Disease.**—Morelli has applied Kuhn's mask in several cases of heart affections, aiming to act on the heart by the unusual muscular efforts made to obtain breath enough when inspiration is partially obstructed. The patient has to breathe deep and the contents of the chest

are thus mobilized and exercised to an unusual extent. His impression is decidedly favorable to the use of the mask in affections of the right side of the heart. The subjective disturbances and palpitations of nervous origin also seemed to be improved and the anemia benefited.

164. **The Cammidge Pancreatic Reaction.**—Roth's experiences failed to confirm the reliability and constancy of this reaction.

165. **Antagonistic Action of Adrenalin and Calcium Chlorid.**—Schrank studied the action of adrenalin mixed with calcium chlorid on the enucleated eyeball of the frog and also whether the chlorid was able to prevent the development of arteriosclerosis when adrenalin was injected into rabbits and, further, whether it was able to prevent glycosuria in dogs and rabbits when the chlorid was injected with or soon after the adrenalin. The results were positive in all the experiments except in those with arteriosclerosis. The chlorid delayed the dilatation of the frog eyeball and prevented the development of the glycosuria.

Zentralblatt für Chirurgie, Leipsic

December 26, XXXV, No. 52, pp. 1545-1568

167 Operative Treatment of Old Fracture of Patella with Wide Gap. (Zur operativen Behandlung veralteter Kniescheibenbrüche mit grösserer Diastase der Fragmente.) H. Turner.

Zentralblatt für Gynäkologie, Leipsic

December 26, XXXII, No. 52, pp. 1649-1680

168 Perforation of the Uterus in Abortive Maneuvers. W. Weibel.
169 Isolated Laceration of Hymen from a Fall. (Fragliche Entstehung eines isolierten Hymenrisses.) R. Silbermann.
170 Laminaria. (Sind Quellstifte notwendig?) C. Fleischmann.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 24, XXIX, No. 154, pp. 1653-1660

171 Pathogenesis of Hemolytic Jaundice. (Patogenesi dell'ittero da emolisi.) A. Massaglia and L. Tarabini.

Policlinico, Rome

December, XV, Surgical Section, No. 12, pp. 521-564

172 Two Cases of Meningocele with Hernia of Spinal Cord. (Sul meningocele con procidenza di midollo.) M. Francini.
173 Elastic Fibers of Ovary in Relation to Hyaline Degeneration of the Vessels and Graafian Follicles. S. Puglisi-Allegra.
174 Endothelioma of Gasserian Ganglion. R. Giani. Commenced in No. 11.

December 20, Practical Section, No. 51, pp. 1605-1636

175 Symptomatology of Tuberculin Reactions. (Semeiologia delle reazioni tubercoliniche.) G. Massini.

Sei-i-kwai Medical Journal, Tokyo

October 31, X, No. 320, pp. 335-343

176 Pyosalpynx. K. Yamada.

Nordiskt mediciniskt Arkiv, Stockholm

XLI, Internal Medicine, No. 2. Last indexed Oct. 24, p. 1476

177 *Recovery After Long Duration of Insanity. (Spätheilung von Psychosen.) A. Petren. Concluded.
178 A Study of Uric Acid. J. P. Chrom (in English).
179 Keloid from Tattooing. (Fälle von Tatowierungskeloiden.) E. Welander.
180 Absorption of Insoluble Mercurial Preparations Injected into the Muscles. (Resorption der unlöslichen Quecksilberpräparate bei intramuskulärer Injektion.) S. Birger.

Surgery No. 1. Last indexed July 25, p. 360

181 *Treatment of Inflammatory Affections of the Ovaries and Fallopian Tubes. (Behandlung entzündlicher Adnexerkrankungen.) J. Kaarsberg.
182 *Habitual Dislocation of the Shoulder Joint. (Die habituelle Schultergelenksluxation.) K. Dahlgren.
183 *Non-parasitic Cysts in the Spleen. (Zur Kasuistik der nichtparasitären Milzcysten.) E. Landelius.

177. **Recovery After Long Duration of Insanity.**—Petren's attention was attracted to this subject by 8 cases in his own experience, and he has collected from the literature 26 similar cases in which patients, after being absolutely insane for from 4 to 12 years, were completely restored and had no recurrence under observation for from four to twenty years after the recovery. The patients' ages ranged from 26 to 58 when they first became insane, with the exception of 3 between 14 and 17 and one boy of 6. The details are given in a large table, showing the assumed cause for the insanity, the character of the mental affection, the causes influencing recovery, its course and other details. The monograph fills 328 pages and allows certain conclusions, one being that these tardy recoveries, with complete restoration of sanity, were mostly in the form of manic-depressive insanity, associated in some with paranoia. The latter deserves special attention, to avoid errors in prognosis. In a number of these cases dismissal from the asylum aided materially in the final recovery. Next to this form of insanity, catatonia showed the largest number of tardy recoveries, both among those with an acute onset and those with a more gradual development of the affection. External causes were exceptionally frequent in the etiology of this form, which included both the variety with stupor and that with excitement. In none of these cases had there been a previous attack, but a previous attack had occurred in 7 of the 16 cases of the manic-depressive form and two attacks in another. Tardy recovery also occurred in 4 cases of what Magnan calls *délire systématisé*. In several of the cases related a divorce had been obtained on the ground of incurable insanity, and Petren warns that the prognosis in these forms of insanity should be more guarded.

181. **Treatment of Inflammatory Affections of the Ovaries and Tubes.**—Kaarsberg reviews the experiences at Copenhagen with the three groups of the affection, those with and those without suppuration and the tuberculous. The possibility of spontaneous healing of the tuberculous form justifies conservative treatment. A conservative laparotomy was done in twelve of the twenty-eight cases in this group and the results are very encouraging. The details of the 289 cases are tabulated.

182. **Habitual Dislocation of the Shoulder.**—Dahlgren applies this term to a condition of weakness of the joint in which any moderate external or internal force is sufficient to throw the joint surfaces out of their normal position in respect to each other. Excluding cases in which the trouble is the result of syringomyelia, he reviews 42 cases from the literature and some in his own experience, and insists that proper treatment of the primary luxation would prevent the tendency to recurrence. The only reliable means of treatment is by operative intervention and the joint should be opened for extraction of any movable bodies and to correct the condition as indicated. Good results have been obtained by merely taking up a fold in the capsule to make it smaller, as he describes in detail.

183. **Non-Parasitic Cysts in the Spleen.**—Landelius gives the details of a case and adds forty-seven from the literature. In his case a complete cure was realized by evacuation of the cyst with fixation and drainage.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Sexual Question. By August Forel, M.D., Ph.D., LL.D., formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich (Switzerland). English translation by C. F. Marshall, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for the Diseases of the Skin. London. Pp. 536, with illustrations. Cloth. Price, $5. New York: Rebman Co. By error the price of this work was previously printed as three dollars.

Saunders' Pocket Medical Formulary. With an appendix. By William M. Powell, M.D., Author of "Essentials of Diseases of Children." Ed. 9. Adapted to the Eighth Revision (1905) of the U. S. Pharmacopeia. Flexible leather, with pocket and flap. Pp. 308. Price, $1.75. Philadelphia: W. B. Saunders Co., 1909.

Marriage and Disease. An Abridged Edition of Health and Disease in Relation to Marriage and the Married State. Edited by H. Senator and S. Kaminer, Berlin. Translated from the German by J. Dulberg, M.D., Manchester, Eng. Cloth. Pp. 452. Price, $2.50. New York: Paul B. Hoeber, 1909.

Constipation and Intestinal Obstruction. By Samuel Goodwin Gant, M.D., LL.D., Professor of Diseases of the Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 559, with illustrations. Price, $6. Philadelphia: W. B. Saunders Co., 1909.

State Hospitals Bulletin. Published Four Times a Year by Authority of the New York State Commission in Lunacy. Vol. 1. No. 3. December, 1908. Paper. Pp. 505. Single copies 50 cents. New York: State Hospital Press.

New York State Library Yearbook of Legislation, 1907. Edited by Frederick D. Bramhall, Legislative Reference Librarian. Paper. Price, $1. Albany: University of State of New York. 1908.

History of the Cleveland Homeopathic College from 1850 to 1880. By D. H. Beckwith, M.D., Emeritus Professor, Cleveland Homeopathic Medical College. Paper. Pp. 72.

The American Tropics. By William Thomas Corlett. Paper. Pp. 221, with illustrations. Price, $1.50. Cleveland: The Burrows Brothers Co., 1908.

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Address

SUTURE OF WOUNDS OF THE HEART

WITH REPORT OF A SECOND CASE AND A TABLE OF 150 OPERATIONS *

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"Let no man who hopes to retain the respect of his medical brethren dare to operate on the human heart." These words were spoken less than a quarter of a century ago by a master in surgery and one of the boldest operators who ever lived, but if Billroth could appear to-day he would be astonished to learn that not only does the profession approve of such operations but that the mortality is no greater than he experienced in his own early work in abdominal surgery. Heart surgery is truly modern surgery.

The ancient surgeons had no hesitation in operating on the skull and lungs, but so great was the superstitious fear of touching the heart that we find no record of an operation, even on the pericardium, until 1793, when the great military surgeon, Baron Larrey, planned the operation and removed fluid from the pericardium with a hollow needle. It seems that the first operation on account of a wound of the pericardium was done in 1887 by another military surgeon, a former member of the Association of Military Surgeons, Col. R. Harvey Reed, who removed a section of the sixth rib from a patient who had been stabbed in the region of the heart, cleaned out the blood clots and sutured the pericardium, with recovery of the patient. Four years later, in 1891, Dr. H. C. Dalton, of St. Louis, performed a similar operation with a like result. Many other surgeons have operated on the pericardium, usually with recovery. In 1895 Rosenthal proved that a dog could recover from experimental wounding of the heart under the simple reatment of plugging the wound with iodoform gauze. n the same year Del Vecchio conducted a number of experiments and succeeded in curing a dog after making and suturing two perforating wounds in the left venricle.

Thus was the way prepared for operations on the human heart: first, the observations of Paré, Fischer nd many others that wounds of the heart were not always fatal; second, the idea of treating such wounds in rational way as conceived by many (Roberts in 1881 dvised that heart wounds should be closed by sutures), nd, third, the demonstration that suture of the heart n the lower animals could be successfully accomplished.

THE FIRST OPERATION

All that could be done had been done except to perorm the operation on the human heart, when, in 1896, just 98 years after the first operation on the pericardium, Farina, of Rome, closed with three silk sutures a stab wound of the right ventricle of the human heart. The patient died of pneumonia on the sixth day, but he had lived long enough to prove the success of the operation. In 1896 suture of the heart was done in 3 cases with 1 recovery; 4 with 1 recovery in 1897; 12 with 5 recoveries in 1898, and so on until the present time, when I am able to present a table of 150 patients in whom the heart was sutured.

Care has been taken to avoid repetition and other errors by reading the original reports, but this was sometimes impossible. Operations on the pericardium only and those operations on the heart other than by suturing have been left out of the table. Such are the cases of Hill and Doyle, each of whom extracted a needle from the heart; of Weiss and of Sartirona and Borsotti, each of whom tamponed a heart wound; of Picqué, who simply drained the pericardium for a bullet imbedded in the wall of the left ventricle, with recovery; of Tuffier, who removed a bullet imbedded in the wall of the left auricle and drained the pericardium, with recovery; and of Guidone, whose patient died before he had time to begin the introduction of sutures. The case of the negro physician, Williams, has been erroneously included in several tables of cases of heart suture both in this country and abroad. I have rejected it for the same reason that Lenormant gave for omitting it from his table, namely, that it was not an operation on the heart. In my original table, published in 1901, twenty-six cases were tabulated, of which only three were done in America. Now at least fourteen have been done in America with six recoveries. My second case of heart suture was as follows:

CASE OF HEART SUTURING

History.—R. D., male, colored, aged 32, barber, was admitted to the Emergency Hospital Feb. 1, 1908, having just been stabbed in the left breast with a knife.

Examination.—The patient was in a semicomatose state, partly due to drink, with cold extremities and pulse of 120, at times imperceptible at the wrist. On auscultation the heart sounds were faintly heard. An incised wound about half an inch long was seen, one-sixteenth of an inch to the inner side of the left nipple between the fourth and fifth ribs. Very little blood escaped. A probe was passed into this wound and took a downward and inward course to a depth of 3½ inches. A diagnosis of probable wound of the heart was made, and the operation was begun as soon as practicable—a little more than one hour after the receipt of the wound.

Operation.—With strict asepsis a flap was made of the left fourth, fifth and sixth cartilages, hinge internal, by cutting through the third and sixth intercostal spaces horizontally, uniting the outer ends of these incisions by a vertical one crossing the fourth, fifth and sixth ribs, which were divided at their junction with the cartilages. The flap thus made was lifted up, the pleura stripped from it and turned across the sternum, hinging on the left chondrosternal junction. (Fig. 1.) The pleura was thus widely opened, and the left lung soon collapsed. The stab wound had passed through the left lung, pericardium and into the right ventricle near the interventricular septum, making a wound a third of an inch long into the cavity of the ventricle, near its lower end. Little blood was found in the pericardium, but more than a pint was removed from the left pleural cavity. The pericardial wound was enlarged to about three inches, when the wound in the ventricle was clearly seen, with a small jet of dark blood spurting out with each systole. The lips of the wound were caught with hemostatic forceps and held together while a continuous suture of fine silk—five sutures—was made. The stitch holes bled, so that a second row of silk sutures was inserted, Lembert style, making in all about twelve sutures. Two points continued to bleed and were caught up with forceps and ligated with catgut. Hemostasis was then complete, and the heart beat well and strong. The ventricular walls seemed no thicker than those of an auricle. The pericardium, being clean, was closed without drainage with a continuous catgut suture. The pleura was closed in the same way after drying it out with gauze, the costal cartilages being sewed back to the ribs and divided muscles united—all with catgut, except the skin, in which silkworm gut was used. The pulse was 120 at the end of the operation, but of better quality than before.

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*Presidential address before the Association of Military Sureons of the United States, Atlanta, Ga., Oct. 13, 1908.

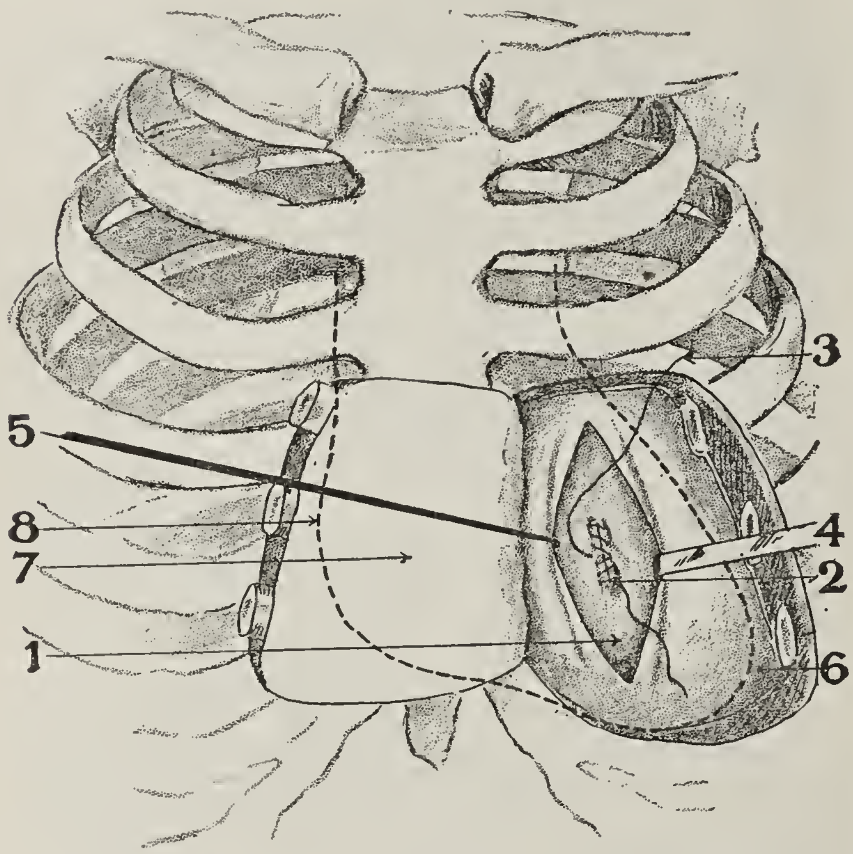

Fig. 1.—Operation for wound of the heart. 1, heart; 2, deep sutures; 3, superficial sutures; 4 and 5, retractors on pericardium; 6, left pleural space; 7, flap of chest wall, including fourth, fifth and sixth ribs; 8, heart outlined by broken line.

Postoperative History.—February 2: Pulse 120 to 140, temperature 102 F., and respirations 40 to 60.

February 5: Symptoms of delirium tremens came on and a restraining apparatus was necessary to keep the patient in bed. Whiskey was ordered.

February 6: The patient was violently insane, so the whiskey was increased until on February 7, when he was taking two ounces every hour, and actually took three pints during this twenty-four hours. Pulse fell from 132 to 120, and the mental condition improved.

February 8: He was conscious most of the time.

February 9: Mind clear, and restraining apparatus was removed and the whiskey reduced to two ounces every four hours.

February 10: Delirium returning, whiskey was again increased, and the mental and other symptoms at once began to improve. Cough troublesome. The left lung had expanded and seemed to fill the pleural cavity. The wound healed without trouble, and February 25 the patient was up for the first time. Pulse 80, temperature 98.4 F.

March 11: Patient was discharged recovered and was presented to the District of Columbia Medical Society.

March 29: Patient was readmitted to hospital on account of excessive drinking.

April 16: He was discharged in excellent condition; heart sounds a little softer than normal.

May 18: Patient seemed in good health.

October 11: Patient is apparently in perfect health.

STUDY OF THE TABLE

The features presented by the table may be studied as follows:

TIME BETWEEN RECEIPT OF WOUND AND OPERATION

In 106 cases this time is given all the way from "at once" to 5 days—the large majority of patients, 88, being operated on not later than 6 hours after the injury (44 in 1 hour or less and 44 in from any time over 1 hour to 6 hours), with 35 (39.75 per cent.) recoveries; 10 between 6 and 12 hours, with 5 recoveries; 1 between 12 and 18 hours, with recovery; 4 between 18 and 24 hours, with 1 recovery; 2 between 24 and 48 hours, with 2 recoveries, and 1 after 5 days, with recovery. These figures would indicate that the longer the time after injury before operation the less the mortality, but it must be borne in mind that in the worst cases the patients die or are saved by operation before the expiration of the first six hours, and those who survive this time are the best risks from an operative standpoint.

LOCATION OF EXTERNAL WOUND

Ever since Joab so treacherously and fatally smote Amasa in the fifth rib a wound in this region has been regarded as especially dangerous and the figures here presented confirms this opinion. Of 133 patients in whom the situation of the external wound was given, 130 were on the left side, including:

1 through the first intercostal space.
6 through the second intercostal space.
19 through the third intercostal space.
52 through the fourth intercostal space.
36 through the fifth intercostal space.
7 through the sixth intercostal space.
2 through the seventh intercostal space.
6 below the costal cartilages.

On the right side there was one case each of wounding through the second, fourth and fifth interspaces. Ninety-one, or 68 per cent., were just above or just below the fifth rib, and 110, or 83 per cent., were between the third and the sixth ribs.

INSTRUMENT BY WHICH WOUND WAS INFLICTED

Of 140 cases in which the weapon was indicated, 117, or 83 per cent., were caused by knives or poniards; 16, or 12 per cent., by bullets; 2 by scissors; 2 by iron pickets; 1 by a fragment of glass; 1 by a needle, and 1 by a sharp pointed body. In 10 the instrument is not given.

METHOD OF EXPOSING THE HEART

No single method has yet been agreed on as the best. The kind of operation is often determined by the external wound, and, begun as an exploration, the subsequent steps depend on the necessities which arise during its progress. This probably accounts for the large number of resections of cartilages or parts of ribs rather than the formation of a well planned flap of skin, muscle and ribs. The best method is one that will freely expose the heart and not open the pleura or leave the chest wall permanently impaired. The chief methods are:

(a) *The Operation Through an Intercostal Space.*—In a long chest with wide spaces this may be done.

Somerville reports a successful suturing of the left ventricle through the fourth intercostal space. This method may be modified and the space increased by the division of one or two cartilages.

(b) *Resection of One or More Cartilages With or Without a Portion of Rib.*

(c) *Flap Method Across the Sternum (H. Lorenz and Others;* Fig. 2.) Make a transverse incision from the right side of the sternum in the third intercostal space across the sternum to the left chondrocostal junction. Make a corresponding incision in the fifth intercostal space across the sternum. Unite the left ends of these incisions by a vertical one. The sternum and cartilages are divided with bone forceps along these incisions after ligating the internal mammary arteries and the flap formed is turned to the right, making a hinge of the right chondrosternal joints. This exposes the heart well and avoids opening the pleura.

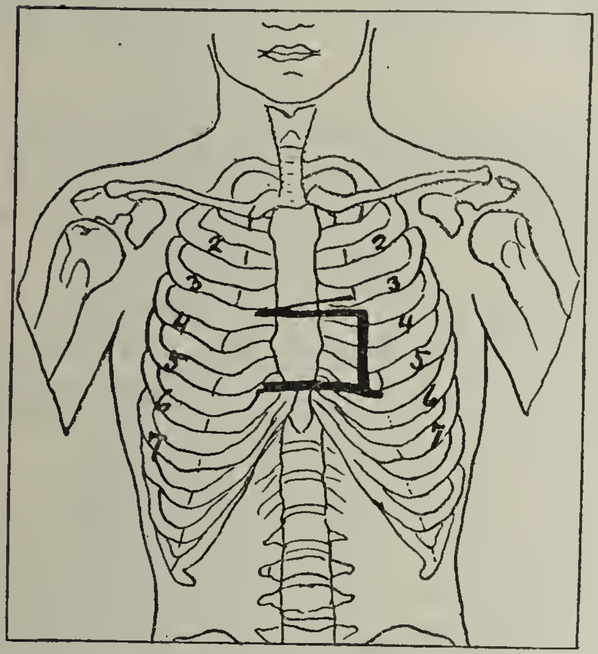

Fig. 2.—Flap of sternum and cartilages of fourth and fifth ribs; hinge on the right. (H. Lorenz and others).

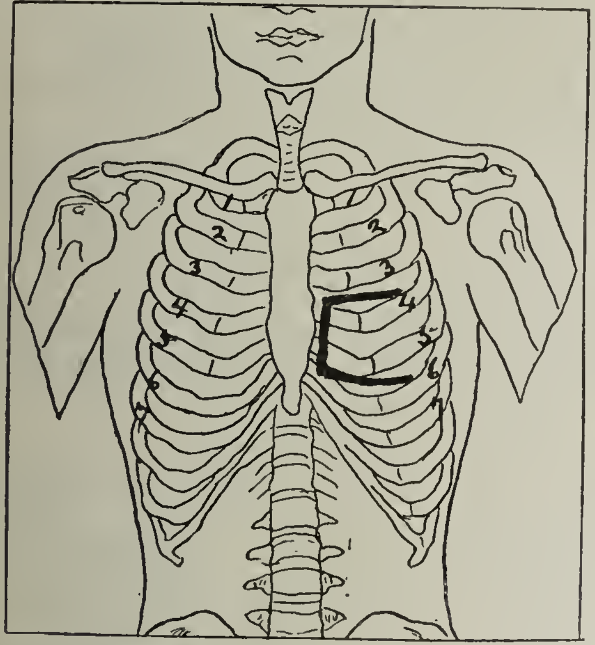

Fig. 3.—Flap of the fourth and fifth ribs and their cartilages; hinge external.

(d) *Flap of Cartilages and Ribs, Hinge External.* (Fig. 3).—In this method the fourth and fifth cartilages are divided near the left border of the sternum, the third and fifth interspaces are divided laterally nearly or quite to the nipple line. The flap is raised by its inner border, the pleura stripped off if practicable, and the ribs are broken or cut near the costochondral junction.

(e) *Flap of Cartilages and Ribs, Hinge Internal.* (Fig. 4).—This method is just the reverse of the preceding, the trap-door opening near the left nipple line and hinging on the left fourth and fifth chondrosternal articulations. The pleura is probably always opened in this method. If more room is needed or the location of the external wound requires it, the flap may include additional cartilages, above or below. The last two methods can be quickly performed and expose the heart well, but are almost certain to open the left pleura. Of 133 operations, in 60 a portion of one or more cartilages or ribs were resected; in 71 a flap of the chest wall was made with the hinge external or internal—occasionally the hinge was placed above or below, and in two cases the suturing was done through an intercostal space.

CAVITY OF HEART WOUNDED AND TREATMENT.

Of 142 patients the left ventricle was wounded in 68, the right ventricle in 68, the left auricle in 4, the right auricle in 4, 2 had each 2 cavities wounded (1 both ventricles and 1 the right auricle and right ventricle) and in 8 the cavity is not mentioned or the weapon passed between 2 cavities. These statistics show that the two sides of the heart are equally liable to injury, but that the ventricles are in much greater danger than the auricles in the proportion of 17 to 1.

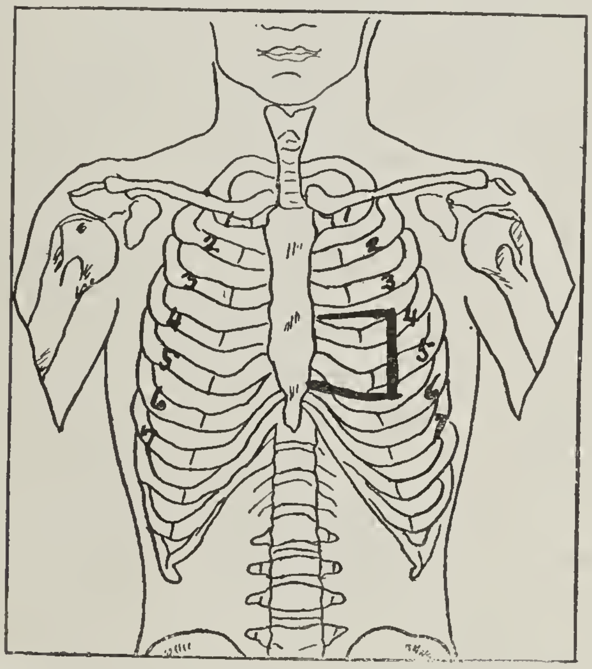

Fig. 4.—Flap of the fourth and fifth ribs and their cartilages; hinge internal.

The size of the wound in the heart varied from 0.5 cm. (1/5 in.) to 6 cm. (2¼ in.). In every case the wound was sutured. The favorite suture material was silk, but catgut was used in many patients. Continuous and interrupted sutures were both used and were introduced by most operators whenever convenient, regardless of systole or diastole. It seems to make no trouble if the suture does enter the cavity of the heart. Tumultuous heart action sometimes interfered with the introduction of the sutures. This was overcome by holding the heart in one hand or using one or two deep sutures, "tension sutures," by which the heart was steadied or drawn forward as might be necessary. In several cases heart massage was used in order to revive a pulseless heart and in a few cases the heart resumed its function.

DRAINAGE OF PERICARDIUM AND PLEURA

In 46 patients the pericardium was drained with 25 recoveries and 23 deaths; in 44 the pericardium was not drained, with 25 recoveries and 19 deaths; in 42 both pericardium and pleura were drained, with 21 recoveries and 21 deaths; in 19 both pericardium and pleura were closed without drainage, with 12 recoveries and 7 deaths; in 72 the pleura was drained, with 30 recoveries and 42 deaths; in 21 the pleura was not drained, with 13 recoveries and 8 deaths. The lesson taught is to do away with drainage. Some of the disadvantages of drainage are the risk of secondary infection, irritation or inflammation excited by the gauze or tube, and the bad effects on the collapsed lung of keeping the pleura open. However, some cases should be drained, as when infection is highly probable or hemostasis has not been satisfactory.

MORTALITY

Of 150 patients operated on, 98 died and 52 recovered, a mortality of 65 per cent., about the same as it was twelve years ago and in 1901, when 26 cases were reported. Naturally, the mortality must always be high. Thirty-two patients died in less than twenty hours after operation or the reception of the wound, fifteen on the operating table during or just after operation—nearly all from loss of blood, though one death was attributed to pneumothorax on opening the left pleura. Thus we may say that 32, or 20 per cent., of the patients are moribund when the surgeon first sees them.

The remaining 66 deaths occurred from 24 hours to 5 months after operation; 6 of pleurisy, 5 of pericarditis, 21 of pleurisy and pericarditis together, 3 of pneumonia, 3 of peritonitis, 2 of pericarditis and nephritis, 1 of pleurisy and cerebral abscess, 1 of pleurisy and wound of the tricuspid valve, 1 of pleurisy and double pneumonia, 1 of gangrene of the lung, 1 of two wounds of which one was not sutured, 3 of hemorrhage in the pleura, 2 of hemorrhage in the pericardium, 1 of clot in the tricuspid valve, and in 15 the cause is not given.

We see that 44 of those who died after the first 20 hours, or 86 per cent. (omitting the 15 in which the cause of death is not given), died of infection, and of the 52 who recovered only 12 escaped without infection, 22 had pericarditis or pleurisy, and in 18 it was not stated. Of the entire 118 patients surviving the first 20 hours, 62, or 52 per cent., suffered from infection.

The mortality with reference to the cavity wounded is as follows: Sixty-eight of the left ventricle with 42 deaths, or 62 per cent.; 68 of the right ventricle with 48 deaths, or 70 per cent.; 4 of the left auricle with 2 deaths, and 4 of the right auricle with 1 death.

Sixteen gunshot wounds were operated on with 9 deaths and 7 recoveries, a mortality of 56 per cent. In the 134 cases with other wounds 89 died and 45 recovered—mortality 66 per cent., from which it would appear that gunshot wounds of the heart have about 10 per cent. lower mortality than other kinds of heart wounds.

CONCLUSIONS

1. There is no longer any question as to the propriety of the operation, since 35 per cent. of the patients recover, compared with 15 per cent. (according to Holmes and Fisher, 1881) of recoveries after nonoperative treatment—a gain of 20 per cent.

2. The mortality is practically the same that it was twelve years ago, when the operation was first introduced, and it behooves the surgeon to study the matter and find a means of improvement.

3. The two great causes of death are hemorrhage and inflammation of the pleura or pericardium. Probably little more can be done than has been done to prevent death from hemorrhage, but inasmuch as more than half the patients who survive twenty hours have infection.

4. There is room for great improvement in preventing infection. Besides the observance of strict asepis the question of opening the pleura and of drainage of pleura or pericardium acting as predisposing causes of infection is of the greatest importance.

5. As a rule, therefore, the pericardium and pleura should not be drained.

Following is the bibliography, arranged alphabetically by publications, and the table, arranged alphabetically by operators, with year of operation as nearly as ascertainable and with figures of reference to the bibliography.

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TABLE OF RECORDED CASES OF SUTURE OF THE HEART

No	Operator and Year of Operation.	Time between Wounding and Operation. Anesthetic.	Location of External Wound and Instrument by which Inflicted.	Method of Exposing the Heart.	Cavity Wounded and Treatment.	Drainage of		Complications.	Result.
						Peri-cardium	Pleura.		
1	Alves de Lima[39] 1905	Soon. Chloro.	Knife cut over left fourth cartilage.	Flap of 3rd and 4th ribs—hinge external.	L. V.: 14 mm; 1 catgut suture.	No.	Yes.	Mitral valve wounded. Heart stopped twice and was revived by massage.	Died one hour later. Hemorrhage.
2	Baliva[37] 1897	....	Stab wound of heart.	....	Heart wound sutured.	...	...	....	Died quickly.
3	Bardenheuer[37] 1904	....	Gunshot wound.	....	Heart perforated; entrance and exit wounds sutured.	...	...	Pericarditis and pleuritis.	Died two days later.
4	Bardenheuer[37] 1904	....	Stab wound.	....	L. V.; sutured.	...	...	Pericarditis and pleuritis.	Died ten days later.
5	Barth 1901	½ hr. Chloro.	Knife cut through the ensiform cartilage.	Resection of right 5th, 6th and 7th cartilages.	R. V.: 2 cm.; 4 silk sutures.	Yes.	Yes.	Right pleura and tricuspid valve wounded.	Died on fourth day: pleuritis.
6	Barth 1901	¾ hr. Chloro.	Knife cuts 3, in fourth left space—3 cm. from the sternum.	Flaps of sternum and left 4th and 5th cartilages—hinge on right.	L. V.; 0.5 cm.; 3 silk sutures.	No.	Yes.	....	Recovered.
7	Barth 1902	1 hr. None.	Knife cut 3 cm. within and below left nipple.	Resection of 5th and 6th cartilages.	R. V.; 0.75 cm.; 5 sutures.	No.	No.	Pleuritis.	Recovered.
8	Baudet[24] 1906	1 hr. Chloro.	Stab wound in fifth left space 2.5 cm. within and 1 cm. below left nipple.	Flap of ribs—hinge external.	R. V.; sutured.	No.	No.	Pleuritis.	Recovered.
9	Blake, J. A. 1907	2½ hrs. Ether.	Knife cut through fourth left cartilage 1 cm. within nipple line.	Flap of 3rd, 4th and 5th cartilages—hinge internal.	R. V.: 1 cm.; 3 interrupted silk sutures; mattress suture over them.	No.	No.	Pleuritis.	Recovered.
10	Borchardt[27] 1904	2½ hrs.	Boy fell from tree and was impaled on iron picket fence.	Incision over 5th rib.	L. V.; 1.5 cm.; on posterior side; 4 silk sutures.	No.	Yes.	....	Recovered.
11	Borzymowski[60] 1902	None.	Knife wound between ensiform and left costal cartilages	Wound enlarged — resection of 4th, 5th and 6th ribs.	L. V.: apex; 2 cm.; 3 deep and 3 superficial silk sutures.	...	...	Pericarditis and pleuritis.	Died 2 days later.
12	Borzymowski[60] 1903	Ether.	Wound over fifth left cartilage.	....	3 wounds; silk sutures.	...	...	Pleuritis; discharge of silk sutures.	Recovered. Resection of third rib 6 mos. later for empyema.
13	Borzymowski[60] 1903	Ether.	Knife cuts 2, over fourth left cartilage	Flap of ribs, 3rd, 4th and 5th; hinge external.	R. V.; sutured.	...	...	Pericarditis and pleurisy. Two wounds, only one sutured.	Died 2 days later.
14	Bougle 1901	½ hr. Chloro.	Pistol ball in third left space; a finger's breadth from the sternum.	Flap of 3rd, 4th and 5th cartilages; hinge external.	R. V.: 2 holes; both sutured with catgut.	No.	Yes.	Ball had passed through wall of ventricle not opening cavity. Wadding in wound.	Died 5 hours later.
15	Brachini 1901	None.	Knife cut in fourth left space; 3 cm. outside nipple.	Flap of 2nd, 3rd, 4th and 5th ribs; hinge external.	Interventricular groove; 5 silk sutures.	...	Yes.	Pericarditis and pleuritis.	Died 142 hours later.
16	Brachini 1901	At once. None.	Three poniard stabs in region of heart.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.: 2 wounds: 1 non-penetrating; both sutured.	...	...	....	Died on table.
17	Brenner 1901	Next day.	Knife cut over sixth left cartilage.	Flap of 3rd, 4th and 5th ribs; hinge external.	R. V.: 7 mm.; sutured.	...	...	Heart muscle degenerated	Died on table.
18	Brezard and Morel[15 27] 1905	Soon. Chloro.	Pistol ball (8 mm.) in third left space 2 cm. from sternum.	Flap of 3rd, 4th and 5th ribs; hinge external.	L. V.; 2 wounds; entrance and exit sutured with catgut.	No.	...	Cavity of ventricle not opened.	Died on table; hemorrhage.
19	Bufnoir 1899	....	Gunshot wound in fifth left space; .22 caliber.	....	R. V.; 1 opening sutured.	...	...	Ventricle perforated; exit wound not sutured.	Died.
20	Camus[23] 1905	About 1 hr.	Poniard stab in fourth left space, a finger's breadth from sternum.	Flap of 3rd, 4th and 5th ribs; hinge external.	R. V.: 1 cm.; sutured with catgut.	Yes.	Yes.	Left pneumonia.	Died 22 hours later.
21	Camus[23] 1905	1 hr.	Knife cut in third left space.	Flap of 3rd, 4th, 5th and 6th ribs; hinge external.	R. V.: 15 mm.; sutured with catgut.	...	...	....	Died on table.
22	Cappelen 1896	1 hr. Ether.	Knife cut in fourth left space; midaxillary line.	Resection of 3rd and 4th ribs.	L. V.; 2 cm.; sutured.	...	...	Coronary art. found cut; was ligated.	Died 3 days later of pericarditis.

TABLE OF RECORDED CASES OF SUTURE OF THE HEART—(Continued)

No.	Operator and Year of Operation.	Time between Wounding and Operation. Anesthetic.	Location of External Wound and Instrument by which Inflicted.	Method of Exposing the Heart.	Cavity Wounded and Treatment.	Drainage of Pericardium	Drainage of Pleura.	Complications.	Result.
23	Capello-Cimoroni[73] 1904	None.	Stab wound in seventh left cartilage at margin of sternum.	Resection of 4th, 5th, 6th and 7th ribs.	R. V.: 8 sutures; wound of abdomen.	Yes.	...	Heart sutures discharged in pus 15th day.	Died 2 months later: pericarditis and subphrenic abscess.
24	Carmelo, F.[32] 1904	Chloro.	Knife wound in fourth left space.	Resection of 4th and 5th cartilages.	L. V.: silk sutures.	...	Yes.	Bronchopneumonia.	Died 3 days later.
25	Carnabel 1900	2 hrs. Ether.	Knife cut in third left space 3 cm. from sternum.	Resection of 4th and 5th cartilages.	R. V.: 2 cm.; 3 catgut sutures.	Yes.	Yes.	Pericarditis and pleuritis.	Died 4 days later.
26	Dolsetti[27] 1906	1 hr. Eucain.	Knife wound in fifth left space within nipple line.	Resection of 4th and 5th cartilages.	R. V.: 1.5 cm.; 3 silk sutures.	No.	Yes.	Heart stopped; revived by massage.	Died 7 days later. Peritonitis and mediastinitis.
27	Durante[37] 1897	....	Wound in heart region.	....	R. V.: sutured.	...	...	....	Died some days later.
28	Duval[24] 1906	....	Knife cut in fifth left space, 8 to 10 cm. from sternal border.	Flap of 4th, 5th and 6th ribs; hinge external.	L. V.: 1.5 cm.; 2 interrupted sutures.	...	...	Heart stopped; warm salt solution injected into L. V.; it beat. Cold solution injected and heart suddenly stopped.	Died on table.
29	Farina 1896	Chloro.	Knife cut at upper border of sixth left rib near sternum.	Resection of 5th, 6th and 7th cartilages.	R. V.: 6 mm.; 3 silk sutures.	No.	...	Bronchopneumonia.	Died 5 days later.
30	Fischer, E.[80] 1907	1 hr. Ether.	Knife cut in third left space; another over second rib.	Wound enlarged: excision of 3rd and 4th cartilages.	L. V.: silk sutures; coronary vein ligated.	Yes.	Yes.	Pericarditis.	Died 30 hours later.
31	Fontan 1900	6½ hrs. Chloro.	Six scissors wounds between third and seventh left ribs.	Flap of 4th, 5th and 6th ribs; hinge external.	L. V.; 12 mm.: continuous catgut sutures.	No.	No.	Pleuritis.	Recovered.
32	Fontan 1901	2 hrs. Chloro.	Knife wound in fourth left space, 0.5 cm. outside nipple.	Flap of 4th, 5th and 6th ribs; hinge external.	L. V.; 6 mm.: continuous catgut sutures.	No.	No.	Pleuritis and emboli in right lung.	Died 5 months later from brain abscess.
33	Fourmestroux, de[17 21 27] 1905	½ hr.	Knife cut a finger's breadth outside left nipple.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.; 3 silk sutures.	...	Yes.	....	Recovered.
34	Fourmestroux, de[17 21 27] 1905	10 mins. Chloro.	Knife cut in fourth left space.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.; and R. V.: interventricular groove: 3 silk sutures.	...	...	Necropsy. Both ventricles opened by wound through septum.	Died on table.
35	Fummi 1898	Some hrs. Slight.	Knife cut under left nipple.	Resection of 5th rib.	L. V. and apex: non-penetrating: 1 stitch.	...	...	Pleuritis.	Recovered.
36	Gaudemet[23] 1905	1¼ hrs. Chloro.	Knife cut in fifth left space 5 cm. from median line.	Flap of 3rd, 4th and 5th ribs; hinge external.	R. V.: 4 mm.; 3 catgut sutures.	Yes.	Yes.	Clot found in tricuspid valve; probable cause of death.	Died 24 hours later.
37	Gentil, F.[27 33 53 68] 1901	10 hrs. Chloro.	Wounds 3, in fourth left space.	Flap of 5th and 6th cartilages; hinge internal.	L. V.; 1 cm.; sutured with silk.	Yes.	Yes.	....	Died 5 days later.
38	Gentil, F.[27 33 53 68] 1903	5 hrs.	....	....	R. A.; 1 cm.; sutured.	...	...	....	Recovered.
39	Gentil, F.[27 33 53 68] 1904	....	....	Flap of ribs; hinge external.	R. V.; sutured.	...	...	Pericarditis; syphilis.	Died 17 hours later.
40	Gerzen[37] 1902	Chloro.	Stab in fifth left space.	Resection of 5th and 6th ribs.	L. V.; sutured.	No.	Yes.	Pericarditis, pleuritis, nephritis, hemorrhage.	Died 53 days later.
41	Gerzen[37] 1902	Chloro.	Cut under left costal arch.	Resection of 5th, 6th, 7th, 8th and 9th cartilages.	R. V.: 2.5 cm.; 4 sutures.	Yes.	Not opened.	Pericarditis and pleuritis.	Died 23 days later.
42	Gibbon[77] 1902	¾ hr. Chloro.	Knife cut through fourth left cartilage.	Resection of 3rd cartilage.	R. V.; 1.5 cm.; 1 suture: not completed.	...	...	....	Died on table.
43	Gibbon[77] 1905	About 3 hrs. Ether.	Knife cut dividing fourth left cartilage.	Resection of 4th cartilage.	R. V.: ½ to ¾ in.: 6 catgut sutures.	Yes.	Yes.	Pleura not wounded.	Recovered.
44	Giordano[40] 1898	½ hr. None.	Knife cut in second left space.	Flap of 3rd and 4th ribs: hinge below.	L. A.: 2 cm.; 4 silk sutures.	No.	Yes.	Left pleuritis. Right pulmonary abscess	Died 18 days later.
45	Giordano[40] 1902	....	Knife cut in sixth left space.	Flap of 4th and 5th ribs: hinge internal.	L. V.: 2 cm.; 2 silk sutures.	No.	Yes.	....	Died 1½ hours later.
46	Giordano[40] 1902	....	Knife cuts in 3rd, 4th and 5th left spaces near nipple.	Flap of 4th and 5th ribs; hinge external.	L. V.: 2 cm.; 2 silk sutures.	No.	Yes.	Autoplastic operation required to close the opening.	Recovered.

47	Giudice[62] 1905	Soon.	Knife cut in third left space.	Resection of 4th and 5th cartilages.	R. V.: 1 cm.; catgut suture.	Yes.	Yes.	Hemorrhage.	Died next day.
48	Giuliano[41] 1903	....	Stab of third left space in nipple line.	Flap of 3rd and 4th ribs; hinge external.	L. A.; sutured with silk.	Yes.	Yes.	....	Recovered.
49	Goebell[27] 1905	1 hr.	Pistol ball, 7 mm.	Flap of ribs; hinge external.	L. V.; entrance and exit; both sutured with catgut.	Yes.	Yes.	None.	Recovered.
50	Grekow and Zeidler[26 37] 1903	3 hrs. Chloro.	Knife cut in second left space, 5 cm. from sternum.	Resection of 3rd and 4th ribs.	L. V.: 0.5 cm.; silk sutures.	No.	No.	None.	Recovered.
51	Grekow and Zeidler[26 37] 1903	5 hrs. Chloro.	Knife cut outside left nipple.	Resection of 3rd, 4th and 5th ribs.	R. V.; near apex; 1.5 cm.; 2 silk sutures.	No.	Yes.	Pericarditis and pleuritis.	Died 60 hours later.
52	Grekow and Zeidler[26 37] 1903	4½ hrs. Chloro.	Knife cut in second left space.	Resection of 3rd to 6th ribs.	R. V.; 1.25 cm.; 5 silk sutures.	No.	No.	Pericarditis and pleuritis.	Died 13 days later.
53	Guenot[20 25] 1904	1½ hrs. Ether.	Knife cut in fourth left space.	Flap of 3rd, 4th, 5th and 6th cartilages; hinge internal.	L. V.; near apex; 1.5 cm.; 3 interrupted catgut sutures.	No.	Yes.	Pleuritis.	Died 53 hours later.
54	Guenot[20 25] 1905	1 hr. Chloro.	Knife cut in second right space, 2 cm. from sternum.	Flap of right 3rd, 4th, 5th and 6th ribs; hinge external.	R. V.; 1 cm.; 3 catgut sutures.	No.	No.	Hemorrhage in right pleura.	Died 28 hours later.
55	Guinard[18] 1904	1½ hrs. Chloro.	Poniard stab in fourth left space within nipple line.	Flap of 3rd, 4th, 5th and 6th cartilages; hinge external.	L. V.: Interrupted catgut sutures.	No.	Yes.	....	Died 18 hours later. from anemia.
56	Harte[3] 1906	Ether.	Knife cut in third left space.	Resection of 4th and 5th cartilages.	L. A.; ½ inch; interrupted catgut sutures.	No.	Yes.	Pleurisy and double pneumonia.	Died 24 days later.
57	Henriksen[37] 1902	....	Stab in third left space. 2.5 cm. from sternum.	Resection of 3rd and 4th ribs.	L. V.; 1.5 cm.: sutured.	...	...	....	Died 16 hours later.
58	Hesse[26 27 72] Sept., 1905	About 1 hr. Chloro.	Scissors wounds in left fourth and fifth spaces.	Flap of 3rd and 4th ribs; hinge internal.	R. V.; near apex; 3 silk sutures.	Yes.	Yes.	Pericarditis and pleuritis.	Recovered.
59	Hesse[26 27 72] Jan., 1905	1¼ hrs. Chloro.	Knife cut in fourth left space near sternum.	Flap of 3rd and 4th ribs; hinge internal.	L. V.; 0.5 to 0.75 cm.; silk sutures.	Yes.	Yes.	Pericarditis and pleuritis.	Recovered.
60	Hill[56 57 58] 1902	8 hrs. Chloro.	Knife cut in fifth left space within nipple line.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.; ⅜-inch; 1 catgut suture.	No.	Yes.		Recovered.
61	Horodynski 1899	None.	Knife cut in third left space, 2 cm. from sternum.	Resection of 3rd, 4th and 5th cartilages.	R. V.; 1.5 cm.; 3 deep and 2 superficial sutures.	Yes.	Yes.	Pericarditis and pleuritis.	Died 3 days later.
62	Isnardi & Columbino[27 29] 1902	At once. Chloro.	Knife cut in sternum at articulation of fifth left cartilage.	Resection of 5 ribs.	R. V.; 1.5 cm.; 3 sutures.	...	Yes.	Pleuritis.	Recovered.
63	Janari 1903	About 1 hr. Chloro.	Knife cut in third left space.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.; 1 cm.; sutured.	Yes.	Yes.	Pleuritis.	Died 3 days later.
64	Kappeler 1904	2½ hrs. Ether.	Knife cuts over third rib and in third left space.	Flap of 3rd and 4th ribs; hinge internal.	L. A.; 1 cm.; sutured.	...	Yes.	Pleuritis. Jet of red blood with each diastole.	Recovered.
65	Kosinski 1899	....	Knife wound in third left space.	....	R. V.; 5 sutures.	...	...	....	Recovered.
66	Lastaria 1901	½ hr. Chloro.	Knife cut in fifth left space at sternum.	Flap of 3rd, 4th, 5th and 6th cartilages; hinge internal.	R. V.; silk sutures.	...	Yes.	....	Died next day.
67	Launay[10 13] 1902	4 hrs. Chloro.	Pistol ball 7 mm.; in left nipple.	Flap of 4th, 5th and 6th ribs; hinge external.	L. V.; perforated; entrance and exit closed with catgut sutures.	Yes.	Yes.	....	Recovered.
68	Lemaitre[14 76] 1903	1 1-3 hrs. Chloro.	Knife cut in fourth left space; 25 small cuts around it.	Flap of 3rd, 4th and 5th ribs; hinge external.	L. V.; 4 cm.; 5 interrupted catgut sutures.	No.	Yes.	Pleura filled with blood.	Died 24 hours later.
69	Lemaitre[14] 1904	About 1 hr. Chloro.	Poniard stab in fifth left space near sternum.	Flap of 3rd, 4th and 5th ribs; hinge external.	R. V.; 3 catgut sutures.	No.	Yes.	Pleuritis.	Died 10 days later.
70	Lenormant[23 42 64] 1905	7 hrs. Chloro.	Pistol ball in fifth left space at sternal border.	Flap of 4th, 5th and 6th ribs; hinge external.	R. V.; 15 mm.; 3 silk sutures. Liver, stomach and bowels wounded.	Yes.	...	Syncope on table; traction on tongue and heart massage revived him.	Died 4½ hours later.
71	Lisanti 1899	Very soon. Chloro.	Knife wound in fourth left space 1 cm. within nipple.	Flap of 4th and 5th ribs; hinge above.	R. V.; silk sutures.	No.	...	Signs of cardiac aneurism at end of 2 months.	Recovered.
72	Liscia[37] 1901	None.	Stab in fourth left space.	Flap of 2nd, 3rd, 4th and 5th ribs.	R. V.; 3 sutures.	...	...	Pericarditis and nephritis.	Died 42 hours later.
73	Longo 1899	¼ hr. None.	Knife cut in fifth left space 1 cm. outside nipple.	Flap of 4th and 5th ribs; hinge above.	L. V.; 3 interrupted silk sutures.	...	...	....	Died 15 minutes later.
74	Malizewski 1899	None.	Knife cut in fifth left space in nipple line.	Resection of 5th and 6th ribs.	L. V.; apex; 3 silk sutures.	No.	Yes.	....	Died 26 hours later.
75	Malizewski 1899	None.	Knife cut in fourth left space without nipple line.	Resection of 3rd rib.	L. V.; 1.5 cm.; 3 interrupted silk sutures.	Yes.	Yes.	Pericarditis and pleuritis.	Died 3 days later.

TABLE OF RECORDED CASES OF SUTURE OF THE HEART—(Continued)

No.	Operator and Year of Operation.	Time between Wounding and Operation. Anesthetic.	Location of External Wound and Instrument by which Inflicted.	Method of Exposing the Heart.	Cavity Wounded and Treatment.	Drainage of		Complications.	Result.
						Pericardium	Pleura.		
76	Manteuffel[26] 1903	9 hrs. Ether.	Pistol ball, 5 mm. in fourth left space.	Resection of 4th, 5th, 6th and 7th cartilages.	R. V.; went through anterior wall and lodged in posterior, where it could be felt. Incision and removal. Silk sutures closed both wounds.	No.	Yes.	Pericarditis; aspirated.	Recovered.
77	Marion 1898	2 hrs. Ether.	Pistol ball, fourth left space, 3 cm. from sternum.	Resection of 6th and 7th cartilages and part of sternum.	R. V.; perforated. Anterior wound sutured.	...	...	Ball did not open pericardium.	Died on table.
78	Maselli 1900	1½ hrs. None.	Knife cut 1 cm. within and below left nipple.	Resection of 6th rib.	L. V.; near apex; several sutures.	No.	Yes.	....	Died 12 hours later.
79	Mauclaire[37] 1903	....	Wound of left breast 3 cm. from sternum.	Flap of 3rd and 4th ribs.	Heart wound; 3 sutures.	Yes.	Yes.	....	Died 24 hours later.
80	Mignon and Sieur 1901	1 hr.	Knife cut in fourth left space 2 finger breadths from nipple.	Resection of 4th, 5th and 6th cartilages.	R. V.; 1 cm.; silk sutures.	Yes.	Yes.	....	Died 2 hours later.
81	Milesi[45] 1902	About 2 hrs. Chloro.	Knife wound in fifth left space.	Resection of 6th rib.	R. V.; 15 mm.; 1 deep and 3 superficial silk sutures.	Yes.	Yes.	Anemia.	Died 15 hours later.
82	Milesi 1903	About 1 hr. Chloro.	Knife cut in fourth left space near sternum.	Resection of 4th cartilage.	R. V.; 1 cm.; 1 deep and 2 superficial silk sutures.	No.	Yes.	Pericarditis.	Died 7 days later.
83	Morestin[9] 1903	21 hrs. Chloro.	Pistol ball, 8 mm. caliber, in sternum opposite fourth cartilage.	Cut through sternum.	R. V.; 1 opening; 4 catgut sutures.	Yes.	Yes.	Ball is found in cavity of R. V.	Died 19 hours later from embolism?
84	Musumeci[30] 1905	Soon. Ether and Chloro.	Knife cuts in fourth and fifth left spaces.	Flap; hinge internal.	R. V.; sutured; suture of 3 intestinal wounds also.	No.	...	....	Died 18 hours later.
85	Nanu 1900	....	Knife cut in third left space, 4 cm. from sternum.	Resection of 2nd, 3rd and 4th cartilages.	R. V.; 2 cm.; 2 interrupted sutures.	No.	Yes.	Pericarditis and pleurisy.	Died 4 days later.
86	Neumann[26] 1905	....	Stab below left costal arch.	Resection of 7th to 4th cartilages.	R. V.; sutured with pericardium.	...	...	Hemorrhage.	Died ¾ hour later.
87	Nicolai 1899	1½ hrs.	Knife cut in fourth left space midway of sternum and nipple.	Resection of 4th and 5th cartilages.	R. V.; near apex; sutured.	...	...	....	Died 12 hours later.
88	Nietert 1901	2 hrs. None.	Knife cut in fifth right space at sternum.	Resection of 5th and 6th cartilages. Pleura not opened.	R. V.; ½-inch; 3 interrupted silk sutures.	...	...	Anuria; death from shock and pericarditis.	Died 33 hours later.
89	Nietert 1901	More than 40 hrs. Chloro.	Knife cut in sixth left space within nipple line.	Flap of 5th and 6th ribs; hinge internal.	L. V.; ¾-inch; 2 sutures; may not have penetrated.	Yes.	Yes.	Pleurisy.	Recovered.
90	Nimier[5] [27] 1905	25 mins. Chloro.	Knife cut in fourth left space 1 cm. from sternum.	Flap of 4th, 5th and 6th ribs; hinge external.	R. V.; 1 cm.; 4 catgut sutures; pleura not opened.	Yes.	Yes.	....	Died next day.
91	Ninni 1898	At once. None.	Knife cut in fifth left space.	Flap of 4th and 5th ribs; hinge internal.	L. V.; admitting finger; 3 stitches.			....	Died on table.
92	Ninni 1901	1½ hrs.	Knife cut in third left space midway of sternum and nipple.	Resection of 4th and 5th cartilages and part of sternum.	R. A.; 3 sutures.	Yes.	Yes.	Pericarditis and pleurisy.	Died 3 days later.
93	Noll 1903	1½ hrs.	Pistol ball, 7 mm. in first left space.	....	L. V.; wound sutured.	Yes.	Yes.	Pleurisy.	Recovered.
94	Pagenstecher 1899	16 hrs. Ether.	Knife cut below and within left nipple.	Resection of 5th cartilage.	L. V.; 3.5 cm.; 3 deep sutures; 1 superficial.	No.	Yes.	Pleurisy.	Recovered.
95	Pagenstecher 1901	2½ hrs.	Knife cut in fourth left space, 1 cm. from sternum	Flap of 4th and 5th cartilages; hinge internal.	Left coronary artery divided; both ends secured with sutures.	Yes.	Yes.	Pericarditis and pleuritis.	Died 4 days later.
96	Parlevecchio 1898	8 hrs. Chloro.	Knife cut in fifth left space	Resection of 5th rib.	L. V.; apex; 3.5 cm.; 4 sutures.	No.	No.	....	Recovered.
97	Parozzani 1897	5 hrs. None.	Knife cut in seventh left space in nipple line.	Flap of 5th, 6th, 7th and 8th cartilages; hinge internal.	L. V.; near apex; 2 cm.; 4 silk sutures.	No.	No.	None.	Recovered.
98	Parozzani 1897	1½ hrs. None.	Knife cut in third left space; nipple line.	Flap of 4th, 5th and 6th ribs; hinge internal.	L. V.; 15 mm.; 2 sutures.	No.	No.	Necropsy. Wound of interventricular wall.	Died 48 hours later.
99	Pecori[44] 1903	....	Knife cut in fifth left space within nipple line.	Flap of 5th and 6th ribs.	R. V.; sutured; first tore out; others placed farther from margin.			Hemorrhage.	Died on table.

	1904	Very soon.	Knife cut two finger breadths below left nipple.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.; sutured.	Yes.	Yes.	Hemorrhage in right pleura.	Died 2 days later.
101	Pomara 1902	None.	Knife cut in sixth left space below nipple.	Resection of 5th and 6th ribs.	L. V.; near apex; silk sutures.	No.	Yes.	Pericarditis and pleuritis.	Died 73 hours later.
102	Quenu[23] 1906	2½ hrs. Chloro.	Knife cut in third left space.	Flap of 3rd, 4th and 5th ribs; hinge external.	L. V.: 2 interrupted sutures.	No.	No.	Syncope on table; traction on tongue revived him.	Recovered.
103	Ramoni 1899	½ hr. Chloro.	Poniard stab over fifth left cartilage, 2 cm. from sternum.	Flap of 4th and 5th ribs; hinge below.	R. V.; 2 wounds; 4 sutures in one; 2 in the other.	Yes.	Yes.	....	Recovered.
104	Rehn[8] 1896	More than 24 hrs. Chloro.	Knife cut in fourth left space, 2 cm. from sternum.	Resection of 5th cartilage.	R. V.; 15 mm.; silk sutures.	Yes.	Yes.	Pleuritis.	Recovered.
105	Rehn[8] 1906	8½ hrs. Chloro.	Knife cut in fourth left space.	Flap of 4th and 5th ribs; hinge internal.	R. V.; 10 silk sutures.	No.	No.	....	Died 2 days later.
106	Renon[79] 1902	Chloro.	Knife cut in fourth left space 4 cm. within nipple line.	Resection of 4th and 5th ribs.	L. V.; apex; 4 interrupted catgut sutures.	....		....	Died next day.
107	Ribas y Ribas[66] 1905	About 1 hr.	Stab in third left space, 3 cm. from sternum.	Flap of 4th, 5th and 6th ribs; hinge external.	L. V.; 1 cm.; 3 sutures.	Yes.	Yes.	....	Died 72 hours later.
108	Riche[15 19 24 26] 1902	2 hrs. Chloro.	Knife cut in fourth left space, midway of midline and nipple.	Flap of 3rd, 4th and 5th ribs; hinge external.	R. V.; 5 mm.; sutured.	No.	No.	None.	Recovered.
109	Riche[15 19 24 26] 1904	1¼ hrs. Chloro.	Pistol ball, 8 mm. in fifth left space, within and below nipple.	Flap of 3rd, 4th and 5th ribs; hinge external.	L. V.; 2 wounds; catgut sutures in both.	...	...	....	Died on table.
110	Rosa 1899	At once. None.	Knife cut in fifth left space.	Resection of 5th, flap of 6th, 7th and 8th; hinge below.	L. V.; base; 1.5 cm.; not sure it penetrated; 1 suture.	Yes.	Yes.	....	Recovered.
111	Rothfuchs[26] 1905	....	Bullet.	Resection of 4th and 5th ribs.	L. V.; perforated; catgut suture in both wounds.	...	Yes.	Ball went through stomach and lodged in diaphragm.	Died 24 hours later. Peritonitis.
112	Savariaud[23] 1902	Chloro.	Knife cut in fifth left cartilage 3 cm. from sternum.	Flap of 4th and 5th ribs; hinge external, not opening pleura.	R. V.; near apex; 3 sutures.	Yes.	Yes.	Gangrene of border of lung.	Died 52 hours later.
113	Savariaud[23] 1904	Chloro.	Knife cut below and within left nipple.	Flap of 3rd, 4th and 5th ribs; hinge external.	R. V.; 3 catgut sutures.	No.	No.	Pericarditis and pleuritis.	Died 14 days later.
114	Schachowski[37] 1903	....	Knife cut in sixth left space, near nipple line.	Resection of 5th and 6th cartilages.	R. V.; 1.5 cm.; 6 sutures.	Yes.	...	....	Recovered.
115	Schubert[26] 1904	½ hr. Chloro.	Bullet in fourth left space.	Resection of 4th rib.	Two wounds in heart; 1 anterior, 1 posterior, both sutured with catgut.	...	...	Operator thought ball went through interventricular septum without opening a ventricle.	Recovered.
116	Schwerin 1903	¾ hr.	Sharp pointed body entered fourth left space.	Resection of 4th and 5th cartilages.	R. A.; 3 silk sutures.	Yes.	Yes.	Pericarditis, pleurisy and pneumonia.	Recovered.
117	Senni[37] 1904	Chloro.	Stab in sixth left space in nipple line.	Flap of sternum and 4th, 5th and 6th cartilages.	L. V.; 3 cm.; 6 sutures.	No.	Yes.	....	Died 3 days later.
118	Smith[74] 1904	½ hr. Ether.	Knife cut in fourth left space, 2 cm. from sternum.	Resection of 4th and 5th ribs and part of sternum.	R. V.; continued silk sutures.	No.	Yes.	Pericarditis.	Died 7 days later.
119	Soave[69] 1907	Very soon. Chloro.	Knife cut in fifth left space, 4 finger breadths from sternum.	Flap of 4th and 5th ribs; hinge internal.	R. V.; silk sutures.	Yes.	Yes.	None.	Recovered.
120	Somerville[47] 1904	55 mins. Ether.	Knife cuts in fourth and fifth spaces within nipple line.	Skin flap and operation through 4th space; not cutting ribs.	L. V.; ragged ⅝-in.; 3 interrupted silk sutures.	Yes.	Yes.	None.	Recovered.
121	Stewart, F.[1] 1902	At once. Ether.	Knife cut in fourth left space, ½-in from sternum.	....	L. V.; ⅝-inch; 6 catgut sutures.	...	...	....	Died 2 days later.
122	Stewart 1904	¾ hr. Ether.	Knife cut in second left space, 1 inch from sternum.	Flap of 3rd and 4th ribs; hinge internal.	L. V.; ¾-inch; 6 continuous silk sutures.	Yes.	Yes.	Pneumonia and wound infection.	Recovered.
123	Stewart, G. D. 1902	1½ hrs. Chloro.	Knife cut in 5th space; ½ in. left nipple line.	Fifth rib resected.	L. V.; ¾ in. sutured; 6 stitches.	Yes.	Yes.	Pericarditis and pleuritis.	Died 2½ days later.
124	Steyner[37] 1903	Chloro.	Stab about fifth rib near sternum.	Resection of 4th and 5th ribs.	R. V.; 4 sutures.	Yes.	Yes.	....	Recovered.
125	Stude 1904	About 2 hrs.	Knife cut in chest.	Flap of sternum and left 4th and 5th cartilages; hinge on right.	L. V.; 2.5 cm.; sutured.	...	...	Death due to pneumothorax.	Died on table.
126	Sultan, C.[11 27] 1905	....	Two stabs in fifth left space, 2 cm. within nipple line.	Flap of 5th, 6th and 7th ribs; hinge external.	L. V.; 7 mm.; 4 sutures.	No.	No.	Necropsy; one liter of blood in pleura. R. V. found wounded.	Died 48 hours later.

TABLE OF RECORDED CASES OF SUTURE OF THE HEART—(Continued)

No.	Operator and Year of Operation.	Time between Wounding and Operation. Anesthetic.	Location of External Wound and Instrument by which Inflicted.	Method of Exposing the Heart.	Cavity Wounded and Treatment.	Drainage of		Complications.	Result.
						Pericardium.	Pleura.		
127	Sultan, C.[11,27] 1906	5 days.	Knife cut in second left space, a finger breadth within nipple.	Flap of 3rd, 4th and 5th ribs; hinge internal.	L. V.; silk sutures tore out, but others were placed farther from edge.	Yes.	Yes.	None.	Recovered.
128	Sultan, G.[34] 1907	39 hrs. Chloro.	Pistol ball, 9 mm.; in fifth left space inside nipple line.	Flap of sternum and left 4th and 5th cartilages; hinge on right.	L. V.; cavity not opened; 3 silk sutures.	...	Not opened.	None.	Recovered.
129	Thiemann[7] 1906	About 4 hrs. Chloro.	Needle in 4th left space, 31 mm. in tissues.	Resection of 4th and 5th ribs; needle fixed at lower border of 4th rib.	R. V.; 1 cm. and R. A. 1.5 cm.; first closed with 1 catgut suture; second with 4.	Yes.	Yes.	Pericarditis.	Recovered.
130	Travers[49] 1906	About 3 hrs. Chloro.	Iron picket wound through lower end of sternum.	Flap of 3rd, 4th and 5th left cartilages and part of sternum; hinge below.	R. V.; 2¼ inches; 23 sutures; 2 fragments of bone removed from ventricle.	Yes.	Yes.	Death due to clot in pericardium.	Died 10 days later.
131	Tscherniachowski[27,36,48] 1904	Less than 1 hr. Chloro.	Knife cut in fourth left space, internal to nipple.	Resection of 4th cartilage.	L. V.; 1.5 cm.; 3 silk sutures; mattress.	Yes.	Yes.	None.	Recovered.
132	Tuzzi 1899	None.	Knife cuts in fourth left space near sternum.	Resection of 4th and 5th ribs.	L. V.; 2 wounds; 1 penetrating; sutured.	No.	Yes.	Pericarditis and pleuritis.	Died 21 days later.
133	Vaughan[54] 1901	Less than 1 hr. Ether.	Knife cut dividing fifth left cartilage.	Flap of 4th and 5th cartilages; hinge above.	L. V.; 2.5 cm.; 7 continuous silk sutures.	...	...	....	Died on table.
134	Vaughan[54] 1908	About 1 hr. Ether.	Knife cut in fourth left space near nipple.	Flap of 4th, 5th and 6th cartilages; hinge internal.	R. V.; 1-3-inch; 12 continuous silk sutures in 2 rows and 2 ligations.	No.	No.	Delirium tremens.	Recovered.
135	Velo 1902	About ½ hr.	Knife cut in sixth left space in nipple line.	Resection of 5th and 6th ribs.	L. V.; apex; 15 mm.; non-penetrating; 3 catgut sutures.	Yes.	Yes.	Pleuritis.	Died 3 days later.
136	Vince[46] 1903	About 12 hrs. Chloro.	Poniard stab in fifth left space.	Flap of 5th, 6th and 7th ribs.	L. V.; 3 silk sutures.	No.	...	....	Died next day.
137	Vogel 1903	At once. Chloro.	Wound in fourth left space near sternum.	Resection of 4th and 5th cartilages.	R. V.: 1.5 cm.; 5 silk sutures; jet in diastole.	No.	Yes.	Pericardium opened and drained on second day. Sutures in heart were finally expelled.	Recovered.
138	Walker 1900	None.	Knife cut below left costal arch.	Abdomen opened; resection of 6th and 7th cartilages.	R. V.; sutured; tore out.	...	...	Diaphragm wounded.	Died ¾ hour later.
139	Walker 1901	4 hrs.	Knife cuts 20, in heart region; most of them in fourth left space.	Resection of 4th rib.	8 wounds of heart; L. V. penetrated twice; sutured.	Yes.	Yes.	....	Died 1½ days later.
140	Watten 1900	6 hrs. Chloro.	Knife cut in fourth right space near sternum.	Flap of 3rd and 4th ribs on right; hinge external.	R. V.; 2 cm.; 3 sutures.	Yes.	Yes.	....	Recovered.
141	Watts 1908	½ hr. Ether.	Knife cut in second left space near sternum.	Resection of 2nd and 3rd ribs.	R. V.; root of pulmonary artery; sutured.	No.	Yes.	Blood in pericardium.	Died 1 month later.
142	Weinlechner 1904	Very soon. Chloro.	Knife cuts in third and fourth left spaces; within nipple line.	Resection of 5th rib.	L. V.; 5 mm.; silk sutures; 2 wounds.	Yes.	Yes.	Pericarditis and pleuritis.	Died 49 hours later.
143	Weiss[67] 1904 (?)	8 hrs.	Poniard stab in heart region.	Resection of ribs and laparotomy.	R. V.; sutured.	...	Yes.	Pleuritis.	Died 15 days later.
144	Wendel[6,27] 1905	About 5 hrs. Chloro.	Knife cut in fourth left space, near sternum.	Flap of 4th and 5th cartilages; hinge external.	L. V.; 1 catgut suture.	Yes.	Not opened.	Pericarditis.	Recovered.
145	Wennerstrom ????	2 hrs.	Fragment of glass in third left space near sternum.	Resection of 4th, 5th and 6th cartilages.	L. V.; 2 cm.; 1 catgut and 4 silk sutures.	No.	Yes.	3 gauze sponges left in pleura; removed on 14th day.	Recovered.
146	Wilms[27] 1906	2 hrs.	Pistol ball, 6 mm.	Intercostal incision.	L. V.; perforated; both sutured.	No.	No.	None.	Recovered.
147	Wolff[35] 1903	....	Knife cut.	....	R. V.; 2 cm.; sutured.	No.	No.	Pericarditis and pleuritis.	Died 14 days later.
148	Ziembiski[37] 1903	....	Stab wound.	....	Heart wound; sutured.	...	...	....	Died.
149	Zulehner and Brenner 1901	24 hrs. Chloro.	Knife cuts, 12; 1 in sixth left space; 1 opening abdomen.	Resection of 5th, 6th and 7th cartilages.	R. V.; 2 cm.; sutures tore out.	...	...	Myocardium very friable.	Died on table.
150	Zulehner and Brenner 1901	....	....	....	R. V.; 1 cm.; catgut sutures.			....	Recovered.

Original Articles

A DIPHTHERIA EPIDEMIC

ITS BEARING ON THE QUESTION OF BACILLUS CARRIERS, ANIMAL CARRIERS, AND THE NECESSITY OF MORE STRICT QUARANTINE REGULATIONS *

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After an interval of several years of freedom from diphtheria, the first case developed at the Connecticut Hospital for Insane early in April, 1907. From then until May 15, 1908, there occurred ninety-two cases, fifty-seven of which were in employés and thirty-five in insane patients. During this period the throats of 4,081 healthy individuals were examined, with the result that ninety-five (2.08 per cent.) revealed the presence of the Klebs-Loeffler bacillus, so that the total number of people under quarantine was 187.

SOURCE OF INFECTION

The etiology in the greater number of cases can probbly be ascribed to bacillus carriers.. The source of inection in the first case can undoubtedly be traced to a isitor, the second case likewise possibly arose from an nknown outside source, but the epidemic was undoubtdly fostered by bacillus carriers, human and animal.

In the first case the patient developed a sharp attack f tonsillar diphtheria a few days following a visit from relative who at the time was complaining of a severe cold and sore throat. This patient was at once quaranned in the isolation hospital along with a patient eeping in the next bed who was found to be a bacillus arrier. The dormitory in which they slept was fumiated, while the entire ward, including walls and furniure, was thoroughly cleaned with soap and water and hen treated with a corrosive sublimate solution. Idencal preparations were taken throughout the epidemic regard to fumigation of rooms, clothing, etc., of those fected with the disease. Each room was sealed and migated with formaldehyd gas and then thoroughly eaned. Whenever others occupied the same room they re given an immunizing dose of antitoxin—500 to 000 units—a bichlorid of mercury bath, and their othing was thoroughly fumigated. The same day prohylactic cultures were taken from the throats of all felw patients and attendants, resulting in the isolation of e found to be bacillus carriers. Patients were not disarged from the isolation hospital until they had had ree successive negative cultures up to Aug. 15, 1907. ter this date four successive negative throat and two se cultures were insisted on.

The third case developed in another building, North, st one month following the discharge of the above es, in a nightwatch who had in no way come in cont with the former patients. It is possible that this e, like the first, had an outside origin; on the other nd, a possible source of infection was the patient in se 4. Another ten days and Case 8 developed in a hen maid working with patients 4 and 5.

t would be unprofitable as well as wearisome to detail h individual case and its relation to others. A care analysis sometimes reveals a tangible source of inion, i. e., contact with cases before discovery of dise or with carriers, while in others it was impossible trace any direct or indirect connection.

It was noteworthy that the Middle and South Hospitals were remarkably free from the disease, the former having four cases and the latter two cases, although patients from the Middle Hospital ate in the congregate dining-room.

There was an interval of one month between the discharge of the first case from quarantine and the onset of Case 2. Then there was an interval of two months, from the latter part of September to November 24, when there were no new cases, and another interval of freedom for one month in April, 1908, before the final subsidence of the disease in May, 1908.

During the twelve months ninety-two patients were quarantined with clinical diphtheria. Ninety-five apparently healthy individuals whose throats showed the presence of Klebs-Loeffler bacilli were also isolated.

In the ninety-two cases of diphtheria forty-four of the patients showed distinct membranes, the remainder being catarrhal. There were no fatal cases. All yielded promptly to the antitoxin. It was noteworthy that antitoxin had little or no effect in clearing the throat of the bacilli, either in the clinical cases or in the bacillus carriers, as large doses were given for this purpose without any effect. Many of those isolated as the results of prophylactic cultures presented congested throats.

Hypertrophied tonsils were noted thirty-two times in the 187 individuals isolated, and it was very difficult to free these patients from the germs. The little crypts and irregularities in a hypertrophied tonsil afford a good hiding place as well as breeding ground for micro-organisms, hence these patients often become living culture tubes and a menace to the health of the individual and the community.

After November, when a case of diphtheria developed, cultures were taken from all persons in that ward at once, then an interval of several days was allowed to elapse before the process was repeated. Astonishing results were often obtained from these second cultures, more bacillus carriers frequently being brought to light at this time than at the first. In several instances of clinical diphtheria the first culture was negative, owing in all probability to the faulty technic of taking the culture, to the temperature of the incubator, or to overgrowth of other organisms.

Many times the bacilli persisted in the nose long after they disappeared from the throat, and in some cases in which it was difficult to obtain throat cultures the diagnosis was made from nose cultures alone. The swab was passed up the nose as far as possible without violence—a method that might be used with advantage in cases of young children from whom throat cultures are often obtained with difficulty.

The average length of time spent in quarantine for cases of diphtheria was 20.8 days. Two cases remained over 50 days, the longest time being 80 days.

The average length of time for the bacillus carriers was greater, 30.2 days. The germs persisted in the throats more than 50 days in twelve instances, including three cases of 106 days, 107 days and 111 days, respectively.

In a population composed almost entirely of adults no conclusions could be drawn from the age of those affected. Two of the patients were under 5 years of age, while fifty were between the ages of 20 and 30 years, seventeen between 30 and 40, nine between 40 and 50, four between 50 and 60, five between 70 and 80, and one over 80 years. While the disease is no respecter of age, it shows a predilection for those under 30 years.

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* From the Laboratory of the Connecticut Hospital for Insane.

PRESENCE OF KLEBS-LOEFFLER BACILLI IN SUPPOSEDLY NORMAL INDIVIDUALS

Appreciating that the possible source of infection might be bacillus carriers, we made wholesale prophylactic cultures, wherever there was any chance of contact, involving entire wards and buildings. This afforded a splendid opportunity to judge of the percentage of cases of normal persons infected with Klebs-Loeffler bacilli at the time of an epidemic. Four thousand and eighty-one prophylactic cultures were taken, 2.08 per cent. of which showed diphtheria bacilli.

According to a report of the Massachusetts Board of Health[1] persons not exposed to the contagion revealed the germ on cultures in 3 per cent. of cases, but in those exposed to the disease the percentage was from 8 to 50. Park[2] says in the examination of the throats of 330 healthy people he discovered Klebs-Loeffler bacilli in 9.7 per cent. of cases, but in 7.3 per cent. of these cases the bacilli were attenuated or nonvirulent.

Dr. E. Burvill Holmes[3] of Philadelphia states that, in the Municipal Hospital, of cultures taken from nurses and physicians (eighty to ninety people) caring for diphtheria patients, only two showed the presence of diphtheria bacilli. Both were new nurses and went down with the disease the day following the report. His experience has led him to the belief that few really healthy individuals harbor the germ.

Our experience of 2.08 per cent. of bacillus carriers, found by prophylactic culturing during the epidemic, showed that the majority of these patients had considerable congestion of the throat, and, of course, it would be impossible to say how many of these individuals would have developed the disease if left without treatment (antitoxin), which was administered as soon as the carrier was quarantined.

Inoculation for testing the virulence of the organism was only made in six instances, and this at the end of the epidemic. The organisms were isolated by means of Dr. North's special medium, then grown in bouillon for forty-eight hours. The dose given was 0.2 per cent. of the body weight of the test animal, because larger doses of a so-called non-virulent organism may produce death, showing that the difference in virulence is one of degree only.

Germs from four patients presenting no clinical symptoms of the disease were selected for the virulence test. The diphtheria bacilli from two of these throats were rapidly fatal to the guinea-pigs, while those taken from the other two caused only a temporary indisposition in the test animals, plainly showing that while their virulence was attenuated they had some toxic properties.

In another instance the germs tested were obtained from the throat of a little boy presenting no clinical symptoms other than enlarged ragged tonsils. The inoculated guinea-pig died in forty-six hours. This lad's sister had had a typical attack of tonsillar diphtheria. Another inoculation was made with bacilli isolated from a case of clinical diphtheria in which the bacilli persisted in the throat for one month after the subsidence of clinical symptoms. The guinea-pig in this instance promptly succumbed. From this it will be seen that the virulence of diphtheria bacilli vary, so that if it had been feasible to make tests of virulence in all cases of bacilli found by means of prophylactic cultures the number isolated might possibly have been decreased or their time in quarantine diminished.

This, however, was not possible, for it taxed the capacity of the laboratory to keep up with the prophylactic cultures taken in the hope of segregating all persons found infected. Consequently it was considered the wisest course to find and isolate every individual carrying Klebs-Loeffler bacilli in their throats or noses, considering every such individual a menace to the health of the institution whether presenting clinical symptoms or not. This course would neither be necessary nor wise in private practice, for the conditions do not require it and it would cause unnecessary hardship and apprehension. It would, however, seem the only rational procedure to adopt in large institutions of the character of the Connecticut Hospital for the Insane, in almshouses, jails or schools, the only alternative being the immunization of all inmates, which would necessitate probably at least two or three doses of antitoxin all around before the disease could be exterminated. This would involve a large outlay of money with 2,500 patients and 500 employés, but would undoubtedly eradicate the disease; therefore, would justify the expenditure in case the epidemic could not be controlled by proper quarantine regulations. Immunization could probably be adopted in smaller institutions, as was done at Saranac Lake.[4]

One of the nurses at the isolation hospital caring for the diphtheria patients had a mild attack of catarrhal diphtheria two weeks after the administration of 1,000 units of antitoxin. Aside from this one instance, the disease did not develop in those immunized, of whom there were many.

Three months after the subsidence of the epidemic it seemed advisable to ascertain if there were any permanent bacillus carriers among our population. To this end 506 cultures were taken from patients and employés in different buildings, resulting in our finding Klebs-Loeffler bacilli in six patients (1.1+ per cent.), three of whom had been under quarantine as bacillus carriers in the previous epidemic but none of whom had suffered from angina. Three patients showed a fairly large number of Klebs-Loeffler bacilli in the throat cultures, but the others contained very few. All were acid producers in glucose bouillon. Pure cultures from these six cases in every instance proved harmless to guinea-pigs.

The number of bacillus carriers was evidently much reduced (from 2.08 per cent. to 1.1+ per cent.) since the epidemic, all of the latter being non-virulent, while of the five tested during the epidemic three were virulent. It seems to me that this justifies the conclusion that about half the bacillus carriers during the epidemic harbored virulent bacilli, while the remainder probably were harmless and might have been saved the inconvenience of quarantine had our laboratory force been sufficient to permit us to isolate the bacilli and tes their virulence in every instance.

NUMBER OF NEGATIVE CULTURES FOR RELEASE FROM QUARANTINE

Until August 15, as was usual, we required thre negative throat cultures for discharge from quarantin The occurrence of other cases in persons in contact wit those released from isolation indicated clearly tha three consecutive negative cultures were not sufficient t prevent the spread of the epidemic. Careful comparison of results of cultures shows clearly the wisdom of this apparently severe restriction, since in many instances a positive culture was obtained from either nose or throat on the fourth day following three negative cultures, the bacilli persisting often for more than three weeks. In addition, we found that in twenty-five patients who had been discharged from isolation, one having been isolated over two and a half months, bacilli were again present when prophylactic cultures were made. This, of course, may have been a fresh infection, which would show the greater susceptibility of those once suffering from the disease. On the other hand, it is possible that in some crypt of the tonsil some germs may have escaped even four carefully taken and carefully examined cultures.

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[1] Report Mass. Assoc. Board of Health, July, 1902.

[2] Pathogenic Bacteria and Protozoa, New York and Philadelphia, 1905, p. 197.

[3] N. Y. Med. Jour., 1908, vol. lxxxvii, p. 534.

[4] Brown, Allen and Lupton: Am. Jour. Med. Sci., 1907, cxxxii 297.

The uselessness of attempting to combat an epidemic by accepting two negative cultures as a passport, which is the regulation laid down by the Connecticut State Board of Health, is demonstrated by the fact that in ifty-five cases the cultures were positive and remained ositive, on an average, twenty-three days after they iad been negative for three days. In one instance iinety-six days elapsed before four negatives were obained. The epidemic at Willard State Hospital,[5] which aged from 1899 to 1904, bears testimony to the futility f attempting to extinguish an epidemic as long as atients are released from quarantine on two negative ultures.

ANIMALS AS A SOURCE OF INFECTION

The fact of the persistence of the disease in spite of ie elaborate and careful methods of fumigation and olation led to the suspicion that there was some source f infection other than human carriers, so we turned ir attention to the rats.

On March 5 six rats were shot at the mouth of the wer which received the waste from the isolation hostal. Cultures were taken from the throats, each paw, il, and fur covering abdomen of the animal. All of ese cultures showed rank growths composed of many rieties of organisms, but one from the fur and two om throats presented many organisms, which in their orphology and staining reaction could not be disiguished from the Klebs-Loeffler bacillus. On March nineteen cultures were taken from the sewage itself, sulting in similar growths to the above. All these ltures showed suspicious bacilli, but three undoubtly contained Klebs-Loeffler bacilli. This in spite of utmost vigilance in the disinfection at the isolation spital, where all burnable waste was disposed of by , and everything else was supposed to be disinfected bichlorid of mercury, or phenol (carbolic acid) before ssing into the sewer.

Two days later ten cultures were made from a cat ich was seen to frequent the vicinity of the sewer, with positive result from cultures from fur of tail and oat. Twelve more cultures made from three rats e one suspicious and one positive culture. The age was undoubtedly contaminated from some unwn carelessness at the isolation hospital. The rats ame infected from frequenting the sewer pipe, and in turn might have consorted with the house rats, the cold weather may have driven many of them into buildings themselves, in this way distributing the illi by contact with clothing and articles of daily thus completing the vicious circle.

Another possible avenue of infection was through the cats who often went hunting rats about the sewer, returning to the buildings when they were weary making a sort of travesty on the old rhyme of "The House That Jack Built." The isolation hospital infected the sewer; the sewer infected the rats; the rats infected the cats; and the cats infected the people.

Another point favoring the animal-carrier supposition was that the buildings farthest from the sewer suffered least from the disease, and the Farm House and Silver Mine Buildings, a mile or more away from the Main Hospital, were entirely exempt. With renewed vigilance at the isolation hospital, and a concerted effort at the extermination of the rats and cats, with warmer weather and consequent lack of incentive for the rats to seek shelter in the buildings, the epidemic slowly subsided.

Two cases of diphtheria were recently reported, undoubtedly due to a pet dog that was discovered to be suffering from the disease. Another instance was brought to my notice of a house epidemic in which three cases were due to a pet cat which slept with the children, cultures from the cat's throat showing almost a pure culture of Klebs-Loeffler bacilli. In the *Medical Record*, Jan. 18, 1908, in a letter to the editor, Dr. William B. Meany, of New York, calls attention to four cases of diphtheria contracted from a pet cat, also to a case supposedly transmitted by a chicken brought from an infected farm.

One must also think of the *Cimex lectularius* (bedbug) as a disseminator of germ diseases. No matter how thorough may be your quarantine, it is impossible to restrict the movements of these pests when present, and they may carry the bacteria from room to room or house to house.

COMPARATIVE VALUE OF THE NEISSER AND LOEFFLER STAINS

So much depends on the bacteriologic report, and so much trouble results from incorrect diagnosis that great care must be exercised in this work. In the report of the epidemic, lasting four years at Willard Hospital, New York, they were able to make a diagnosis on cultures grown from six to nine hours, and found smears directly from swabs of no value. In my experience, cultures grown less than twelve hours have proved of doubtful value. In plates for the isolation of pure cultures, I have found it almost impossible to pick the colonies of Klebs-Loeffler bacilli under twenty-four hours, while thirty-six hours give a greater number of successful findings. The findings from smears made directly from swabs, using the Neisser stain, have, with few exceptions, been corroborated by subsequent cultures, giving us a rapid method of diagnosis which as a time saver to the patient more than compensates for the extra time and care required in searching the slide. Often the time required is the same as for examinations of a culture. When, however, the organisms are few in number, it may necessitate a search of one-half to three-quarters of an hour.

To the general practitioner, where time is an item, with a membrane in the throat, the diagnosis can usually be made directly from the swab, thus giving the patient the advantage of from twelve to twenty-four hours, which is frequently of the utmost importance. Out of nineteen diphtheria cases in this epidemic in which the swab method was adopted, the diagnosis from the swab was negative only twice when subsequent cultures proved

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. Russell and Salmon: Report of an Epidemic of Diphtheria in Willard State Hospital, Sixteenth Annual Report N. Y. State mission in Lunacy, October, 1904.

positive. One of these negative results was in a child 4 years old from which it was almost impossible to get any exudate on the swab, while in the other case the patient had little membrane.

Dr. Holmes[3] states that after the examination of many smears from the nose and throat of patients admitted to the Municipal Hospital, "My conclusion is that they are of great value, indeed, in experienced hands as valuable as cultures, because even the latter, owing to careless culturing for the most part, do not always reveal the true state of affairs." "Of special value are they when an immediate diagnosis is required." Dr. Holmes calls attention to the characteristic grouping of diphtheria organisms in smears which I have often noticed. He says, "The grouping of the bacilli, rather than the morphology, is the more valuable aid in the identification of the bacillus in both smear and culture." "In looking over a smear containing the bacilli, they will be found in most part lying together in groups of two or more, paralleling each other or radiating from each other like the spokes of a wheel."

This grouping I have found of great value, especially where the polar staining and granules are not sharply defined. There is a microscopic picture which, by experience, strikes the eye with certain conviction, even if the organisms are not numerous.

No account was kept of the number of times when the swab was negative, substantiated by subsequent negative cultures, but they were numerous.

"A small percentage of virulent bacilli fail to take the Neisser stain." This statement by Park[2] led to a comparative test of the Neisser and Loeffler stains in the first 700 cultures examined. As a result of this test, it may be said that the Neisser stain never failed to differentiate in cases differentiated by the Loeffler stain.

The Neisser stain, furthermore, had distinct advantages: (a) there is no danger of over or understaining; (b) it greatly facilitates microscopic examinations, reduces eye strain, and is conducive to more rapid and accurate work, which is a matter of considerable importance when a single operator must examine from 50 to 125 specimens in a single day; (c) it can be satisfactorily used in the examination of smears made directly from swabs, because the exudate is decolorized and therefore can not befog the bacilli; and (d) the bacilli appear more numerous both in smears and cultures. Latterly, we have frequently used the No. 1 solution of Neisser without No. 2 and with good results.

SUMMARY

1. The chief source of infection in this epidemic were latent cases (bacilli carriers), rats and cats.

2. One negative throat culture is insufficient for diagnosis.

3. Two and even three successive negative throat and nose cultures do not constitute sufficiently strict quarantine regulations to prevent the spread of diphtheria.

4. In institutions in which large numbers are congregated, at least four successive negative cultures, including at least two nose cultures, are imperative.

5. All healthy individuals carrying bacilli in their throats should be isolated during a time of epidemic in institutions, unless wholesale immunization can be undertaken.

6. The isolation of bacilli carriers in private practice is neither reasonable nor expedient.

7. Bacillus carriers harbored the bacilli longer than did the clinical cases of diphtheria.

8. All hypertrophied tonsils should be treated as a prophylactic measure.

9. The Neisser stain has distinct advantages over the Loeffler stain, and no disadvantages.

10. Stained smears are of great value for immediate diagnosis.

11. The early diagnosis, made possible by careful culturing, permitting of early treatment with antitoxin, undoubtedly diminished the severity of the individual case, and the severity and duration of the epidemic.

12. Of healthy individuals during epidemic 2.08 per cent. were found to be bacillus carriers.

13. When no epidemic existed non-virulent Klebs-Loeffler bacilli were found in 1.1+ per cent. of healthy individuals.

14. No virulent Klebs-Loeffler bacilli were found in 506 throat cultures three months after epidemic.

15. Two weeks is the limit of immunization for 1,00 units of intoxication.

Much credit and thanks are due to the different mem bers of the staff of the hospital for their painstakin efforts in obtaining cultures, and to Dr. Charles E North for a formula for media which minimized th work of isolating the Klebs-Loeffler bacillus.

TEN YEARS OF AMERICAN SANITATION I THE PHILIPPINE ISLANDS

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MANILA, P. I.

Prefatory to any discussion of our ten years' san tary campaign in the Philippine Islands, it is necessa to touch on the condition of affairs existent at the tim of the arrival on the scene of American sanitary admi istrators.

CONDITIONS PRIOR TO AMERICAN OCCUPATION

At the time of the fall of Manila, Aug. 13, 1898, is safe to say that the sanitary situation in that city w as bad as any ever maintained by a civilized nation. N only was the condition that which would result fro years of crowded habitation by a wandering and, to large extent, ignorant people in a tropical environme but a large amount of the sanitary work which had be done by our predecessors was of negligible value or extremely temporary character.

Successful municipal sanitation, like successful mu cipal commerce or any other large community enterpri depends on a few essentials. The chief of these is, pe haps, method of transportation. A satisfactory wat supply properly transported and distributed, togetl with similarly complete methods of transportation a disposal of waste, is just as vital to the institution a conduct of public health measures as are railroads a waterways for the transaction of large business ent prises.

When we arrived in Manila the water-supply was sufficient and of the poorest quality; and there were sewers or other methods for the disposition of wa The water-supply for Manila was obtained from Mariquina River a few miles from the city, the pump station being kept supplied by a small dam sloping an intake. Some idea of the condition of this water be imagined from the fact that there were more t 20,000 people and half as many animals living on banks of this river above the dam and that a great pr highway passed along its banks for miles, many times crossing the stream, over which there was an enormous traffic of all kinds. The intake was guarded by a grate, and it was often necessary to remove the carcasses of dead and decomposing animals from in front of it in order that a fuller flow of water might reach the pumps.

In the absence of sewers, waste disposal of all kinds was what might be called a "family affair," most of it being deposited and allowed to decompose and disintegrate in the "back yard," after which it was used for fertilizer. or, in the case of somewhat durable material, for road construction.

Of course considerable odor was generated by the above processes, but this odor was so general and uniform that people who lived long enough in the midst of it ceased to notice it.

In addition to all this, other conditions were just about as bad as they could be. The markets were dirty beyond belief; the streets were poor and ill-kept; public bathing and toilet facilities were unknown; unkempt and decaying tropical vegetation abounded everywhere; les and other pests were exceedingly numerous. There were practically no facilities for the care of contagious and infectious diseases, and as a result patients suffering rom smallpox, leprosy and other dangerous diseases were, when very ill, kept in their homes, and when able o go about could be seen daily on the streets, in the markets and in other public places. I have many times een persons with smallpox pustules not yet dry on their odies attending to their stalls in the public markets, nd have noticed tailors and cooks performing their uties while suffering from advanced and well-marked prosy.

There were practically no provisions made by Spain or the care of the insane, who, together with the aged nd the infirm, were left to the care of friends.

Superstition, mysticism and self-medication were ram- ant, and fatalism almost universal. Finally, the popu- ce, on the whole, was ignorant, indifferent and even ntagonistic toward any change in these conditions.

AMERICAN SANITATION

In addition to the very complex sanitary problem with hich we were confronted on our arrival in Manila were handicapped by the fact that our sanitarians re unfamiliar with and inexperienced in both tropical seases and the special tropical influences which tended disturb the public health. So much has been accom- ished by attacking the problem in so many ways, and much of the work is so recent that a satisfactory per- ective is hardly possible for the contemporary histo- in. Much of the most important work must be judged d described by those who are to follow and whose ws have not been warped by prejudices and the influ- e of petty details.

Great credit is due to our military medical men, to om fell the lot of beginning the work of making Ma- a a habitable city. One achievement in particular erves to be mentioned and remembered, and that is the t sanitary code for Manila, which was issued as a eral order in 1898. I do not know who the author this remarkable document was, but it met the condi- ns so well that it is still, with slight modifications, in ce in Manila, and is one of the most satisfactory itary codes in existence.

onditions of the water and sewer supply, as de- bed above, were recognized early, and recommendations made for new construction as an essential foundation for the execution of other measures. The finances of the country were not in condition to withstand the necessary outlay. After years of appeal on the part of those concerned, however, congress, by legislation, so altered the colonial policy that the commission had at last a method for raising the funds wherewith to proceed with this great undertaking, and it is just now, after more than ten years, that a fine new sewer and water system for the city are being completed.

The new water system has its reservoir about fifteen miles above Manila on the Mariquina River, with an ample watershed entirely free from human and animal contamination and a capacity for an entirely sufficient supply of as good surface water as it is possible to get in the tropics. There are about twenty-nine miles of the new sewerage system, and, on account of the low elevation of the city, it is constructed with pumping stations somewhat after the system in use in New Orleans.

During the years while we have been waiting for these most elementary and essential improvements, much of the work of our sanitarians, like that of our Spanish predecessors, has been of a temporary and makeshift character. For example, in the collection and disposition of sewerage we have used the "septic vault" reinforced by the "pail" system. Both of these are expensive to install and to operate; they are disagreeable and even repulsive to the senses, and, above all, they offer no protection against infection, nor are they otherwise sanitary from any viewpoint.

AGENTS OF IMPROVEMENT

If now we follow more into detail what may be termed the public health spirit, we find that in general the numerous agents controlling and directing it have been wise in council, and that the results have been good and in some instances phenomenal.

Among these agents was the demand for better conditions created and kept active by those of the population who had been used to better things at home "in the States." During military days there was the obvious necessity of keeping healthy soldiers, and later the educated public demanded relief as a necessity for the continuance and fostering of business and for the protection of home life.

Next may be mentioned the work of the officials of the Bureau of Health, who have always worked faithfully, developing along the lines of duty as they saw them, and often at the expense of personal health. Indeed, in more than one instance, life has been sacrificed in the discharge of these duties.

The third most potent agency, if indeed it does not rank higher, is the Philippine Bureau of Science, which, by the published results of its original investigators, has not only pointed the way for the executive sanitarian, but has shown the educated public how to live and has made many of the previously obscure problems of tropical medicine clear to physicians the world over, which of course results in the improvement of mankind in general.

The Philippine Medical School has grown out of the influence of the Philippine Islands Medical Association, and the good to be expected from such an institution of education, through the influence of its native students, is too great to be estimated.

PERSONAL HYGIENE

When all is said about our public health measures and the wonderful effect their enforcement has had on general conditions in the islands, the greatest factor for good remains to be mentioned, and that is personal hygiene. This great influence, fostered and improved by publications, by experience and contact with trained and evenly balanced minds, has accomplished results among the better class of natives, who could not have been reached by any other method. It has been so conducted that, we might say, certain of its elementary essentials have become fashionable fads. It is by this influence, almost entirely, that the drinking of safe waters and the eating of safe foods has become a strict rule in all homes worthy of the name; and to it also is due that modification in American costume which has contributed so largely to our success in living here. Of course there are people of peculiar minds who still "do not believe in germs." Formerly they were much more numerous, but the germs have so thinned their ranks that those remaining have much less to say, and the foolhardiness of those who have gone has been such a shining example of the right of personal hygiene that the spread of its influence has been greatly increased.

PHILIPPINITIS

There are two sets of extremists in America, one supporting the idea that people can live as long and as well in the tropics as elsewhere, and the other maintaining that no white race can continue to live and propagate the species in the hot countries.

Undoubtedly both views are wrong. There is not the slightest doubt that there is a climatic (using the word in its broadest sense) influence on both the foreigner and the native in the tropics which produces that condition known among medical men as tropical neurasthenia and among the lay public as "Philippinitis." Just what it is which brings this condition about is not clear, but that it is a condition, and that it affects people regardless of race, nationality or color is an equally positive fact. The facts about it are just about as clear as they are about neurasthenia in any other country—which is not saying much. I have not the time or space to go into the subject, in even such detail as is possible, but I might add that it is never a fatal ailment, it is not contagious, and it should not keep people from going to a tropical country.

RESULTS ACCOMPLISHED

As a result of the combined influence of the forces concerned, Manila is to-day quite free from epidemics and should remain so in the future. At the time of our occupation of Manila, although the Spanish government had vaccine laboratories in operation, smallpox was epidemic and received no more attention from the officials than did any other ordinary disease. A compulsory vaccination law was passed and executed by the American military administration, and revaccination has been going on steadily for these ten years, until now the entire civilized population of the islands is protected and smallpox has been reduced from a pest to sporadic cases, which, when they occur in Manila, are cared for in the splendidly equipped new hospital built especially for this service.

Diseases transmitted by water and food, such as dysentery, cholera, typhoid fever, etc., constitute by far the most important group of diseases found in the tropics. When we came to Manila there was practically no saf drinking water in the city, while to-day the daily outpu of bottled carbonated waters alone is over 50,000 bottle and in addition to this there is a distilled water capacit of over 20,000 gallons per day. Most of these water are used for drinking and culinary purposes. Ten yea ago cold storage was very limited, and as a consequen spoiled meats and vegetables were common. In additio to all this, dirty workers and bad methods of transpor ing foodstuffs made bad conditions worse. It is a wo der that so many of us lived to tell the tale. From t beginning gastrointestinal and other water-borne diseas were epidemic and continued so for the first few year Now, however, dysenteries of all kinds have been reduc to merely sporadic cases, and a case of the acute ki is rarely seen. Typhoid fever is comparatively ra only 75 cases occurring in the last 5,000 patients admi ted to my clinic in St. Paul's Hospital. Cholera e demics have been reduced to occasional small outbrea and should not ever again assume serious proportions Manila.

Parasitic and other less important diseases have be reduced in like proportion in the capital.

Plague has never had a serious hold in Manila, a with the present system of cleanliness, destruction rats and notification, there is no danger of the dise ever becoming epidemic here.

Leprosy has been common in the Philippines for c turies, and, while our Spanish predecessors, or rat one order of the Catholic Church, maintained a lepr hospital in Manila, it was entirely insufficient for needs of the situation, and lepers were everywhere to seen on the streets and in public places. At the pres time there is a satisfactory leper colony in good work order and the segregation of the lepers of the isla is almost completed.

I am perfectly justified in saying that in ten y America has made Manila one of the cleanest, hea iest and most attractive cities under the flag, and if the present rate of improvement continues o American cities will have to look to their laurels.

THE TREATMENT OF SCIATICA BY DEEP P INEURAL INFILTRATING INJECTIONS OF SALT SOLUTION *

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Nowhere in the domain of nerve pains is the a of neuralgia, its chronicity and rebelliousness to t ment so well illustrated as in tic douloureux and ica. Consistent with the dearth of facts concernin etiology and pathogenesis of these clinical entities, of the applied therapy has been unreasonable and of it unavailing. In this paper I shall report personal experiences with the deep intraneura perineural injections of salt solution under pr for sciatica, in the hope that my conclusions, to those of others before me in the literature, may recognition for the underlying principle and fac

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* Read at the meeting of the Mississippi Valley Medical A tion, Louisville, Oct. 13-15, 1908.

a wider adoption of this particular method. In the choice of what seemed to me to be the best solution and technic—in short, the best method—I acknowledge that I have borrowed generously from the clinical reports, conclusions and discussions on this subject by Lange, Umber, Alexander, Schloesser, Fischler, Brissaud, Tanon and Sicard, Levy and Baudoin and Schlesinger.

My chief incentive for approaching sciatic pain conditions was the uniform success that has obtained in twenty-four cases of trigeminal neuralgia treated by me to date with seventy-eight injections of alcohol, after the manner original with Levy and Baudoin, and described in my paper[1] appearing about a year ago.

The present report concerns itself with the treatment of sixteen cases of sciatica, seven of which were purely neuralgic, as far as could be established by my diagnosis by exclusion; three were complicated by well-defined organic disease; in one there was advanced arteriosclerosis; in two the hysterical element obscured true pain values; one patient is now suspected of having an incipient spondylitis deformans, and another has developed an arthritic right hip joint.

Through the kindness of my colleague, Dr. Peter Bassoe, I treated by injection two of the patients in his wards at the Cook County Hospital.

The number of patients treated is not so very large, but varied, and serves to show that the vague designation of sciatica blankets a multitude of conditions which, if approached with caution, will reveal undoubted disease sometimes far removed from the site of sciatic nerve. Since I have been interested in this particular therapeutic phase I have seen more than twice the number of cases herein recorded in which the leg pains presumptive of sciatic neuralgia were frank expressions of something else. The four patients presenting underlying organic disease were accepted for treatment as such, and with premeditation subjected as test cases for the determination of palliative effect. If we would but conduct a better clinical examination in reference to the character and topography of sciatic pain and seek to determine an assignable cause in pelvic disease, tumors, varicosities, coprostasis, spinal cord lesions, joint affections, diabetes, syphilis, malaria, anemia, diatheses and dyscrasias, we might then reenforce symptomatic with proper causal treatment, and thus arrive at a more intelligent and rational therapeusis.

Prefatory to the histories related in greater detail, I may say that of 7 patients, 3 were completely free from pain after one injection and remained so; 1 received two treatments; 2 others received three, and the remaining 1 had five. Of the three complicated cases mentioned, the first patient, with metastatic pelvic invasion (primary carcinoma of the breast), was entirely unrelieved after two injections; the second, with bilateral neuritic pain associated with diabetes, remained free for six weeks after two injections, but then relapsed and preferred to await such improvement as would follow appropriate diabetic treatment. The third, who had severe chronic parametritis, submitted to but one injection, with only slight relief, and thereafter sought gynecologic advice and treatment. The two patients who received a single injection each with alcohol, getting but partial transitory relief, did not receive second injections, owing to reports in the literature of disaster by this method. Of the patients manifesting hysterical symptoms, one was completely relieved after a single injection, and the other experienced such an alarming increase of pain that I was deterred from a second trial. The patients in both the spondylitic and arthritis hip cases were entirely uninfluenced, one after three and the other after two treatments.

With some regard for clearness, I shall present the treatment in its entirety under the separate headings of, 1, solutions; 2, methods; 3, syringe, needle and technic; 4, accidents, dangers and complications; 5, general results; 6, case reports (tabulated); 7, conclusions.

THE SOLUTIONS

The intraneural and perineural injection for the relief of neuralgic pain is a method neither of to-day nor of yesterday, but dates back to 1853, the time of Wood, in Edinburgh. Luton advocated the use of concentrated salt solution under the skin for tender nerve spots in 1863, and in the thirty years to follow many anesthetic and mordant solutions, including silver nitrate, ether, chloroform, carbolic acid, antipyrin, osmic acid, cocain and alcohol were indifferently used to combat and "kill" pain. Interest in hypodermic medication of every sort was revived by Schleich's work in 1895 ("Schmerzlose Operationen"), in which he included a formula for use in sciatica, viz.: 25 c.c. of a 1 per cent. cocain solution (cocain mur., 0,1; morph. mur., 0,02; sodium chlorid, 0,2; Aq. dist. ad. 1-000).

The particular references to injections for neuralgia, however, were not properly valued until Lange popularized them more than a year later.

A. SALT SOLUTIONS

The credit for the conception of the deep perineural infiltrating injection, under pressure, of a large quantity of salt solution intended to allay pain by its mechanical action, belongs to Lange of Leipsic. The literature on the subject shows that there has been some choice expressed in the formulas of salt solutions intended for injection in massive doses. Some of the French observers, Sicard, for instance, thinks that the isotonic solutions containing sodium sulphate, sodium chlorid, sodium phosphate, to which small doses of stovain have been added, are the best. Lange thinks that isotonicity makes no difference.

I have tested a variety of formulas in different cases, and feel that three may be endorsed as useful and harmless: 1, normal salt solution at body temperature injected in the amount of 80 to 120 c.c.; 2, normal salt solution refrigerated to zero centigrade, as suggested by Schlesinger,[2] and injected in the amount of 10 to 20 c.c.; 3, the beta-eucain salt solution at body temperature (Lange), injected in an amount of 60 to 100 c.c. These are effective beyond any and all measures with which I am as yet familiar.

B. ALCOHOL

A dependable palliative treatment in most refractory types of trigeminal neuralgia, the deep alcohol injections have been advocated for sciatica by Schloesser, who reported thirty-six cases with thirty-six cures. This, indeed, enviable achievement led to its immediate and thorough trial by Erb of Heidelberg, Brissaud and Levy and Baudoin of Paris, with negative and in not a few instances disastrous results.

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[1] The Methods and Technic of the Deep Alcohol Injections for Trifacial Neuralgia, THE JOURNAL A. M. A., Nov. 9, 1907 xlix, 1574.

[2] Deutsch. med. Wchnschr., 1908, No. 6.

Reflecting on my own very gratifying experience with alcohol in trifacial disease, I subscribed to its use in two cases of sciatica, giving a single injection in each instance with relief, when I was dissuaded from subsequent trials by the reports of grave motor disability and amyotrophic change in the affected extremity, following its use in the hands of Erb,[3] Brissaud,[4] and Dèjerine.[5]

The Schloesser method contemplates the deep intraneural injection of about 1 to 2 c.c. of alcohol in ascending strengths of 70 to 80 per cent., penetrating to the required depth of the nerve, midway between the tuberosity of the ischium and great trochanter on a line with the gluteal fold, or reaching it (if indicated) in its more superficial course lower down in the leg under the head of the fibula.

Serious objections may, I think, be justifiably entered against the use of alcohol in sciatica. As Levy and Baudoin[6] remark: "The sciatic is a mixed (sensori-motor) nerve and in the true sense terminal, which may not be said of the trigeminus, that has a purely sensory trunk, is rich with anastomoses to the facial and its own terminals, and thus capable of some regeneration in the presence of trauma or other disintegrating influences." For purposes of alcohol injections, then, the conditions of sciatica and tic douloureux are not comparable.

> Finkelenburg, who subjected large nerve trunks in animals to a variety of solutions found alcohol markedly destructive to the medullary sheath and nerve fibers—not so cocain or salt solution. Levy and Baudoin injected the sciatic of a dog. Paralysis resulted and after the treatment had been persisted in for one month the animal was sacrificed. The nerve at point of injection was very much hypertrophied and for 3 or 4 cm. surrounded by a rich vascular network. Microscopically, the medullary sheath was almost completely destroyed and replaced by a small patch of granulomatous tissue. Above the point of injections the nerve fibers appeared almost normal.
>
> In a second experiment the middle portion of the sciatic of two guinea-pigs was exposed, and with a very fine needle a few drops of alcohol with chloroform were injected. Immediate paralysis followed, with anesthesia, and in a few days marked atrophy and pressure sores developed. The animals were sacrificed at the end of two months. Macroscopically, at site of the injection the nerve appears bulbous. Marchi stain showed the medullary sheath diseased, with a small abscess at whose level nerve filaments were spread on the posterior wall and equally degenerated. The relaxed muscles to the nerve supply show loss of volume and nuclear proliferation. Brissaud, Déjerine and Pitres[7] have shown that the local action of alcohol on nerve tissue causes destruction of axis cylinders and myelin sheath.

Brissaud reports having given an injection of alcohol to a woman of 26 who had sciatica of gonococcic origin. The pain disappeared, but there developed a sensori-motor paralysis of the entire region innervated by the sciatic, involving chiefly the extensors of the leg. Eighteen months thereafter the sensory condition was again normal, but marked paresis continued, together with undoubted reaction of degeneration. In a second case, that of a woman aged 34, 1 c.c. of alcohol was injected. There was suppression of pain at the cost of marked motor paresis, which ten months after intervention was present together with the reaction of degeneration.

In his comment of these results so at variance with those of Schloesser, Brissaud states:

> If Schloesser has not had similar results it is because he has not carried his alcohol to the nerve filaments. The myelin sheath and axis cylinders have escaped the destructive local action of the alcohol. His injections have been perineural and not intraneural.

Fischler,[8] in a report from the Erb clinic of 12 cases of sciatic neuralgia and neuritis treated with alcohol, reports 8 successes (4 complete and 4 partial), and 4 failures. In 3 of Erb's own cases and 1 of Fischler's motor paralysis with reaction of degeneration occurred, serving to show that alcohol induces a toxic degenerative neuritis. Three patients recovered after one year, and one gives evidence, after one and a half years, of the paralysis. Fischler concludes that whereas alcohol is a desirable remedy for palliation of the severe neuralgias of the sensory nerves, its injection where mixed or pure motor nerves are concerned must be recommended with great reserve and as a last resort, as it were.

For these good and sufficient reasons the use of alcohol in deep infiltrating injections for sciatica is, in my opinion, contraindicated.

METHODS

The aim is to inject the sciatic nerve at one (if that suffice) or more points in its course after it leaves the great sacrosciatic foramen. One is quite certain of getting into the nerve by introducing the needle in a slightly oblique and upward direction from a point on a level with the gluteal fold, midway between the tuberosity of the ischium and the great trochanter of the femur. In the average individual the nerve at this point lies about 6 to 7 cm. deep. In unusually stout or very muscular people I have observed it to be 10 cm. deep from the skin surface, as indicated by the disappearance of the full length of the needle. In very thin individuals or delicate women I have reached it at scant 5 cm. Another desirable point for injection for pain lower down is at a point behind and just below the head of the fibula, where the superficial peroneal branch can readily be felt with the finger. In the earlier cases in which injections were given these were the landmarks advocated and endorsed, since on the whole, they had proved satisfactory. The one suggested for the middle of the thigh is not, however, entirely free from objection. The needle, for instance, does not take an unvarying and fixed course, nor is the depth of the penetration alway sufficiently exact. The soft parts are too yielding i some instances, and the contractions of the glutea muscle masses a hindrance to the free passage of th needle in others. It has been customary in this locatio to pierce the gluteus maximus, but Tandler[9] thinks tha this can be improved on, and he accordingly penetrate at the lower border of the gluteus maximus and the passes the needle upward under that muscle. More desirable even than this muscle index is, in my opinion, bone landmark, for it favors above all things precisio just as it does in reaching the main division of the fift nerve. The selection of a higher point for puncture, a the notch, fulfills these conditions. A method of ensu ing accuracy in this location is suggested by Brissau Sicard and Tanon. They place a patient in the later position, with the thigh and leg semiflexed, and dete mine three points, the great trochanter, the tuberosit of the ischium and the sacrococcygeal articulatio A line is drawn from the trochanter to the sacroco cygeal joint and on it, at a point one or two fingerbreadths above the tuberosity of the ischium, they insert the needle. The bony pelvis shows this to be a good landmark, but the ischial tuberosity is not always felt with ease.

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[3] Fischler: Münch. med. Wchnschr., Aug. 6, 1907.
[4] Rev. neurol., 1907, p. 633.
[5] Rev. neurol., 1907, p. 525.
[6] Rev. neurol., 1907, No. xv. p. 777.
[7] Rev. neurol., July 30, 1906, xiv.
[8] München. med. Wchnschr., Aug. 6, 1907.
[9] Wien. klin. Wchnschr., 1907, No. 49.

Therefore, still another method is offered which makes use of the spine of the ischium, referred to by the French in their clinical writings as *l'épine sciatique.* A thumb's breadth to the outer side of this determined point, resting on bony surface, lies the broad sciatic nerve.[10]

METHOD OF LOCATING SCIATIC NERVE

A line is drawn from the sacrococcygeal joint to the postero-external border of the great trochanter; at the junction of the inner one-third and outer two-thirds of this line is found the spine of the ischium. Placing the needle a thumb's breadth to its outer side and penetrating in a directly perpendicular line to a variable depth one engages the sciatic nerve.

That I might be assured of the constancy of the relations to this landmark, I injected the nerves of many fresh unhardened cadavers placed at my disposal in the anatomic laboratories of Northwestern University Medical School. The regional dissections to the nerve, made by my associates in the work, Messrs. Weber and Bundesen, directly after my having injected a few drops of aqueous solution of eosin into the nerve, showed the stain to have come in contact with the nerve sheath in every instance. The depth to which the needle passes before striking on the bony surface of the ischium is very variable in different individuals. In some I found it to be 4 to 5 cm., in others 8 to 10 cm. In all but the four earlier cases this landmark was adopted for locating the nerve. In my opinion, it is always to be preferred and constitutes a distinct addition to the technic.

THE SYRINGE, NEEDLE AND TECHNIC

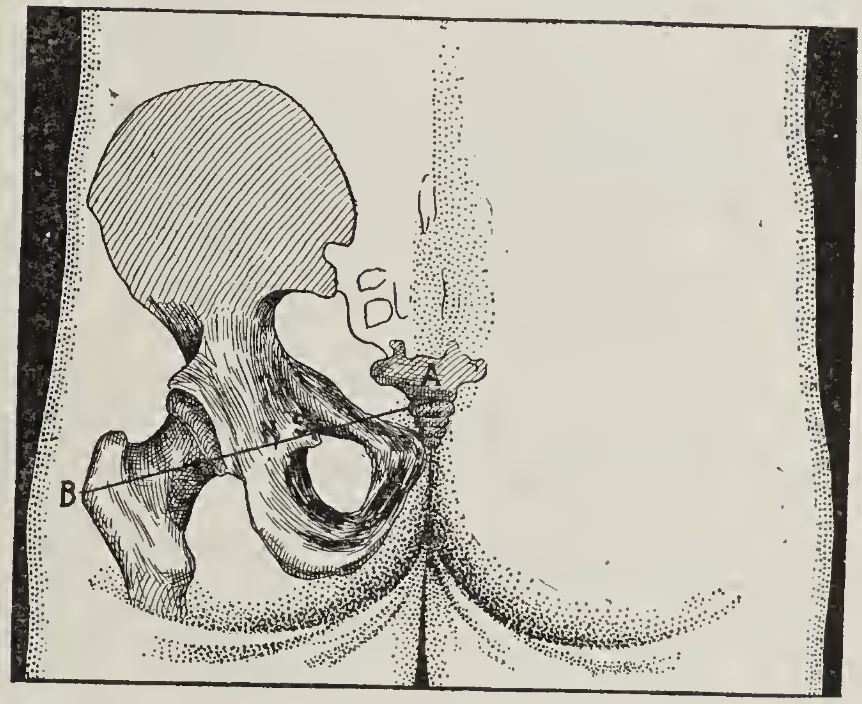
The syringe I use is all metal and large enough to iold 60 c.c.; one made all of glass might be preferred, ut I found it fragile and especially perishable in the arger sizes requisite for massive doses of solution. The netal body, plunger and tip may be separately boiled. These metal syringes are ordinarily equipped with a o-called catheter or ear-tip; but for this particular inection I have suggested a slip-tip which allows the ieedle to fit the barrel directly. This obviates the anoyance of adjusting an intervening piece of rubber ubing to the needle and secures against leakage. The eedle is of the pattern used in trifacial injections. It s of steel, 12 cm. in length, with a caliber of 1.5 mm., nd provided with a half-sharp point, which is proected and made less cutting by the presence in the umen of a dull-tipped stylet. A needle too dull causes ifficulty in getting through the skin and unnecessary ain, while one too sharp may completely transfix the erve and by such trauma incur an unpleasant complication. For the convenience of estimating the accurate epth of the nerve I have suggested graduating the eedle in centimeters, from one to ten.

The patient should lie on the abdomen, with the legs ully extended, and a flat pillow or pad placed in the ollow of the groins. A comfortable position is essenal to overcome contractions of the gluteal muscle asses. I have not been able to note any advantage in acing the patient in a lateral position, with the hips d knees semiflexed. The entire buttock on the affected side should be cleansed and rendered aseptic, as for any operative procedure. The landmarks are then established and the maneuver of locating the point of puncture completed as each operator may elect. I punctuate the several points with tincture of iodin.

A general anesthetic has never been found necessary. In nervous patients or those unduly susceptible to pain it may be desirable to raise an anesthetic bleb with Schleich solution before penetrating the skin.

The needle, with the stylet slightly withdrawn from its tip, is put through the skin, and when well in the subcutaneous tissue the stylet is returned to cover the point and the needle carried to the necessary depth. The direction is perpendicular. Aimless jabbing around, either in soft tissue or on the bony surface, is superfluous and harmful.

The moment the nerve is touched the patient feels a distinctive sharp lancinating pain at the heel or low down in the back of the leg, attended, as a rule, with a quick jerking movement of the limb. This heel pain was present in many of my cases and is referred to by Lange as a "control pain" (*Kontrolschmerz*), a test pain, indicative of accurate placement of the needle. When it is not elicited, some patients have complained of diffuse pain in the buttock; others have felt it in the thigh, and some at the knee. On removal of the stylet a few drops of venous blood occasionally ooze through the needle, but that is all. The filled syringe is now attached, and under steady, firm pressure, and without pauses, the solution is slowly injected, the amount being gauged by the cubic centimeter index on the piston-rod. The needle is finally quickly withdrawn and the point of puncture sealed with a cotton collodion patch. If much local tenderness prevails immediately after the injection I instruct patients not to lie on the affected side for several hours. Soreness persisting for several days is best relieved by moist warm compresses of extract of hammamelis.



Illustrating landmarks for reaching sciatic nerve at notch. The linear measurement in drawing is necessarily curvo-linear on the body. (a) Sacro-coccygeal joint. (b) Trochanteric border. (s) Spine of ischium. (n) Sciatic nerve a thumb's breadth to outer side of spine. Anatomic accuracy has been somewhat sacrificed to illustrate landmark. The symphysis and coccyx should not touch when the pelvic bones are tilted at their proper angle.

In advancing a new method of treatment there are always inquiries as to accidents, dangers, complications and therapeutic results in general, and these, so far as I know them, can be briefly stated.

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[10] Levy and Baudoin: Rev. neurol., 1907, xiv, 777.

ACCIDENTS, DANGERS AND COMPLICATIONS

Accidents I have not encountered. Neither the needle nor salt solution when used in varying quantities or at different temperatures gave rise to untoward, unpleasant effects. Von Noorden[11] records an instance of a needle breaking off in the deep tissue from a powerful muscular contraction of the gluteus, but this is an isolated occurrence. I can not appreciate by what circumstance harm could be done, aside from transfixing the nerve and so badly traumatizing it as to cause sensory and motor paralysis. My colleague, Dr. Bassoe, in a personal communication, says that he thinks this is what may have happened to one of the patients recently injected during his service at the Cook County Hospital. Missing the nerve and its resistant bony floor, by a puncture made too high up, the needle could pass through the foramen and inundate the pelvis with salt solution, but this is not likely, nor would it be harmful. Dangers from hemorrhage in this location are absolutely *nil*. Of complications, I have in three cases noted, six hours after injection, a slight rise in body temperature, lasting from twenty-four to forty-eight hours; in no case was it preceded by a chill, but one patient complained of chilliness. From the reported cases of others and my own I believe such reaction as is evidenced by slight elevation of temperature occurs when the larger (massive) doses are injected — those exceeding 60 to 80 c.c. A slight transitory rise is a resorptive type of temperature and need not be considered as indicating that asepsis has not been observed in the course of operation.

SCIATICA (TABULATION OF SIXTEEN CASES)

Patient.	Date.	Place of Operation.	Sex.	Age.	Type.	Duration.	Solution.	Number of Injections.	Results.	Remarks.
J. D.......	Mar., 1907..	St. Elizabeth's Hospital.	M.	70?	Chronic	3 yrs....	Alcohol, 80 per cent., 2 c.c.	1	Improved; recurrence in 3 weeks.	Arteriosclerosis. Dissuaded from further trialby unfavorable reports concerning alcohol.
Jennie C..	Mar. 14,1907.	House..	F.	31	Subacute, 2d attack.	4½ mos.	Alcohol, 80 per cent., 1 c.c.	1	Improved; recurrence in 6 weeks.	No further injection; alcohol contraindicated.
Augusta B.	Apr. 8, 1907.	House.	F.	42	Subacute.....	5 mos...	Beta-eucain, 40 c.c. and 80 c.c.	2	Not improved....	Pelvic metastatic carcinoma.
Karl A.....	Apr. 26, 1907.	Office.	M.	36	Acute.,.......	3 wks...	Beta-eucain, 90 c.c.	1	Cured.	
Fritz L....	June 25,1909.	House..	M.	44	Chronic.......	1 yr.....	Beta-eucain, 60 c.c.:20, 120.	3	Cured.	
Sophia K..	Sept. 6, 1907.	House.	F.	58	Chronic, (acute exacerbation).	2 yrs....	Beta-eucain, 90 c.c.—120.	2	Improved	Diabetes.
Arnold S..	Nov. 10, 1907.	House..	M.	48	Subacute.....	6 mos...	Normal salt solution, 90—90—120.	3	Impr'v'd; recurrence in 3 wks.	Spondylitis deformans?
Aaron M...	Nov. 12 and Jan. 4, 1908.	Michael Reese Hospital.	M.	38	Subacute.....	3 mos...	Normal salt solution, 90 c.c. Peroneal, 10 c.c.; normal salt, 120.	3	Cured	Complained of considerable weight and dragging pai in the right groin anteriorily for about days after injection
Sadie R. ..	Jan. 12, 1908.	House..	F.	22	Acute.........	2 wks...	Beta-eucain, 60 c.c.	1	Cured	Patient very hysterical.
George W..	Mar. 3, 1908.	Office and house.	M.	39	Subacute.. ...	4½ mos.	Normal salt solution, 60-100 c.c.	2	Not cured........	Arthritis of hip Slight temperatur for 3 days; 99.5° t 101°.
Abe R	Apr. 14, 1908. June 9, 1908.	Michael Reese Hospital.	M.	52	Subacute.. ...	3 mos...	Nor. salt refrigerated to zero, 20 - 20 - 40 - 60 - 30 c.c.	5 during 2 visits at hospital.	Cured.	
Jake G....	Apr. 24, 1908.	House.	M.	26	Acute..	8 days..	Nor. salt. Beta-eucain, 120.	1	Cured	Temperature for hours: 100° to 100.6
Ada M.....	June 1, 1908.	House..	F.	31	Acute.	3 wks...	Beta-eucain, 60 c.c.	1	Not cured........	Nausea, vomitin too hysterical f future injection.
Sadie L...	June 28,1908.	House.	F.	28	Acute.........	1 yr.....	Nor. salt refrigerated, 30 c.c.	1	Not cured........	Chronic parametr tis.
Chas.G....	July 8, 1908.	House.	M.	36	Subacute.....	2 mos...	Nor. salt refrigerated, 60 c.c.	1	Cured.	
Aaron S...	Sept. 12.....	House.	M.	29	Acute.........	6 days..	Beta-eucain, 90 c.c., 120 c.c.	2	Cured.	
Dr. Bassoe's 2 patients.	July 20......	Cook County Hospital.	M.	?	Subacute.....	?	Nor. salt sol., refrigerated, 60 c.c.	1 ?	Cured (Dr. Bassoe's verbal report).	
			F.	?	Subacute.....	?	Beta-eucain......	1 ?	....	Do not know resul

Attention has been called to the liability of an idiosyncratic individual to development of toxic symptoms following administration of betaeucain, no matter how small the dose, but I am not familiar with any pronounced ill effects from this source. If nausea, vertigo and gastrointestinal distress were at all marked I should feel much disposed to regard the eucain ingredient with suspicion. Other minor subjective complaints have been noted, but in my opinion they are unworthy of mention.

GENERAL THERAPEUTIC RESULTS

In the more favorable cases (three) the relief from pain was astonishingly prompt, even before the injection was completed, and there has been no recurrenc In others, again, the feeling of tension under the i creasing fluid content greatly intensified the pain du ing injection and perhaps for an hour or more ther after. Some patients whose pain radiated down the le experienced relief to the knee only, while tender poi in the calf and a sensitive nerve trunk below the kn persisted. In these cases, after injecting at the not I at the same sitting injected 10 to 20 c.c. into t peritoneal nerve at the head of the fibula with good fect. It was gratifying to see two bedridden hospi patients walk back to the wards with comfort direc after the first treatment. In several ambulatory ca of moderate severity the injections were given in office, and the patients experienced neither difficu nor discomfort in going home.

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[11] Wien. klin. Wchnschr., 1907, No. 49.

In the severer cases in which several injections were required the patients were kept in bed for forty-eight hours; then forced flexion, sitting and standing were practiced to note improvement. The interval for injections following the first one was variable, and I think no advice need be ventured on this point, except to state that it is safe to give the injections from twenty-four to seventy-two hours apart, and in equally close succession for as many injections after that as may be necessary. The largest number in a given case was five. Individual conditions should, I think, prevail in the matter of reinjections. Tenderness may persist at the point of puncture for several days.

In the earlier cases objective sensory changes in the distribution of the nerve were examined for, but none were noted that could be relied on, because of the predominating "subjective" pain.

The prognosis, if the reports of Lange, Bum, Umber, Alexander. Kellersman, Grossman, Schlesinger, and several others are to be credited, is exceedingly good.

Lange states that of his 56 cases 13 were acute, and mong this number treated there was 1 complete failure nd 1 recurrence after six months. In the 11 subacute ases, 1 patient remained uncured, 2 were improved, nd there was 1 recurrence in four weeks. There were 2 chronic cases, with 4 patients uncured, 4 improved nd 4 recurrent. The total of 56 cases showed 15 per ent. of complete failures, 10 per cent, recurrences, 10 er cent. improvements — which is intended to mean hat his method accomplishes cures in approximately 5 per cent. of all the cases.

Bum[12] has treated 81 patients who had sciatica with njections of 100 c.c. of an 8 per cent. sodium chlorid olution, and records 63 per cent. complete cures and 1 per cent. improvements.

Schlesinger[13] treated 42 patients, with a total of 51 jections, with excellent results. The percentage of ures, improvements, recurrences and failures in my wn cases corresponds very closely to that of other ob- ervers who had access to more abundant material. I ave had occasion to inject refrigerated normal salt lution in a case of herpes zoster for the severe root in which long outlasted the eruptive skin lesion, and ve used it in a case of intercostal neuralgia. In both stances, which I shall report more fully at another me, the control of pain was marked and lasting.

COMMENTS

1. The deep infiltrating perineural injections pal- ite the pain of sciatica.

2. The acute, subacute and chronic types of sciatica d themselves to this treatment, and whereas the mber of injections required varies, immediate notable lief is afforded by the first injection in nearly all ses.

3. The treatment is most indicated and effective in non-symptomatic cases, but is also of value in the nptomatic variety.

4. Normal salt solution of varying temperature and antity, or the beta-eucain solution of Lange, is to be eferred to other anesthetic or mordant solutions. Al- ol is harmful and contraindicated.

5. The sciatic nerve may be reached deep in the hio-trochanteric hollow (its peroneal branch lower wn at the capitellum fibulæ), but it is more surely and safely reached directly after its emergence from the notch.

6. The point for puncture and penetration to the nerve is best determined by drawing a line between the postero-external border of the great trochanter and the sacro-coccygeal joint; at the junction of the inner third and outer two-thirds of this line is the spine of the ischium. A thumb's breadth to the outer side of this spine lies the sciatic nerve. Cadaver experiment and clinical experience lead me to endorse this landmark above all others.

7. The method requires a syringe (preferably metal) with a capacity for 30 to 60 c.c. or more, a needle of desirable length (8 to 12 cm.) directly attachable to the syringe.

8. Accidents of any consequence almost never occur. Unpleasant effects and complications are few and insignificant.

9. The prognosis in the sense of a cure is good if the facts suffice—namely, that in the large number of cases observed for from one to four years many patients have been entirely free from pain during that long an interval. Improvement is common. Recurrences are not the rule, and failures are the exception.

103 State Street.

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[12] Wien. klin. Wchnschr., 1907, No. 49.

[13] Deutsch. med. Wchnschr., 1908, No. 6.

THE DURATION OF THE ACTIVELY INFECTIOUS STAGE OF TUBERCULOSIS *

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The object of this study has been primarily to render a rich field of tuberculous material of practical value from both the clinical and laboratory viewpoints. Scant benefit accrues to humanity at large from scientific knowledge that can not be applied to its betterment or protection. We have endeavored through scrutiny of the secretions and excretions of tuberculous subjects to arrive at definite conclusions: 1, with regard to the possibility of transmitting the disease during its earliest stages; 2, as to what means, and through what media, infection of human beings by other individuals may and does occur; and, 3, as to how far and how thoroughly under the ordinary circumstances of daily life Nature provides for the destruction of infectious tuberculous material, subsequent to its excretion from the human body.

It has been, and as the result of this investigation still more certainly is, our conviction that tuberculous infection may and does not infrequently occur through the semen; whether or not by means of the spermatozoön as the host and carrier of the tubercle bacillus remains to be determined. Such a mode of infection does not, of course, require the immediate appearance of a symptom-complex of tuberculosis, as we know it clinically. That the disease may be implanted prior to birth needs as witness only the occasional congenital caseous pneumonia, included in the experience of every pathologist of ordinary wide opportunity. Veterinarians and plain farmers add a homely proof also in the not infrequent dropping of a tuberculous calf by a tuberculous cow, evidence to the same effect from the

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*Read before the International Congress on Tuberculosis, Washington, Sept. 28, 1908.

lower animal kingdom. John R. Williams[1] cites a case of almost certain placental transmission. Harbitz[2] has recently reported five cases of congenitally tuberculous twins, and has demonstrated the presence of latent bacilli. Kraemer[3] relates a number of instances in which the father is tuberculous, and all the children die of the disease, the mother remaining perfectly well. Every physician knows of at least one such occurrence. It is, in fact, our unhesitating belief that many if not most cases of so-called predisposition, or postnatal infection, with tuberculous parentage, are illustrations of latent tuberculosis—the result of intrauterine infection. Such transmission, whether maternal or paternal, reveals its secrets in response to only one line of investigation, and this offers difficulties and leads to conclusions that are not by any means clear-cut nor final.

There have come to us during the past four months eight opportunities for autopsy on men dying in the Philadelphia General Hospital from tuberculosis in advanced stages. From each of these subjects the testicles and two inches or more of each vas deferens were removed as soon as possible after death. The duct was carefully dissected from the surrounding tissues, and by sterile scissors cut across about one inch from its junction with the testicle. By gentle pressure from the testicle outward along the duct were expressed from one to two small drops of clear semen, which was at once applied to clean glass slides, spread, and stained for tubercle bacilli, decolorized and differentiated with Pappenheim's solution of rosolic acid in alcohol. The fresh specimen was first examined for live spermatozoa, but in no instance were they found in motion. In all fifteen specimens of semen were examined (from eight subjects).

Case 1.—General tuberculosis. The testicles and epididymis appeared normal. The semen from the right testicle and duct showed no bacilli. The semen from the left side was also negative.

Case 2.—Tuberculosis of lungs; cavity formation. The testicles and ducts appeared normal. The semen from both sides failed to show bacilli.

Case 3.—Empyema. Caseous pneumonia of left lung. Right lung less involved. Sputum full of bacilli. The semen from the right testicle and tube yielded one typical tubercle bacillus. The semen from the left side showed no bacilli. The testicles and duct appeared normal.

Case 4.—Chronic ulcerative pulmonary tuberculosis. Tuberculous enteritis, ulcerated mucous membrane of appendix. One testicle only was present. The semen from the normal-appearing testicle and duct yielded three typical tubercle bacilli.

Case 5.—Chronic ulcerative tuberculosis of the lungs. The semen from the normal-appearing right testicle and duct showed a few typical tubercle bacilli. No bacilli were found in the semen from the left side.

Case 6.—Caseous pneumonia. Tuberculous enteritis and cystitis. The testicles and ducts appeared normal. The semen from the right side showed one tubercle bacillus. There was none in the semen from the left side. The testicles appeared normal, also the ducts.

Case 7.—Chronic ulcerative tuberculosis of both lungs. Caseous pneumonia of left lung. The testicles and ducts appeared normal. No tubercle bacilli were found in the semen from either side.

Case 8.—Case from insane wards. The *Amœba coli* was present in the stools. There was a tuberculous cavity in the right lung and pneumothorax; tuberculous ulceration of intestines and feces full of tubercle bacilli. One tubercle bacillus was found in the semen from each side. There was no macroscopic involvement of testicles or tubes.

Thus in a series of eight cases tubercle bacilli were found by simple staining methods in five instances, and in the semen from five out of fifteen testicles. The fact that the bacilli were usually found, if at all, in the semen from only one side, would rather give force to the belief that there was local tuberculosis of the corresponding organ or duct, though not macroscopically evident. This fact would not, however, affect the question of the infectiousness of the semen, and the danger to the woman, and the fetus. The fact that the semen was directly from the testicle points to the blood as its vehicle from the point of inoculation.

Inoculation and impregnation of laboratory animals with testicular semen from tuberculous subjects had been projected, is now being carried out, and will be reported on subsequently. The semen from the seminal vesicles has been used for inoculation of the lower animals by a number of investigators, and has frequently produced tuberculous infection. Karlinski[4] at times found the semen from the seminal vesicles swarming with tubercle bacilli. In other cases he has found it impossible to demonstrate one bacillus, until inoculation experiments enabled their demonstration in the test animals. He has also injected bacilli into the testicle of a healthy goat, then has brought about coitus with the female, and studied the tuberculous progeny (five out of nine) from a healthy mother. He has noted the dropping of a tuberculous calf by a healthy cow, impregnated by an infected bull; and proved his results by autopsy.

We know of no one other than ourselves who has used the semen obtained directly from the testicle and the first portion of the vas deferens, and shall therefore complete this study when the opportunity presents. The discovery of the tubercle bacillus in testicular semen not only establishes the possibility, but the likelihood of frequent transmission of the disease by the male to the fetus. It also aids in establishing the more important fact that congenital tuberculosis is likely to be apparent at birth proportionately to the susceptibility of the maternal element and the developing fetus to the influence of the bacillus and its toxin. Provided they are resistant and fully or overnourished until term there may be no indication of the latent infection.

There is no need to dwell on the possibility of infection by means of sputum. Practical interest seems t us to center rather in the demonstration of the bacill in other excreta of the body, to which human beings ar constantly and ignorantly exposed for new or reinfection. Important also are the time of earliest infectiousness of these excreta, and their tenaciousness of virulenc under favorable and adverse circumstances within an without the body.

EARLY APPEARANCE OF TUBERCLE BACILLI IN SECRETION AND EXCRETIONS

It is a matter of common knowledge among medic men that tubercle bacilli may be determined by stainin methods in the sputum from a bronchial tuberculos long before the chest yields definite and localizin signs. It is equally well known that the intestine ma swarm with tubercle bacilli from a rectal ulcer befo the presence of the ulcer has been suspected.

A case in point has been studied recently by us in man who was admitted to the wards of the Philadelph

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[1] Probable Placental Transmission. The Journal A. M. A., April 6. 1907, xlviii, 1184.

[2] Untersuchungen über Tuberkulose, Christiania, 1905.

[3] Beitr. z. Klin. d. Tuberk., 1908, ix, No. 2.

[4] Ztschr. f. Thiermed., 1905.

General Hospital supposedly suffering from uremic intoxication. He was comatose and his breathing stertorous; there was no cough, no considerable sputum, no symptom attracting attention to the lungs, and no diarrhea. A tiny speck of sputum was once expectorated and was found full of tubercle bacilli. The feces were then studied and showed scattered tubercle bacilli. When later the urine could be obtained the bacilli were also demonstrated in the sediment. There had been no suspicion of tuberculosis prior to the examination of the stray mite of sputum and the feces. The patient was infectious to others without doubt for days, perhaps for weeks and months, prior to the detection (accidental or routine, as one will) of the causal germs.

Although not by any means a new finding, the fact has not been generally recognized by the practitioner that in the feces and urine of most, if not all, tuberculous patients is contained infectious material and that in these excreta the bacilli may be demonstrated with great frequency and regularity by tinctorial methods, and often by animal inoculations when the former fail. The full knowledge of the value of this procedure led us to a tinctorial study of the sputum, urine and feces, in a large series of cases known to be tuberculous; and also to a series of inoculations of animals with tuberculous material, especially such as no longer showed the bacillus by tinctorial methods.

Our first step was the exhaustive examination of specimens of sputum, urine, and feces, from 100 patients known by the examination of the sputum to be actively tuberculous. In all instances the smears were made on new and thoroughly clean glass slides, long immersed in alcohol, ether and nitric acid, then washed with soap and distilled water, and dried over the flame. Urinary sediments were usually centrifugated and washed three times with distilled water prior to fixing on the slide. When only a small quantity of urine was obtainable (1 to 2 c.c.) the washing was dispensed with and the entire quantity of urine was placed in the center of a slide and allowed to dry in as small a space as possible, being stirred in the beginning with a tiny portion of egg albumin. The sediments were all obtained from eight ounces of the evening urine, allowed to settle over night, and from this precipitation was pipetted off into distilled water a small tube full of deposit.

We mention in passing the great difficulty experienced by us and by all students of urinary sediments in ixing the latter on a glass slide. After many failures we found that two methods would invariably succeed: , the coating of the smear, after fixing in the flame, with a thin solution of ether celloidin; and, 2, the use of a minute quantity of egg albumin on the slide before pplying the urinary sediment. The single objection o the ether celloidin rests in its thickness, and conseuent overdeep staining with the counter-dye. Even with the albumin fixation one precaution is necessary, amely, that the smallest possible quantity of albumin hould be used in order to avoid the difficulty in deolorizing the albumin, and the albumin-fixed specimen y Pappenheim's fluid. Once these precautions are bserved, no further sediments should be lost.

The smears from the feces were in some instances repared by dissolving a little of the stool in a test-tube f distilled water, and smearing this semipaste in a hin, even layer on a slide. Occasionally it was sufficient o rub a small portion of the interior of the stool into drop of sterile distilled water already on the slide. here seemed to be little advantage in one method as compared with the other, though the latter affords economy of time and glassware, and was finally adopted as the method of choice. The slower method was held in reserve as slightly more thorough, to use in the event that no bacilli were found by the first procedure.

In all cases the smears were stained with cold carbolfuchsin in covered jars, for at least fifteen minutes, and then decolorized and counter-stained in Pappenheim's solution of rosolic acid and alcohol about twenty minutes. A number of specimens were allowed to remain in the rosolic acid and alcohol for twelve to eighteen hours, without decolorization of the tubercle bacilli.

The following record will show the startling frequency of the presence of the tubercle bacillus in the urine and feces of admittedly tuberculous subjects in advanced stages of the disease:

Of 100 patients, male and female, from the tuberculosis infirmary of the Philadelphia General Hospital, the sputum of all chosen for experiment showed considerable numbers of tubercle bacilli. The entire 100 also showed tubercle bacilli in the feces, a few in considerable numbers; many more showed but few in scattered microscopic fields; several in such scarcity as to admit of discovery only after painstaking search. Thirty-eight of the 100 also showed the bacilli in the urinary sediments, never in considerable numbers, but, on the contrary, usually discovered after tedious study of the specimen. All negative specimens were examined for at least one hour before being considered free from tubercle bacilli. Several specimens, at first considered negative, were searched repeatedly and after several hours yielded one or two bacilli.

There seemed to be no direct relation between the number of tubercle bacilli in the sputum, the feces and the urine of a given patient. Occasionally the sputum appeared richly infested, and only the last field examined would disclose a lone organism in the fecal or urinary preparation. As far as possible in this series we avoided patients with renal or intestinal tuberculosis, and the patients that came to inspection at autopsy usually bore out our judgment in their freedom from active involvement of these organs. One patient in the insane ward, already referred to, had been studied for a considerable time as an instance of ameba infection. The stools showed tubercle bacilli in such numbers as to suggest tuberculous sputum rather than feces. This patient died suddenly of tuberculous pneumothorax, no lesion having been suspected in the lungs, cough and sputum being absent. At the autopsy the lower bowel was found to be riddled with ulcers of a nondescript type, from the floor, of which, however, we obtained many tubercle bacilli.

We had also the opportunity of examining the excretions from a number of patients with supposed tuberculosis (pulmonary) who had found their way into the tuberculosis wards, and yet had never yielded tubercle bacilli in the sputum. In not one of these cases in which the examination of the feces and urine indicated an absence of tuberculosis, did the autopsy prove the case one of active tuberculous infection.

One of us (Rosenberger) has during the past few years examined the feces in 1,104 cases of all kinds (including 71 instances of known tuberculous infection) with a percentage of 26.6 of positive finding of the tubercle bacillus. Excluding the 71 instances of recognized tuberculosis, there remain specimens examined from 1,033, of which number 21.5 per cent. were positive. These examinations were mostly of specimens from patients with maladies resembling tuberculosis, such as typhoid states, or even malaria. A number were from apparently healthy individuals. To make sure that the tubercle bacillus alone was being dealt with, old and young cultures (six days' and six weeks' growths) of the butter bacillus, of the bacillus of Rabinovitch, of Grassberger, of the grass bacilli of Korn and of Moeller, the horse-dung bacillus, mist bacillus, the margarin bacillus, the bacillus of nasal secretion, and the smegma bacillus, were mixed with feces. Spreads were then made in the ordinary manner (after the organisms had been left in the feces for from one to twelve days) and it was found that all these organisms would decolorize completely in twenty minutes. Control preparations made of sputum or feces kept in Pappenheim's solution, showed the tubercle bacillus still retaining the red stain of the carbol-fuchsin after 116 days' exposure to the rosolic acid alcohol. Sections of tissue containing the bacillus lepræ, stained with carbol-fuchsin and then placed in Pappenheim's solution, showed the bacillus still retaining the stain up to the fourteenth day. Another organism that apparently was as acid-fast as the tubercle bacillus was that of Johnes' disease in cattle. This resisted Pappenheim's solution for sixty days. The spread was then removed from the fluid by some one's error, and further study was interrupted.

The foregoing studies have led us to the following conclusions:

1. In all cases of active tuberculosis, not only in cases in which they can be demonstrated in the sputum or urine, tubercle bacilli are present in the feces.

2. The urine of all actively tuberculous subjects probably contains tubercle bacilli, even though in small numbers. The average scarcity in a given specimen renders the study of the urine impracticable as a routine procedure. In many specimens they are stumbled on only when the examiner is about to give up the search, and it becomes necessary to class the specimen among the positive by virtue of the last field examined. Certainly it would seem that former publications reporting higher percentages of urines as positively containing tubercle bacilli, have included smegma bacilli among their findings. These can be differentiated, either by careful catheterization or by the use of rosolic acid and alcohol in decolorizing, or, if necessary, by obtaining the urine directly from the bladder at autopsy, as in the animals examined in our Experiments 4 and 5, reported in this study.

Thus Flick and Walsh[5] report a series of 60 patients examined, the urine of 44 of whom showed supposed tubercle bacilli, by tinctorial methods, and yet out of five animals inoculated with the urinary sediment not one developed tuberculosis. In the presence of actual and living tubercle bacilli the tuberculous urinary sediment should prove infectious for susceptible animals, as shown by Bloch,[6] who used, in many instances, urinary sediments in which the bacilli could not be demonstrated by tinctorial methods, and yet therewith successfully inoculated guinea-pigs with tubercle. His method was to crush the tiny inguinal glands between his fingers, and to inject the urinary sediment in the neighborhood of the trauma, in the likelihood that this area would be infected.

3. The question still remains *sub judice* whether scattered tubercle bacilli may not be found exceptionally in the feces and urine of normal subjects. It would seem rational to believe that the feces would contain occasional tubercle bacilli, carried into the mouth with the food or air, and thence into the digestive tract, without infecting the patient. Our investigation of apparently healthy subjects has in no instance led to the discovery of the tubercle bacillus. We have knowledge, however, of at least two cases in which we have found bacilli in the feces, and in which at autopsy (made by others) no macroscopic lesions of tuberculosis could be detected throughout the body. This does not mean, of course, that the patient may not have had an actual infection by tubercle bacilli at the time of examination of the feces, and the discovery of the bacilli. Nor does it even imply that microscopic lesions may not have been abundant, no histologic study of the organs having been made. The recent experiments of Ravenel and Reichel,[7] as well as those of many other laboratory workers, have shown how little lesion the bacilli may cause in an intestinal wall on passage through the latter to cause a bacteriemia, and it may well be that the instances that seemed at first glance to be accidental bacilli were, instead, the only evident expressions of a latent tuberculosis.

We have also studied the spinal fluid, the fluid from thoracic effusions, and ascitic fluid from a number of patients suspected of being tuberculous. In many instances we have demonstrated the tubercle bacilli, in others not. In one man for whom we had despaired of relief from an over-refilling ascites, accompanying a dilated heart, incision was made and to our surprise numbers of tubercle bacilli were found in the fluid. The patient practically recovered after the incision, and the fluid failed to return. In the remarkable case, to which we have already referred, of the patient supposedly dying of uremia, with no known or recognized pulmonary lesion, and no cough, clinical recovery ensued, but the patient continued to evacuate bacilli in feces and urine up to the time he was lost to view.

The following cases are of decided interest in this connection:

Case 9.—*Patient.*—C. S., Philadelphia General Hospital Bacilli could not be demonstrated in the sputum or urine, and yet were easily shown in the feces. On physical examination this patient showed a small area of doubtful consolidation at the extreme right apex.

Case 10.—*Patient.*—A. W., a negro, with signs suggestive of meningitis, showed a few tubercle bacilli in his spinal fluid and very many in the feces. There were no signs of pulmonary or intestinal involvement and there was no diarrhea, and no increase of sputum.

Case 11.—*Patient.*—J. K. presented a slight and probably early involvement of the right pulmonary apex. No tubercle bacilli could be found in the sputum, but they were present in large numbers in the feces.

Case 12.—*Patient.*—S. C., an Italian, with an indefinite febrile condition, no signs of meningitis other than a slight stiffness of the nucha. The spinal fluid yielded tubercle bacilli, also the feces. There was no indication of intestina implication.

Case 13.—*Patient.*—J. M. had apparently a pulmonary congestion, slight fever, both bases flat on percussion, no cough no sputum, no diarrhea. The abdominal muscles were rigid and tubercle bacilli were found in the feces. This man recovered and was discharged from the hospital, still passin tubercle bacilli from the intestinal canal.

We have also in the past year had the opportunity o studying four cases of acute miliary tuberculosis c other portions of the body than the intestines, in which tubercle bacilli were demonstrated in the feces. Autopsy showed an intestinal tract free from ulceration in each case.

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[5] Tr. Path. Soc., Philadelphia, April, 1903.

[6] Berl. klin. Wchnschr., xliv, No. 17.

[7] Jour. Med. Research, March, 1908.

One patient with cervical adenitis, on the way within the last month to the operating table, presented tubercle bacilli in the feces, and no other suggestion of tuberculosis throughout the body.

The foregoing cases emphasize at least three points of interest to the practitioner and to the pathologist:

1. Instances are not infrequent in which tuberculosis of parts other than the pulmonary and digestive tracts may be demonstrated by examination of the feces.

2. Tubercle bacilli may be sometimes shown in spinal fluid, or ascitic or pleural fluid, in cases of early and localized tuberculosis other than that of the pulmonary system, and in these cases the bacilli may be and usually are excreted in the urine and feces.

3. Incipient pulmonary tuberculosis may show considerable numbers of tubercle bacilli in the intestinal excretions, even in the absence of cough and obtainable sputum.

Of the infectiousness of incipient pulmonary tuberculosis there can be no doubt, even in instances in which neither cough nor sputum is apparent, provided such patients excrete tubercle bacilli in urine and stool. A number of cases have come to our attention that still further emphasize the need of supervision and care of the incipient disease. Two such may be mentioned in bare outline:

Case 14.—Miss B. was reported in a former series of cases of incipient tuberculosis. She had then a slight involvement of the right apex. The nature of the onset and the physical signs left little room for doubt as to the nature of the process. There was slight cough, no sputum.

Case 15.—The sister of Patient 14 slept with her during her convalescence, and developed a similar though more extensive involvement. Both of these patients recovered and are perfectly well.

Case 16.—Simultaneously with the recognition of the second case the cook in the house, who cared for Patient 15 during these months as maid, and with whom Patient 15 had constant dealing as housekeeper, developed an active apical lesion. No other source of infection than Patient 14 could be discovered for the latter two patients. The feces of all three contained tubercle bacilli. There were many opportunities of infecting the hands in disposing of the urine and stools of Patient 14.

Case 17.—Miss L. was a young girl presenting an early and very slight involvement of the right apex posteriorly, n conjunction with an appendicitis, which operation and pathologic study proved to be tuberculous. Tubercle bacilli could not be found in the sputum. The sister of the patient, who had not been well, was her bedfellow, and soon developed an active tuberculosis of the left lung and pleura, which is not yet under control. There was no apparent opportunity ommon to both for the infection. Moreover, the cases seemed trikingly successive and similar in course and type. The eces of both contained tubercle bacilli.

If these are true instances of infection of healthy perons by infectious material transmitted from supposedly non-infectious cases of tuberculosis, whether through nappreciable particles of pulmonary or bronchial maerial or through contamination of hands or food by moist or dry fecal or urinary soiling or dust, then it would appear that care must be exercised in a new and more active fashion in throwing safeguards around those who live with a patient who has even incipient tuberculosis. Seen in this light, at no date in the history of a ase of infection is a rigid oversight begun too early from the standpoint of the welfare of others. Such a conclusion, apparently well grounded, requires only the fact already stated of the presence and discovery of tubercle bacilli in the semen, and the consequent likelihood of frequent latency of tuberculosis, to render the possibility of infection of a healthy mother or family by a newly-born tuberculous infant not only a possibility but a matter of concern. Especially will this be true in a case in which the father is known to be tuberculous and the mother appears to be free.

We have had neither the opportunity nor the time as yet to study the milk from nursing tuberculous mothers. The frequency of infection of milk from tuberculous cattle leaves little occasion for hope that a different state of affairs obtains in the human secretion.

The knowledge that pregnancy and the ordeal of child-bearing tends to light up a sluggish or dormant tuberculous condition in the mother would also lead us to believe that the tuberculous mother is above all other times then likely to secrete and excrete tuberculous waste products.

INFECTIOUSNESS OF OLD SECRETA AND EXCRETA

We have been interested to note in passing the duration of virulence of the tubercle bacillus in sputum, urine and feces under natural conditions favorable to and unfavorable to their life. We have met with results that vary to the last degree. On June 1, 1908, six specimens each of urine, sputum and feces, all containing virulent tubercle bacilli, were set aside in vessels covered with large-meshed gauze and exposed for about twelve hours daily to sunlight and air. On July 1 and August 1 the bacilli in the sputum could be demonstrated without difficulty and proved specifically toxic for guinea-pigs. They took the stains readily in the urinary sediments also and in the dried fecal mass rubbed up with distilled water and smeared as usual. The specimens were then saved for further study. A few days later the bacilli could no longer be shown in two of the specimens of sputum. With material from one of these sputa a guinea-pig was inoculated (Experiment 3) hypodermically, and within a few days tubercle bacilli were demonstrated in its feces, not having been present there up to that time.

In contradistinction to this finding one of us (Rosenberger) has preserved virulent tubercle bacilli in tap water, exposed to sunlight and diffuse daylight for a full year, then has produced tuberculosis in a guinea-pig by inoculation and recovered the bacilli from the animal. There seems to be no rule possible for the calculation of the viability of the germ under a given environment. There seems to be some doubt, moreover, whether in process of time tubercle bacilli must necessarily die out in any or all excreta, the time being indeterminate and impossible of regulation except by immediately destructive methods. Certainly we must conclude that the organism may persist in a non-stainable form in any or all known media and retain its virulence for use on a favorable occasion.

It may still be that from the tubercle bacillus we shall learn the secret of perennial youth. In a recent paper Dixon[8] has discussed the action of direct light and eosin on the tubercle bacillus. He seems a little more optimistic in regard to the bactericidal influence of drying and of the sun's rays than appears to us warranted in the light of our experiments. There is no doubt that certain infected sputa are rendered innocuous by Nature's and by simple artificial means. It is our knowledge, and we believe that it will be of service to the practitioner if he is brought to understand that under favorable conditions, or even when exposed to air and strong sunlight, the bacillus may attain a virulent old age. The most dangerous feature of its persistence, as shown by our Experiment 3, is its occasional survival in a form that requires tedious culture and refuses demonstration by tinctorial methods.

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[8] Dixon, Samuel G.: May Not Drinking Water, When Polluted with Sewage, Be One Medium of Dissemination of the Tubercle Bacillus? The Journal A. M. A., Aug. 1, 1908, li, 380.

There opens up an endless series of queries as to the actual presence or absence of bacilli in excreta on which a negative laboratory report is made and in which neither cultural nor inoculation tests are made to determine the doubt. This masked battery will decimate more than one generation and defy defeat and silencing unless some more certain method be discovered of promptly demonstrating the silent forms of the tubercle bacillus. The almost unlimited life of the bacillus in butter, and its frequent occurrence therein, has been dwelt on with force by Schroeder and Cotton.[9] They have shown that after four and one-half months the bacilli were as virulent as at the start, the fatty nature of the butter probably protecting them from destructive influences. This may also lend a hint as to the length of life of bacilli even in dried secreta and excreta, in certain of which enough of fatty matter is perhaps maintained to allow of their existence, while in a few or even many the fat content is low and the bacilli easily destroyed.

ORIGIN OF THE BACILLI IN URINE AND FECES

There need be no discussion of instances in which local tuberculous lesions are present in either the urinary (kidney to urethral meatus) or digestive tracts. With regard to the appearance of bacilli in the urine of patients with tuberculosis of the glands of the neck, or of the lungs, or of the peritoneum even, there need be little hesitation in turning to the acknowledged bacteriemia for the explanation. With regard to the presence of bacilli in the feces in similar cases the answer must not be so precipitate.

In the first place they may be swallowed with food or water, or with sputa in instances of tuberculosis of the bronchi or lungs. On the other hand, our animal experiments do not lead us to believe that many bacilli, introduced by the mouth become demonstrable in the feces until several days after their introduction into the stomach with the food. Experiments in which the bacilli have been introduced by us in the form of native sputum have led us to doubt whether they are carried into the intestines in a form that will accept the stain when swallowed by the patient as his own sputum. Certainly such a possibility must be considered. Of all the explanations, however, it now appears to us the least satisfactory.

Longcope[10] and others have shown the frequency of tuberculosis of the thoracic duct and the involvement of its lymph with tubercle bacilli in cases of general tuberculosis. Here we find at least one explanation both of the presence of the bacilli in the intestine and of the scattering abroad from the digestive tract. The final means of transmission, however, whether one medium be the lymph and another the tissues themselves, must be the blood, if all the requirements and demands of the known facts are to be met. Once grant, as we must, that bacilli administered in soup to animals reach the heart blood in four to five hours, as Besanti and Panisset have shown in a number of experiments, we need no further explanation of the transportation of tubercle bacilli from local lesions far distant to the manufactory of the fecal mass.

EARLY APPEARANCE OF TUBERCLE BACILLI FOLLOWING INOCULATION OF GUINEA-PIGS

It has also been our aim through the inoculation of guinea-pigs by various methods, and by careful scrutiny of their physical signs, their secretions and excretions, both prior to and subsequent to inoculations, to determine the earliest probable period of infectiousness in a given case of tuberculosis.

In order to arrive at as practical results as possible we not only fed to one guinea-pig tuberculous sputum spread on cabbage leaves, but into others injected tuberculous sputum in distilled water either hypodermatically or intraperitoneally.

Experiment 1.—On Aug. 8, 1908, a large male guinea-pig, weighing 420 gms., was fed on 8 c.c. of tuberculous sputum from a patient in the tuberculosis infirmary. The urine and feces were examined on the day prior to the inoculation, and on each day thereafter. On the day prior to the feeding a few micrococci and fungi were found in the stools and urine. On the third day after the feeding for the first time a few scattered tubercle were found in the feces, together with many tiny diplococci. The urine also contained many diplococci on the third day and thereafter, but no tubercle bacilli were discovered in the urine until the seventh day. They were constantly present in the feces from the time of the first appearance, and were occasionally found in the urine up to the time the search was discontinued. An autopsy was performed on this pig on Sept. 16, 1908. The lungs showed several small foci of caseous deposit. No other macroscopic change was evident.

Experiment 2.—On Aug. 18, 1908, a large brown and white male guinea-pig weighing 530 gm. was inoculated hypodermatically about an inch from the tail with tuberculous sputum from a woman in the infirmary. The feces and urine were examined daily before and after the inoculation. Tubercle bacilli appeared first on the fifth day in the feces, and on the eighth day in the urinary sediment. The search was then discontinued. Autopsy showed widespread tuberculous involvement of the lungs. The intestines showed no ulceration.

Experiment 3.—On Aug. 18, 1908, a large male guinea-pig, weighing 490 gm., was inoculated with a solution in 1 c.c. of distilled water of a dried tuberculous sputum which had been exposed to air and sunlight for over two months, and in which the tubercle bacilli were no longer tinctorially demonstrable. The feces and urine showed no bacilli on the day of inoculation or thereafter until the sixth day, when they were detected in small numbers in the feces. They were at no time found in the urine. Autopsy showed tuberculous involvement of the lungs. The intestines showed no ulceration.

Experiment 4.—On Sept. 1, 1908, a large male guinea-pig was inoculated intraperitoneally with 2 c.c. of tuberculous sputum and distilled water āā. It died of septicemia on the third day. The urine and feces were examined on the day of inoculation and no tubercle bacilli were found prior to operation. The peritoneal cavity at autopsy showed a large quantity of pus and lymph. There were also scattered miliary pus foci in the lungs. The peritoneum was thickened and everywhere covered with purulent exudate. A smear from the peritoneal pus showed a very few cocci and myriads of eosinophiles. The bladder was full of urine containing pus (2 c.c.). This was fixed and dried with egg albumin on a slide and stained. A single colony of eight tubercle bacilli was found in the preparation. They were also present in the feces obtained directly from the cecum.

Experiment 5.—On Sept. 1, 1908, a large male guinea-pig was inoculated with the same sputum and similarly to the last one. It died on the fourth day, from septicemia. The urine examined before inoculation showed no tubercle bacilli. The feces also gave no bacilli. The autopsy gave the same findings as in the preceding animal, except that the suppurative process was not so far advanced. The lungs were congested, but showed no purulent metastases. A smear from the peritoneal pus gave myriads of small diplococci and no tubercle bacilli. The bladder contained urine, which showed in the dried and stained specimen a few scattered tubercle bacilli. The feces also contained scattered single tubercle bacilli.

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[9] Circ. 127, Bureau of Animal Industry, U. S. Dept. Agric.

[10] Bull. 3, Ayer Clin. Lab., 1906.

CONCLUSIONS

1. Intrauterine tuberculous infection of the ovum through the semen is probably a frequent event.

2. Tubercle bacilli are present in the feces and in the urine of many, and probably all cases of active local and systemic tuberculosis of the human being.

3. Tubercle bacilli appear in the feces and urine of tuberculous subjects within the first few days following an acute infection, and in certain instances long prior to the appearance of physical signs.

4. The only likely means of rendering tuberculous excreta (sputum, feces, urine) innocuous is the direct and effectual application of heat. They can not be expected certainly to overgrow or die out or surely to succumb to sunlight or drying.

5. Excreta from which formerly demonstrable tubercle have apparently disappeared may still prove destructive to animal life, and the bacilli again be recovered from the test animals in a demonstrable form, both by culture and by tinctorial methods of examination of the excreta.

6. The routine examination of the stools for tubercle bacilli should be more invariable even than that of the sputum. It more often yields a positive result. In occasional instances the microscopic field is as thickly spread with the bacilli as any sputum. Often the search must be painstaking and extended until a few scattered bacilli have been detected.

7. The examination of the urinary sediment for tubercle bacilli is not adapted to the use of the general practitioner. It should be resorted to whenever necessary to a thorough confirmation of suspected and doubtful or local (genitourinary) infection. The inoculation of guinea-pigs with the urinary sediment is a surer though slower method of demonstrating the bacillus, provided the test animal escape early death from mixed infection.

8. Probably all infections will open up to similar methods of study their causal organism when once we have determined upon specific stains and differential methods. There appears to us to be little doubt that every bacterial infection is a bacteriemia, and it seems not improbable that in every bacteriemia the causal organism is excreted through the urine and the feces.

SIGNIFICANCE OF THE FOREGOING

The import of this and of similar studies by other nvestigators is at once vital in its bearing on society at large. The physician is confronted with the certainty that he has no more than begun the crusade against tuberculosis. He has perhaps even overestimated the possibility of its complete ultimate control. Without the slightest desire of uttering a pessimistic word, and with the knowledge that in the clearest understanding of the truth lies the best hope of ultimate accomplishment—on the basis of this study we feel dubious as to the extinction of the disease by human means. No more likely is it that the discharges from the typhoid or cholera or dysenteric patient will always or even usually (except in hospitals) be effectually destroyed, and thus prevented from polluting the air we breath and the drinking supply, than that tuberculosis shall more than be inhibited in its spread. Granting as we now must that the infection is scattered broadcast for days and weeks, and perhaps months, before signs and symptoms demand a study of the case, it will be seen at a glance into what a labyrinth wanders the quest for its extermination and control.

Urine, sputum and feces are virulent, whether wet or dry, and for an indefinite time, the very indefiniteness of which renders them positively antagonistic to the health of the community until the bacillus or some equally positive destructive force places the sufferer under the sod.

The studies of Lord[11] have shown us that one flyspeck may contain as many as 5,000 tubercle bacilli; further, that thirty infected flies deposit in three days from 6,000,000 to 10,000,000 tubercle bacilli. We are, therefore, starting some centuries late in the destruction of flies.

Friedmann has injected tubercle bacilli into the vagina of a guinea-pig just after coitus, and later demonstrated the bacillus in the embryo. We, therefore, not only have on our hands the destruction of insects, but the prevention of marriage among the tuberculous. And yet, in spite of this knowledge that urine and feces and sputum and semen all carry, under favorable conditions, the certainty of a spread of the disease—in future rather because than in spite of this—there will be disinfected many an otherwise ignored or neglected source of contagion.

In so far as we arrive a step nearer a comprehensive realization of the armament, the subtlety, and the ubiquity of the tubercle bacillus; in just the proportion that our effort at control is relentless and systematic; in just that measure will we render a dayspring of true health conceivable, and lighten with hope this toilsome burden of man.

ANEMIAS OF INFANCY *

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The blood of infants under 2 years differs normally in certain of its characteristics from that of adults. The hemoglobin, relatively high for a time after birth, rapidly falls to a minimum of 55 or 60 per cent. in the first three weeks, then gradually rises to 70 per cent. at about six months, where it remains during the rest of infancy. There are, moreover, normally great variations in different individuals and in the same individual at different times. The number of red corpuscles is somewhat larger than in adults, averaging between 5,500,000 and 6,000,000 per c.mm. During the first few weeks of life there is more or less variation in the size and shape of the red cells, and nucleated forms are not very unusual during the first few days.

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[11] Pub. Mass. Gen. Hosp., 1906, i.

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908. Owing to lack of space, the article is here abbreviated by omission of the portion relating to leukemia. The complete article appeared in the Transactions of the Section and in the author's reprints.

The number of white corpuscles per c.mm. is somewhat larger than in adults, averaging from 10,000 to 14,000. The relative proportions of the various forms of leucocytes are also considerably different. The average figures are roughly as follows: Small mononuclear, 40 to 50 per cent.; large mononuclear, 10 per cent.; polynuclear neutrophiles, 35 to 45 per cent.; eosinophiles, 1 to 5 per cent. That is, the proportion of mononuclear forms is considerably greater, and that of the polynuclear neutrophiles considerably smaller than in adult life. The mononuclear cells, moreover, are not merely lymphocytes, but vary much, not only in the size of the cell as a whole, but also in the size of the nucleus and in the amount of protoplasm. Myelocytes are occasionally found under normal conditions in the first few weeks of life, but never later (Zelenski and Cybulski[1]). The neutrophilic blood picture after the first few weeks is much like that of the adult, except that there are rather more corpuscles at the extreme right. Esser thinks that the blood picture shifts to the left when infants are artificially fed, but Zelenski does not agree with him.

Blood changes develop more easily and more frequently as the result of various morbid conditions and disease in infants than in adults. All the changes seen in the blood of adults as the result of disease are aggravated in infancy. The tendency is always to revert to a younger or to the fetal type of blood. All forms of blood disorders in infancy are apt to be associated with splenic enlargement. As the result of this tendency to aggravation of changes and to reversion to a younger type of blood, the red corpuscles show much greater variety in size and shape and many more nucleated forms are seen than under similar pathologic conditions in the adult. If, as seems probable, the red color of the marrow in infancy indicates that the whole marrow of the long bones is already occupied in the manufacture of red corpuscles, there can be no reserve power of formation at this age, as there is in the adult. This may explain why children bear hemorrhage so badly and why it is that they become anemic on such slight provocation.

Leucocytosis also develops more rapidly and to a greater degree, both in normal and abnormal conditions, than in later life. The physiologic leucocytosis of digestion, for example, is decidedly greater in infancy than later. The type of leucocytosis, moreover, is not as constant as in adults, in whom the increase of white cells is largely in the polynuclear neutrophiles. In infancy the increase is sometimes in the lymphocytes, sometimes in the large mononuclear forms, sometimes in the polynuclear neutrophiles, and sometimes, even, in the eosinophiles. Leucocytosis is more apt to occur in blood conditions associated with splenic enlargement than in those without it. Myelocytes occur in less severe conditions and in greater numbers than in adults (Zelenski and Cybulski[1]). An increase in the number of eosinophilic cells, even if considerable, is not uncommon and seems to be of little significance.

The present theory as to the development of the leucocytes explains quite satisfactorily the peculiar type of leucocytosis in infancy. It is now believed that both the granular and the non-granular cells are derived from one common parent cell from which the red corpuscles are also derived. This parent cell is almost identical in character with the large lymphocyte, and is the first to appear in the fetal blood.

During the process of development a gradual differentiation of function takes place in the blood-forming organs, as the result of which the lymphoid cells of the marrow produce only granular cells and those of the adenoid tissue only non-granular cells, or lymphocytes. This specialization, however, is never so complete but that when there is a demand for a greater number of cells of any type the lymphoid cells of any of the blood-forming organs are able to produce this type. Although it is probable that in the infant, as in the adult, the granular cells are derived exclusively from the marrow and the non-granular cells almost, if not absolutely, exclusively from adenoid tissue, yet the nearer the organism stands to the fetus the more easily can a return to fetal conditions take place, and the lymphoid cells of the marrow assume vicariously the function of producing lymphocytes and those of the adenoid tissue that of producing granular cells. There is, moreover, considerable pathologic evidence to show that such a vicarious function does actually take place in some of the blood disorders of infancy.

The relative and absolute excess of the non-granular cells which is characteristic of the blood in infancy indicates an unusual degree of activity of the adenoid tissue at this time of life. This activity of the adenoid tissue is of great importance pathologically because it is a well-known fact that the more active a tissue is the more likely is it to become diseased. Moreover, it is a fact that in the blood disorders of infancy affections of the adenoid tissue dominate the picture, while those of the marrow are extremely rare.

The percentage of hemoglobin is almost always relatively low in the blood disorders of infancy. This is presumably due to the facts that the infant normally receives an insufficient supply of iron in its food, and that the reserve of iron present in the liver at birth is not large enough to keep the percentage of hemoglobin at the adult standard. This reserve of iron may, moreover, be insufficient and in any event is comparatively easily exhausted.

In all the blood disorders of infancy, therefore, the most characteristic features are the relatively low percentage of hemoglobin, the relatively large number of non-granular cells and the marked morphologic changes in the red corpuscles. The blood picture may change very rapidly in children, corresponding to several types in a few weeks, and thus rendering the diagnosis extremely difficult.

It is customary to divide the diseases of the blood in adults into primary and secondary anemia and leukemia, including chlorosis and pernicious anemia among the primary anemias. The classification of the diseases of the blood in infancy is, however, not so simple, several of the types met in later life being entirely or apparently entirely lacking and other types not seen in later life being very common.

CONGENITAL ANEMIA

It is probable that Hutchison is right in recognizing a congenital anemia. In some of these cases it seems as if the reserve of iron at birth is insufficient. In others it is possible, but not proved, that there is a congenital defect in the bone marrow. In still other instances, it has followed a marked icterus neonatorum, this, perhaps, being a sign of excessive blood destruction at birth.

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[1] Jahrb. f. Kinderh., 1904, lx, 884.

CHLOROSIS

Much has been written recently, especially by the French, with regard to chlorosis in infancy. Some authors speak of it as chlorosis and apparently consider it the same disease as the chlorosis of young girls. Others doubt that it is chlorosis and prefer the term oligosideremia (Rist and Guillemot[2]), while still others speak of it as the chlorotic type of anemia in infancy. There can be no doubt that cases showing the type of blood seen in the chlorosis of young women are found not infrequently in infancy. There can be no doubt, too, that the clinical picture in these cases is somewhat different from that seen in the average secondary anemia at this age. The babies have a yellowish pallor; they are fat instead of thin; they are apathetic instead of irritable; the symptoms of disturbed digestion are comparatively slight; cardiovascular murmurs are common. There is also no question but that they improve very rapidly when iron is given. The following case is an example of this type of anemia:

Case 1.—*History.*—No. 2,592 was seen when 23 months old. Her mother had died of cancer which she had during the pregnancy. The baby had always been fed on modified milk. She had had a number of digestive upsets when about a year old. She often seemed nauseated, but did not vomit. The bowels had always been regular. She had never had any other illnesses.

Examination.—She was well developed and nourished and moderately pale. There was a venous hum in the neck and a faint systolic murmur at the base of the heart. There was a slight rosary but no other signs of rickets. The liver was palpable 1 cm. below the costal border. The spleen was not palpable. There was no enlargement of the peripheral lymph nodes. The lungs were normal. The urine was normal.

Blood: The blood showed hemoglobin, 50 per cent.; red corpuscles, 5,122,000; white corpuscles, 11,300; mononuclear, 31 per cent.; polynuclear neutrophiles, 65 per cent.; eosinophiles, per cent.; mast cells, 3 per cent. The red corpuscles showed ome variation in size and shape and moderate achromia. There were no nucleated forms.

She took her food well, did not vomit and had normal movements. She was listless and quiet and her temperature was ubnormal. She improved very rapidly when iron was given.

There seems to be no justification for considering hese cases to be chlorosis. They occur indifferently in oys and girls and have no pathologic connection with he nervous or genital systems. They are in most cases igestive in origin, but are apparently more likely to de-elop in infants whose reserve supply of iron was, as the esult of premature or twin birth, deficient at birth or as been exhausted from some cause, such as hemor-hage, or in those who have been kept too long on a diet eficient in iron, such as milk.

The resemblance of the blood picture to that of hlorosis is easily explained by the facts that the per-ntage of hemoglobin is normally relatively low in fancy and that the number of red corpuscles is larger this age than later. A diminution in both, there-re, gives a combination like that found in chlorosis later life. This leads to confusion unless these facts e taken into consideration. Moreover, owing to the mparatively small reserve of iron, almost all anemias n infancy have a relatively low percentage of hemo-obin.

It is also not uncommon to see the chlorotic type of ood develop in the course of anemias in infancy and disappear later; in fact, this type of blood is almost always present to a greater or less degree at some time or other in the course of every anemia in infancy. This is especially true in the early convalescent stage of secondary anemia. The ready response to iron in these cases is no proof of their essential nature, as all but the severest forms of anemia in infancy are very favorably influenced by iron and many of them do not respond materially to treatment until iron is given.

It is safe to conclude, then, that while anemia of the chlorotic type is common in infancy, the disease chlorosis probably does not occur at this age.

PERNICIOUS ANEMIA

There is great difference of opinion as to whether or not pernicious anemia occurs in infancy; all agree, however, that if it does occur it is extremely unusual. Hutchison[3] could find but one case, that of Rotch and Ladd, which he considered genuine. The subsequent course of this case, however, shows that it was certainly not one of pernicious anemia. Simon[4] accepts but four cases as genuine.

The diagnosis of pernicious anemia at this age is extremely difficult, if not impossible, because at this period any secondary anemia may, for the reasons already detailed, take on the characteristics which are considered pathognomonic of this disease in later life. The presence of marked variation in the size, shape and staining characteristics of the red corpuscles, of nucleated forms, whether large or small, of myelocytes, even if in considerable numbers, and of a relative lymphocytosis are, therefore, of little assistance in diagnosis at this age. Not even an increased globular value is pathognomonic. A fatal termination is also of little value in diagnosis because many of the severe secondary anemias are also fatal. The fact that the blood plates are diminished in pernicious anemia and increased in secondary anemia in adults, is of some importance in diagnosis at this age. So far as I know, there are no data as to this point in relation to the anemias of infancy. It is safe to assume, however, that if pernicious anemia does occur in infancy the characteristics of the blood are the same as in later life, and that the metaplastic type is by far the more common. Petrone has reported the only case of the aplastic type of which I am aware. This was in a baby of ten months in whose blood there were no nucleated red corpuscles or megalocytes, although the hemoglobin was only 12 per cent. and the red corpuscles numbered 1,400,000.

The conclusion seems justified, therefore, that pernicious anemia rarely, if ever, occurs in infancy, and that if it does the blood shows the same peculiarities as in later life and that it is almost universally of the metaplastic type.

SECONDARY ANEMIA

The characteristics of the blood and blood-forming organs in infancy, which have already been mentioned, make the infant especially liable to become anemic from the action of all sorts of debilitating and injurious conditions. These conditions may act either on the blood-forming organs or on the blood itself, rendering the former less capable of forming blood or increasing the destruction of the latter. However produced, secondary anemia in infancy is apt to assume a severity rarely seen in adult life and in the most pronounced forms may present a picture which in the adult would justify the diagnosis of pernicious anemia.

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[2] Bull. de la Société Méd. des Hopitaux, 1906, Nov. 9; Abst. Arch. de Méd. des Enfants, 1907, x, 312.

[3] Lancet, London, 1904, i, 1,253.

[4] Rev. mensuelle des mal. de l'enfance, 1907, xxv, 145.

The hemoglobin always suffers first, and in the mildest cases the blood shows merely the characteristics of a mild type of chlorosis. This is not surprising when the normally low percentage of hemoglobin is remembered. When the injurious influences are more powerful there is an increased destruction of red corpuscles and an impairment of the reproductive power of the bone marrow with a consequent diminution in the number of red corpuscles as well as in the hemoglobin. Abnormalities in the size, shape and staining qualities of the red corpuscles develop and nucleated red corpuscles appear. It is the pronounced tendency toward the development of these abnormalities which especially distinguishes the secondary anemias of infancy from those of adults. The explanation of this tendency is presumably to be found in the fact that the bone marrow in infancy is, under normal conditions, working close up to its limit, and thus, being unable to increase its productive power by hyperplasia, meets the demand for new cells by a more rapid division of its constituents instead of by an extension of the area of production. Such rapid production necessarily leads to imperfect formation of the corpuscles which are thus sent into the blood in an only partially completed condition.

In all but the mildest forms, leucocytosis is likely to develop in addition. The type of the leucocytosis varies according to the cause of the anemia, the increase depending on the chemotactic influence of the special causative condition and bearing no direct relation to the changes in the red corpuscles. It is most often of the polynuclear type, but may be of the lymphocytic, especially when the anemia is due to diseases of the gastroenteric tract. It may, however, be eosinophilic when the anemia is due to helminthiasis or of the large mononuclear type when it is due to malaria.

(I have quoted Hutchison freely in the past paragraph, as well as in other parts of this paper, and wish to acknowledge my indebtedness.)

ILLUSTRATIVE CASES

Case 2.—*History.*—No. 2,520, aged 3 months. Proprietary foods. Appetite good. No vomiting. Slight constipation.

Physical Examination.—Fairly developed and nourished. Fair color. Anterior fontanelle depressed. Slight rosary. Faint systolic murmur at base. Lungs normal. Edge of liver 1 cm. below costal border. Spleen not palpable. Slight puffiness of hands and eyelids. Slight general enlargement of peripheral lymph nodes.

Urine: Pale, acid, 1006, no albumin.

Blood: Hemoglobin, 65 per cent.; red corpuscles, 4,064,000; white corpuscles, 16,800; small mononuclear, 55 per cent.; large mononuclear, 25 per cent.; polynuclear neutrophiles, 20 per cent. No morphologic changes in red corpuscles.

Case 3.—*History.*—No. 1,982, aged 18 months. Nothing known as to first nine months. Last nine months fed on milk and water. Digestion had been good.

Physical Examination.—Small and poorly nourished. Moderate pallor. Top and back of head flattened. Frontal eminences enlarged. Three teeth. Slight rosary. Chest flattened. Heart and lungs normal. Edge of liver 3 cm. below costal border. Spleen not palpable. Abdomen and extremities normal. No enlargement of peripheral lymph nodes.

Urine: High colored, acid, 1018, slightest possible trace of albumin.

Blood: Hemoglobin, 35 per cent.; red corpuscles, 4,336,000; white corpuscles, 21,000; small mononuclear, 19.5 per cent.; large mononuclear, 14.75 per cent.; polynuclear neutrophiles, 63.25 per cent.; eosinophiles, 1.25 per cent.; myelocytes, 0.5 per cent.; mast cells, 0.75 per cent. Slight irregularity in the size, shape and staining qualities of the red corpuscles and a very few normoblasts.

Case 4.—*History.*—Sally L., age 12 months, infectious diarrhea at 9 months. After recovery, began to vomit occasionally and to be somewhat constipated. Vomiting increased, but was quickly relieved by careful feeding.

Physical Examination.—Fairly developed and nourished. Marked pallor. Six teeth. Slight rosary. Heart and lungs normal. Edge of liver 1 cm. below costal border. Spleen not palpable. Abdomen negative. Slight enlargement of epiphyses at wrists and ankles. Slight general enlargement of peripheral lymph nodes.

Urine: Pale, no albumin or sugar.

Blood: Hemoglobin, 55 per cent.; red corpuscles, 3,700,000; white corpuscles, 5,500. Slight variation in the size and shape of the red corpuscles but no nucleated forms.

Case 5.—*History.*—No. 1,505, age 10 months. Premature. Fed on undiluted cows' milk. Progressive failure; vomiting; constipation.

Physical Examination.—Emaciated. Marked pallor of skin and mucous membranes. Slight rosary. Heart and lungs normal. Edge of liver 2 cm. below costal border. Spleen not palpable. Slight enlargement of epiphyses at wrists and ankles. Slight general enlargement of peripheral lymph nodes.

Urine: Normal color, acid, no albumin.

Blood: Hemoglobin, 25 per cent.; red corpuscles, 2,600,000; white corpuscles, 15,000; small mononuclear, 61 per cent.; large mononuclear, 3 per cent.; polynuclear neutrophiles, 35 per cent.; eosinophiles, 1 per cent. Marked variation in the size of the red corpuscles, but none in their shape or staining reaction. No nucleated forms.

Blood after a month of treatment with modified milk, beef juice and iron: Hemoglobin, 35 per cent.; red corpuscles, 3,600,000; white corpuscles, 14,000.

Case 6.—*History.*—No. 2,395, age 14 months. Imperforate anus with successful operation. Breast for three months, then cow's milk, then milk and barley water. Otitis media at 10 months. Digestion disturbed the last six months. Feet swollen for a week, hands and scrotum for several days.

Physical Examination.—Small and poorly nourished. Marked pallor. Marked edema about eyelids and a little of cheeks. Four teeth. Slight rosary. Venous hum in neck. Heart and lungs normal. Abdomen distended. Liver 2 cm. below costal border. Spleen not palpable. Slight edema of scrotum. Some edema of feet and moderate edema of legs below the knees. Slight enlargement of cervical lymph nodes. No evidences of scurvy.

Urine: Pale, acid, 1020, no albumin.

Blood: Streaky. Hemoglobin, 25 per cent.; red corpuscles, 2,300,000; white corpuscles, 10,400; small mononuclear, 8 per cent.; large mononuclear, 18 per cent.; polynuclear neutrophiles, 73 per cent.; eosinophiles, 1 per cent. Marked variatio in the size, shape and hemoglobin content of the red corpuscles but no polychromatophilia or stippling. One megaloblast see in counting 120 white corpuscles.

ANEMIA WITH SPLENIC TUMOR

In many instances anemia in infancy is associate with enlargement of the spleen. This enlargement ma be of all grades, from one so slight that the spleen i barely palpable to one in which it reaches the anterio superior spine of the ilium and fills up the whole flank Enlargement of the liver is also not uncommon. Leuco cytosis may or may not be present, and if present ma as in the secondary anemia just mentioned, be o any type. All grades of morphologic changes may b found in the red corpuscles and nucleated red cells c various types may or may not be present. Much di ference of opinion has arisen as to the classification c these cases and as to the relation between the splen megaly and the anemia, some believing that the primar seat of the trouble is in the spleen, others that th splenomegaly is secondary to the anemia, and still others that neither the splenomegaly nor the anemia is dependent on the other, but that both are the manifestations of some other diseased condition. Still others believe that the marked cases are leukemia modified by the physiologic conditions peculiar to infancy, and others place them in the indefinite class of adult splenic anemias.

Before discussing these different theories it may be well to cite a few cases to illustrate some of the various grades of severity of this condition.

Case 7.—*History.*—Fred A., age 2 years. Always perfectly well, except for occasional very slight digestive upsets, and pneumonia four months previously. A month before had had a slight digestive upset from which he apparently quickly recovered. Temperature, however, continued to be a little elevated from time to time. Appetite good. Tongue a little coated. Digestion good except for slight constipation. Slight loss of color and circles under eyes.

Physical Examination.—A little pale. Small circles under eyes. Tongue slightly coated. Loud venous hum in neck. Heart normal except for slight systolic murmur at the base. Lungs normal. Abdomen negative. Edge of liver 1 cm. below costal border. Spleen palpable 1 cm. below costal border. Extremities normal. No enlargement of peripheral lymph nodes.

Urine: Pale, acid, 1024, no albumin or sugar.

Blood: Hemoglobin, 50 per cent.; red corpuscles, 5,088,000; white corpuscles, 10,900; mononuclear, 59.75 per cent.; polynuclear neutrophiles, 36.5 per cent.; eosinophiles, 3.25 per cent.; myelocytes, 0.5 per cent. Slight macrocytosis and poikilocytosis. Moderate achromia. No nucleated corpuscles. No malarial organisms.

Case 8.—*History.*—No. 760, age 11½ months. Nothing known as to the history except that she had had whooping-cough three months before, that her appetite was poor, that she had vomited occasionally and had had a sore mouth.

Physical Examination.—Markedly emaciated and very pale. Systolic murmur over whole precordia. Occasional râles in oth chests. Edge of liver 1 cm. below costal border. Spleen alpable 3½ cm. below costal border. Slight general enlargenent of peripheral lymph nodes. Body and extremities covered vith a fine purpuric eruption. Eyelids puffy. Few hemorhagic spots in mouth.

Blood: Markedly pale and yellow. Hemoglobin, 19 per cent.; ed corpuscles, 950,000; white corpuscles, 27,000; small ononuclear, 52 per cent.; large mononuclear, 13 per cent.; olynuclear neutrophiles, 32 per cent.; eosinophiles, 0.5 per ent.; myelocytes, 2.5 per cent. Marked variation in size and oderate variation in shape of red corpuscles; 22 megaloblasts, microblasts, 25 normoblasts and 12 atypical nucleated red ells seen in counting 500 white cells.

Case 9.—*History.*—No. 1,427, age 18 months. No history.

Physical Examination.—Flabby and rather pale. Fontanelle arly closed. Parietal eminences enlarged. Twelve teeth. light rosary and flaring of the lower ribs. Heart and lungs rmal. Upper border of liver flatness at fifth rib, lower rder palpable 6 cm. below costal border. Spleen palpable 8 n. below costal border; surface smooth, consistency firm, edge unded, notch distinct. Epiphyses at wrists and ankles enrged. Slight bow-legs. Slight general enlargement of ripheral lymph nodes.

Urine: Normal color, acid, 1012, no albumin.

Blood: Hemoglobin, 75 per cent.; red corpuscles, 5,650,000; ite corpuscles, 11,800; small mononuclear, 32 per cent.; large nonuclear, 8 per cent.; polynuclear neutrophiles, 51 per t.; eosinophiles, 9 per cent. A very little variation in the e of the red corpuscles, but none in their shape or staining ction. No nucleated cells seen.

ase 10.—*History.*—No. 1,538, age 17 months. Breast-fed five months; then strained rolled oats. Had vomited ocionally and lost some weight. History very indefinite.

hysical Examination.—Well developed and fairly nourished. or good. Fontanelle closed. Slight rosary. Heart and gs normal. Lower border of liver almost touched the anior superior spine, reached to within 2 cm. of the navel and passed under the left costal border in the left nipple line. Spleen palpable running out from beneath the costal border in the anterior axillary line, directly downward to the level of the anterior superior spine and backward into the flank; surface smooth, density increased, edge sharp, notch not palpable. Abdomen large and lax. Epiphyses considerably enlarged at wrists and ankles. Legs slightly bowed. Slight general enlargement of peripheral lymph nodes.

Urine: Pale, 1008, no albumin.

Blood: Hemoglobin, 65 per cent.; red corpuscles, 3,720,000; white corpuscles, 10,700; small mononuclear, 30 per cent.; large mononuclear, 4 per cent.; polynuclear neutrophiles, 65 per cent.; eosinophiles, 1 per cent. Little variation in the size and none in the shape of the red corpuscles. No nucleated forms seen.

Case 11.—*History.*—Christine G., age 12 months. Breast-fed for two months; after that extremely badly fed. Much vomiting and undigested movements. Steady loss of weight. Edema began at 10 months. Never any fever.

Physical Examination.—Marked emaciation. Very marked pallor. Fontanelle depressed. Six teeth. Gums and mouth normal. Venous hum in neck. Systolic murmur at base of heart. Lungs normal. Moderate rosary. Abdomen negative. Lower border of liver 2 cm. above navel. Spleen felt running out from under costal border downward to level of navel and backward into flank; surface smooth, edge sharp, notch distinct. Extremities normal. Slight general enlargement of lymph nodes. Slight edema of hands and eyelids.

Blood: Hemoglobin, 20 per cent.; red corpuscles, 952,000; white corpuscles, 10,320; mononuclear, 60 per cent.; polynuclear neutrophiles, 37 per cent.; eosinophiles, 1 per cent.; basophiles, 2 per cent. Very marked variation in size and shape of red corpuscles, many large forms, also very marked polychromatophilia. Four normoblasts and 11 megaloblasts seen in counting 200 white cells, as well as 3 red corpuscles with stippling.

Under careful feeding and citrate of iron subcutaneously the general condition improved somewhat, although petechial spots appeared from time to time and edema of the face and extremities increased.

Blood at 13 months: Hemoglobin, 35 per cent.; red corpuscles, 1,164,000; white corpuscles, 11,800; mononuclear, 50 per cent.; polynuclear neutrophiles, 44 per cent.; eosinophiles, 2 per cent.; basophiles, 3 per cent.; myelocytes, 1 per cent. Marked variation in size and shape of red corpuscles; marked polychromatophilia, 7 normoblasts and 13 megaloblasts and 2 red corpuscles with stippling seen in counting 300 cells.

A week later she had an acute intestinal upset from which she rallied, to die, after progressive failure, at 14 months.

Autopsy (By Dr. Bassoe, Chicago).—General anemia; emaciation; catarrhal gastroenterocolitis; edema of face and lungs; slight hydroperitoneum; bilateral hydrothorax; slight hyperplasia of spleen; few retroperitoneal hemolymph glands; slight bronchopneumonia. Bacterial examination showed pneumococci in cultures from the heart's blood.

Microscopic examination of spleen, by Dr. Wolbach, Boston): The spleen showed a slight increase in the reticulum and a slight amount of pigment within the cells about the trabeculæ. The pulp also contained an excess of polynuclear leucocytes. The condition is presumably one of chronic passive congestion.

Case 12.—*History.*—No. 2869. Age 12 months. No history of importance.

Physical Examination.—Small and poorly nourished. Moderate pallor. Serous discharge from right ear. Frontal eminences enlarged. Head flattened on top. Fontanelle depressed. Two teeth. Venous hum in neck. Marked rosary. Heart and lungs normal. Edge of liver 2 cm. below costal border. Spleen palpable running out from costal border in the left anterior axillary line downward and forward to navel, downward and backward to anterior superior spine, then backward along crest of ileum and under ribs in scapular line. Surface smooth, edge a little rounded, notch indistinct. Marked enlargement of epiphyses at wrists and a little at ankles. Inguinal and cervical lymph nodes the size of peas.

Urine: Clear, no albumin.

Blood: April 4: Hemoglobin, 40 per cent.; red corpuscles, 4,054,000; white corpuscles, 13,000; mononuclear, 91.7 per cent.; polynuclear neutrophiles, 4.2 per cent.; eosinophiles, .5 per cent.; myelocytes, 3.1 per cent.; mast cells, .5 per cent. One normoblast to 250 white cells.

April 13: Hemoglobin, 45 per cent.; red corpuscles, 3,094,000; white corpuscles, 24,000; mononuclear, 41 per cent.; polynuclear neutrophiles, 38 per cent.; myelocytes, 18 per cent.; mast cells, 3 per cent. Marked poikilocytosis. Moderate achromia. Some stippling. Three normoblasts seen in counting 200 white cells.

April 24: Hemoglobin, 50 per cent.; white corpuscles, 45,000; mononuclear, 37.5 per cent.; polynuclear neutrophiles, 40.5 per cent.; eosinophiles, 2 per cent.; myelocytes, 20 per cent. Nine megaloblasts and 12 normoblasts seen in counting 200 white cells.

May 9: Hemoglobin, 60 per cent.; red corpuscles, 3,789,000; white corpuscles, 23,000; mononuclear, 62 per cent.; polynuclear neutrophiles, 29 per cent.; eosinophiles, 3 per cent.; myelocytes, 6 per cent. Moderate macrocytosis and slight poikilocytosis. Sixteen megaloblasts and 8 normoblasts seen in counting 300 white cells; also an occasional nuclear figure.

May 27: Hemoglobin, 80 per cent.; red corpuscles, 3,440,000; mononuclear, 55 per cent.; polynuclear neutrophiles, 40 per cent.; eosinophiles, 4.5 per cent.; myelocytes, .5 per cent. Slight poikilocytosis; 6 normoblasts seen in counting 200 white cells.

June 24: Hemoglobin, 80 per cent.; red corpuscles, 5,600,000; white corpuscles, 22,000; mononuclear, 63.3 per cent.; polynuclear neutrophiles, 32.6 per cent.; eosinophiles, 2.1 per cent.; myelocytes, 2 per cent. Slight poikilocytosis. No macrocytosis; 3 megaloblasts and 8 normoblasts seen in counting 300 white cells.

During this period the child had taken its food well and rarely vomited. The movements had been fair, better toward the end. The weight had increased from 5,340 grams to 5,910 grams. The treatment had been buttermilk and citrate of iron, gr. ¾, subcutaneously, every other day. The baby then left the hospital, but reappeared at the Floating Hospital a week later. The physical examination was the same as when she was first seen.

Urine: Normal color, acid, slightest possible trace of albumin, a few leucocytes and squamous cells, an occasional red blood corpuscle, no casts.

Blood: July 2: Red corpuscles, 5,392,000; white corpuscles, 51,400; mononuclear, 41 per cent.; polynuclear neutrophiles, 59 per cent.

Died July 8.

Autopsy (by Dr. Wohlbach).—There were marked signs of rickets. The spleen was long and narrow. The estimated weight was 250 grams. The color was deep brownish-red, the consistency firm. On section the cut surfaces were smooth and deep red. The corpuscles and trabeculæ were easily visible, as in the normal spleen. A very small amount of pulp was obtained by scraping. The liver was normal in size. The capsule was smooth, the consistency normal, the color pale brownish-red. On section the lobular markings were barely visible. Bone marrow: That in the vertebræ was deficient in color and amount; that from the femur abundant, dark grayish and fairly firm in consistency. There were in addition an organized pneumonia, acute bronchitis, chronic fibrous pleuritis, lymphatic hypertrophy, atrophy of the thymus, dilatation of the stomach and subpericardial ecchymoses.

Microscopic examination of spleen: The splenic nodules were numerous, large and irregular in shape. The germinal centers were very large and showed numerous mitotic figures. The pulp showed a slight increase in the reticulum. The sinuses and reticular tissue contained many large cells with granular protoplasm resembling myelocytes. These cells had either blue or purple staining protoplasm, the stain used being methylene blue and eosin. Groups of such cells were found surrounded by nucleated corpuscles, forming foci similar to the erythroblastic centers of the bone marrow. There were also many mononuclear eosinophiles with large nuclei, cells resembling those at the germinal centers of the nodules, and plasma cells. There was moderate injection of the sinuses with blood. There were many polynuclear leucocytes in the pulp and sinuses. Many were fixed in the act of migrating from the sinuses.

Liver: The general arrangement of the lobules and columns of cells was normal. The liver cells were normal, except in places where they were slightly compressed by the crowding of the sinusoids with myelocytes. This was most marked just beneath the capsule. There were both basophilic and neutrophilic myelocytes singly and in groups. There were also many nucleated red blood corpuscles, often in close relation to clumps of myelocytes. Various types of nucleated reds were found, so that these collections of cells resembled those found in the spleen and in the bone marrow. The sinusoids contained everywhere much blood. The blood in the large vessels contained an excess of white corpuscles, in which large cells resembling myelocytes predominated. Many mononuclear eosinophiles were present in the sinusoids and in the blood of the large vessels.

Kidney: There was marked cloudy swelling of the convoluted tubules with slight fat vacuolation at the bases of the cells. The glomeruli, except for a few of fetal type, were normal. There were in the cortex a few elongated radial areas of connective tissue increase. These regions contained glomeruli of the fetal type and atrophic tubules. There was marked lymphoid and plasma cell infiltration and a few mononuclear and polynuclear eosinophiles.

Ileum: The solitary follicles were large with large and active germinal centers.

Tonsils and mesenteric and cervical lymph nodes: These all contained large and very active germinal centers. They all contained numerous mononuclear and polynuclear eosinophiles.

Bone marrow: That from the femur and vertebra showed marked activity. There were in both many erythroblastic centers, and nucleated red corpuscles were everywhere abundant. There was a great increase in the number of eosinophilous myelocytes. Megalokarycytes were present in about normal numbers.

Diagnosis: Hematopoietic spleen and liver. Chronic focal nephritis and parenchymatous degeneration of kidneys. Lymphoid hyperplasia.

In spite of the frequency of these conditions, and in spite of the frequency of a fatal termination, pathologic data are comparatively few. The chief changes in the spleen are an increase in the connective tissue, usuall associated with a diminution in the pulp. It neve shows any changes in any way resembling those o leukemia, the changes being of the same sort as thos found in other cachectic conditions, such as ricket (Sasuschin[5]) and syphilis (Hutchison[3]). The live shows simple parenchymatous changes, fatty degeneration, such as is seen in all severe anemias, or simpl lymphoid infiltration. The bone marrow shows nothin abnormal, merely the signs of increased activity. Ther are no changes suggestive of leukemia or in any wa characteristic. The lymph nodes, if not normal, sho merely the changes of chronic adenitis. Lymphoid infiltration has been occasionally found in the intestine.

Certain authors believe that anemia with splen tumor in infancy is an aleukemic stage of leukemia o that it is leukemia modified by the peculiarities of th infant's blood and blood-forming organs. Aleukemi stages of leukemia certainly do occur, even in infanc as is shown by the case reported in this paper. No on however, has ever satisfactorily described a case anemia with splenic tumor in infancy which has lat changed to a true leukemia. No pure case of myelog enous leukemia has ever been reported, moreove although anemia with splenic tumor is not at all uncon mon at this age. Finally, the pathologic changes a radically different. The view that anemia with splen tumor in infancy is merely leukemia modified by t

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5. Jahrb. f. Kinderh., 1900, li, 297.

age of the patient is hardly tenable, not only because of the reasons just given, but also because true leukemia does occur at this age. Moreover, many of these cases recover entirely and the splenic tumor disappears.

It has been stated that these cases do not respond to treatment with the *x*-ray while cases of true leukemia do, and this statement has been advanced as a further argument against their leukemic nature. A case of Lommel's,[6] however, improved markedly under treatment with the *x*-ray, and the autopsy a year later showed normal spleen and no evidences of leukemia.

The theory that anemia with splenic tumor in infancy cupies a position midway between pernicious anemia d leukemia was advanced at a time when the morphogic changes in the blood were not as well understood at present and hardly deserves serious consideration. he postmortem appearances are not characteristic of rnicious anemia, iron is not found in the liver and the changes in the bone marrow are not those of pernicious anemia. Moreover, it is extremely doubtful if pernicious anemia occurs at this age.

A study of a large number of cases of anemia with splenic tumor shows that all grades of anemia, with or without leucocytosis, may be found when the enlargement of the spleen is inconsiderable. The cases analyzed in Table 1 illustrate this point.[7]

TABLE 1.—ANALYSIS OF CASES OF ANEMIA WITH SLIGHT SPLENIC ENLARGEMENT

No.	Age in Months.	Spleen. Cm. below ribs.	Per cent. Hemoglobin.	Red Corpuscles.	White Corpuscles.	Small Mononuclear.	Large Mononuclear.	Polynuclear Neutrophiles.	Eosinophiles.	Myelocytes.	Mast Cells.	Morphologic Changes.	Etiology.
2526	18	2	65	5,872,000	22,600	32		65	1	..	2	Slight poikilocytosis. Some macrocytes, 1 normoblast, 1 megaloblast to 400 white cells.	Tuberculosis.
2019	16	2	45	4,700,000	21,900	67	5	26	1	1	..	Marked variation in size, shape and amount of hemoglobin in red cells. No nucleated forms.	Milk too long.
2204	11	2	20	3,083,000	23,000	55		43	0.5	1	0.5	Slight variation in size and shape of red cells. Slight polychromatophilia. 1 megaloblast to 500 white cells.	?
2608	6	3	45	2,499,000	8,000	36		60	..	..	4	Macrocytes predominate. Some microcytes. Slight poikilocytosis. Moderate achromia. 7 megaloblasts and 10 normoblasts to 200 white cells.	Improper feeding.
2899	13	2	25	1,256,000	9,000	47.5		49	..	3.5	..	No achromia. Slight poikilocytosis. 10 megaloblasts and 7 normoblasts to 200 white cells.	?
2917	11	1	30	1,296,000	7,500	69.5		28	1	1.5	..	Marked achromia and poikilocytosis. Excess of macrocytes. 3 megaloblasts and 5 normoblasts to 400 white cells.	Improper feeding. Bronchopneumonia.

TABLE 2.—ANALYSIS OF CASES OF ANEMIA WITH MARKED SPLENIC ENLARGEMENT

No.	Age in Months.	Per cent. Hemoglobin.	Red Corpuscles.	White Corpuscles.	Small Mononuclear.	Large Mononuclear.	Polynuclear Neutrophiles.	Eosinophiles.	Myelocytes.	Mast Cells.	Morphologic Changes.	Etiology.
2020	16	55	6,000,000	15,000	50	6	40	3	1	..	Moderate variation in size and shape of red cells. No nucleated red cells.	?
1300	10	40	4,000,000	18,700	34	13	51	..	2	..	Marked variation in size, shape and staining reaction of red cells. 9 megaloblasts and 16 normoblasts to 500 white cells.	Gastrointestinal.
2363	20	50	4,000,000	15,000	34	4	59.5	0.5	1.5	0.5	Slight variation in size and shape of red cells. Marked polychromatophilia. 8 megaloblasts and 2 normoblasts to 200 white cells.	?
1818	21	55	3,800,000	37,600	16	5	77	0.5	1.5	..	Moderate variation in size and shape of red cells. Slight polychromatophilia. 1 megaloblast to 500 whites.	?
1775	16	25	2,392,000	34,400	55	10	35.5	1	1	0.5	Some polychromatophilia. No nucleated red cells.	Prematurity. Gastrointestinal.
2827	19	30	2,344,000	7,000	64.5		34.5	1	..	..	Marked achromia and poikilocytosis. No nucleated red cells.	Syphilis (?).
2404	14	35	1,992,000	13,400	36	4	56	2	1	1	Character of red cells? 4 normoblasts to 100 white cells.	Gastrointestinal.
1952	16	15	904,000	9,600	28	8	62	..	2	..	Watery and streaky. Considerable variation in size and shape of red cells. Marked polychromatophilia. 4 megaloblasts, 5 normoblasts and 1 microblast to 100 white cells.	Gastrointestinal.

Patient 2204 had a systolic murmur in the heart; 2608 a very large liver and marked edema; 2899 considerable edema; 2917 slight edema, ecchymoses and hemorrhage from the nose. The first three of these patients improved, two were discharged unimproved and the last died.

Further study shows that there may be, in some instances, extreme enlargement of the spleen with almost no changes in the blood, while in others the blood shows most marked changes. The cases analyzed in Table 2 illustrate these points. In all of these the spleen reached to the anterior superior spine, filling the flank.[7]

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[6] München. med. Wchnschr., 1905, lii, 904.

[7] Boston Med. and Surg. Jour., 1894, cxxxi, 133; 1903, cxlviii, 573.

The liver was enlarged in 2020, 1775, 2827 and 1952, but not in the others; 1952 had edema, ecchymoses and hemorrhages from the nose. Systolic murmurs were heard in 1818 and 2827; 2363, 1300, 1818, 2355, 2827 and 2404 improved under treatment; 1300 was well and the splenic tumor was gone in eighteen months; 1775 and 1952 died.

Splenic tumor is not uncommon in infancy when there is no anemia. The anemia may improve or entirely disappear without any change in the size of the spleen. The following cases are examples:

Case 13.—No. 2827. February 19, hemoglobin, 30 per cent.; red corpuscles, 3,344,000.

March 3: Hemoglobin, 40 per cent.; red corpuscles, 3,200,000.

March 16: Hemoglobin, 45 per cent.; red corpuscles, 3,408,000. Size of spleen remained the same.

Case 14.—No. 1818. May 26: Hemoglobin, 35 per cent.; red corpuscles, 3,800,000; white corpuscles, 37,600.

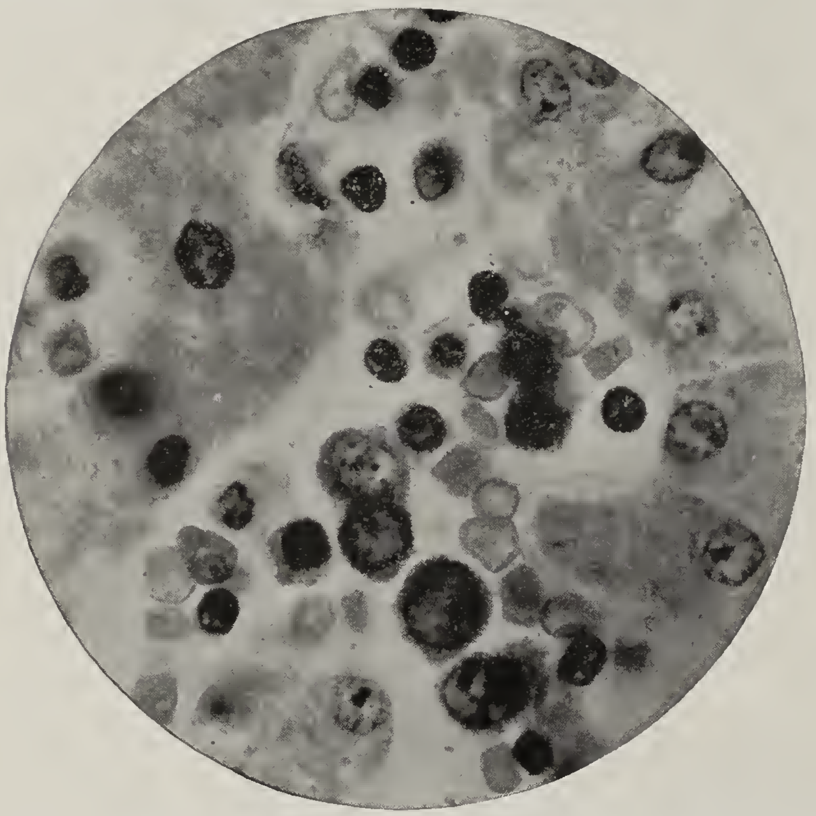

Fig. 1.—Liver (Case 12, No. 2,869) multiplied about 1,000 diameters. Hematopoietic center, showing myelocytes and nucleated red corpuscles.

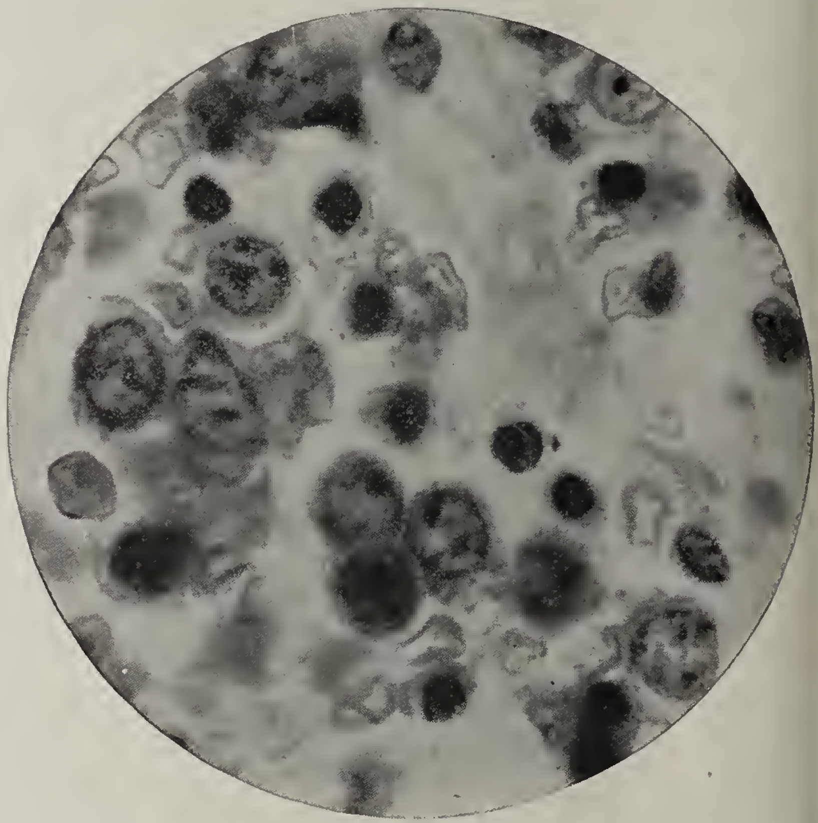

Fig. 2.—Spleen (Case 12, No. 2,869) multiplied about 1,400 diameters. Hematopoietic center, showing myelocytes and nucleated red corpuscles.

June 18: Hemoglobin, 65 per cent.; red corpuscles, 5,104,000; white corpuscles, 28,800. Size of spleen remained the same.

Case 15.—No. 2363. May 3: Hemoglobin, 50 per cent.; red corpuscles, 4,000,000.

May 20: Hemoglobin, 75 per cent.; red corpuscles, 4,800,000. Size of spleen remained the same.

The size of the spleen may diminish without any improvement in the anemia. The following case is an example:

Case 16.—No. 3171. April 13: Hemoglobin, 60 per cent.; red corpuscles, 1,640,000; white corpuscles, 20,100. Spleen reached to navel.

April 17: Hemoglobin, 65 per cent.; white corpuscles, 40,200. Spleen about one-half as large.

April 22: Hemoglobin, 50 per cent.; red corpuscles, 1,304,000; white corpuscles, 50,600. Spleen 3 cm. by 4 cm.

The anemia responds to the same treatment and in the same way as do secondary anemias without splenic tumor.

It seems evident, therefore, that there is no relation whatever between the size of the spleen and the presence, absence or degree of anemia. Having no causal relation to each other, they must, when associated, be due to some common cause. They are both found independently as the result of disturbances of nutrition of various sorts. The pathologic changes in the spleen are the same whether the enlargement is or is not associated with anemia. The same blood changes are found both with and without splenic tumor. These blood changes are the same as those found in the ordinary secondary anemias without splenic tumor. It seems reasonable to assume, therefore, that when they are associated they are both manifestations of disturbances of nutrition. There is, therefore, no justification for putting cases of anemia with splenic tumor in a class by themselves under the head of splenic anemia, anemia infantum pseudo-leukemica, and so on. They should rather be classed as cases of secondary anemia with splenic tumor. It may be, however, as Rist suggests, that this, although the most satisfactory, is too simple an explanation and that the future will justify some other classification.

Secondary anemia with splenic tumor may or may not be associated with leucocytosis. A division into two classes on this basis, as suggested by some Italian authors (Petrone[8]), hardly seems necessary or justifiable, however. The division of the cases of secondary anemia with splenic tumor and leucocytosis into splenic anemia with myelemia, splenic anemia with lymphocythemia and even splenic anemia with eosinophilia (Labbé and Aubertin[9]), according to the predominance of the various forms of leucocytes, has been suggested. This division seems rather unnecessary and far-fetched, however, as the proportions of the leucocytes depend in these cases, as in the secondary anemias without splenic tumor, on the special chemotactic action of the causative condition.

Wolff,[10] basing his opinions on an unique case of hi own, has come to very different conclusions as to th causation of these cases and as to the relation of the splenic tumor and the anemia. He removed the spleen from an 18-months-old baby with marked anemia. The blood before the operation showed 40 per cent. of hemoglobin, 467,000 red corpuscles and 37,800 white corpuscles. The infant gained two pounds during the next ten days and the blood then showed 51 per cent. of hemoglobin, 2,500,000 red corpuscles and 36,000 white corpuscles. The baby recovered entirely, and at the end of a year the blood contained 2,665,000 red corpuscles and 25,800 white corpuscles.

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[8] Arch. gen. de méd., June, 1907; abstr. in Arch de méd. enfants, 1907, x, 752.

[9] Rev. mens. d. mal. de l'enfance, 1907, xxv, 69.

[10] Berl. klin. Wchnschr., 1906, xliii, 1565.

The spleen weighed 500 grams. There was marked induration due to thickening of the walls of the lacunæ of the pulp but no enlargement of the Malpighian corpuscles. There was an infiltration with large cells of various sorts free from hemoglobin but no increase of the lymphocytes. There was, however, a large number of lymphocytes in the larger blood vessels.

He believes that as the improvement in the general condition and blood followed immediately on the extirpation of the spleen that this organ stood in a causal connection, that these cases originate in a primary disease of the spleen and that they, therefore, present a completely characteristic disease picture. He explains the anemia by an increased destruction of blood corpuscles in the spleen or by the production of substances in the spleen which cause an increased destruction elsewhere.

While he does not identify this disease with Banti's symptom-complex he thinks that they have so many points in common—splenic tumor, trabecular hyperplasia of the spleen, cirrhosis of the liver, improvement after splenectomy—that there is probably some connection between them. While there are many points of difference between the two conditions, the greatest obstacle to considering them identical is the fact that in Banti's symptom-complex the course is slowly progressive to death, while very many of the cases of anemia with splenic tumor in infancy entirely recover. It is very possible, however, that while the physical signs and blood picture are essentially the same in all cases, the pathologic processes are different in different cases and that ertain of them are of the same nature as Banti's symptom-complex. In such cases removal of the spleen will ndoubtedly do good. The great difficulty at present is o know how to recognize these cases.

ABSTRACT OF DISCUSSION

Dr. J. F. Hultgen, Chicago: I should like to know how any children Dr. Morse examined in all and whether the hildren were absolutely normal or whether they were just recovering from some attack of gastric disturbance or some her condition. We know that there is a change in the blood cture following any disease, infectious or toxic, namely, a ostinfective or post-toxic lymphocytosis. As to the blood cture returning to the infantile condition, I believe that omenici of Paris invented that term and started a new line investigation. This is the same as what happens when aling of any wound occurs. The attempt at repair of an jury is in the direction of a return to the fecal condition. As ng as the body is in a vigorous condition the large mononuclear cells are increased in proportion to the degree of irritation. The predominance of lymphocytes in the hematology the child is an exceedingly interesting and important queson, one that has not been settled yet. We need young men go into the study of hematology to work on it for years. e probability is that the lymphocytes do predominate in the ormal infantile blood, but it should be demonstrated whether ose children are perfectly normal at the time of examination. Dr. Morse's statement that he sees no reason for calling "chlorosis" a number of cases that look like chlorosis at a later age pleases me very much. That the patients improve under iron is no proof. Iron is a specific for any secondary anemia. I think that chlorosis is an obsolete term and the quicker we discard it the better. As to the relation between iron and the blood picture, if we consider the nature of the ferments and proferments we can imagine that the iron excites a particular part of the hematopoietic system, whence the production of blood corpuscles. I think that Dr. Morse has slighted the eosinophiles somewhat. I think it is likely they are derived from the large mononuclear cells, but, just how, we do not know. But there is a distinct relation between the eosinophiles and digestion and there is a distinct and established relation between the infections and the eosinophiles. The eosinophiles are in the vanguard of the leucocytes. They disappear very early in infectious diseases and they stay away very long.

Dr. J. H. Mason Knox, Baltimore: That there is no definite line of cleavage between these blood conditions is most important. One thing that should be considered in determining the degree of anemia in children or others, where there has been great loss of weight, is the concentration of the blood. Such children have anemia, but have a high percentage of hemoglobin and a large number of corpuscles, as determined by the usual method, because of the great loss of fluid. In such cases the determination of the specific gravity of the blood would be helpful in judging the degree of anemia.

Dr. John Lovett Morse, Boston: My figures regarding the normal blood in infancy were based partly on my own observations and partly on the literature. I have been working on this subject for the last fifteen years and think that I have the cases to prove the points which I have made. The hemoglobin and the specific gravity go hand in hand. What the last speaker said about the concentrated blood in these babies is perfectly true. One has to guess at the degree of anemia in such cases.

Clinical Notes

OVARIAN CYSTOMA OBSTRUCTING PELVIS AT TERM

WITH RECOVERY AFTER CESAREAN SECTION

A. BELCHAM KEYES, M.D.

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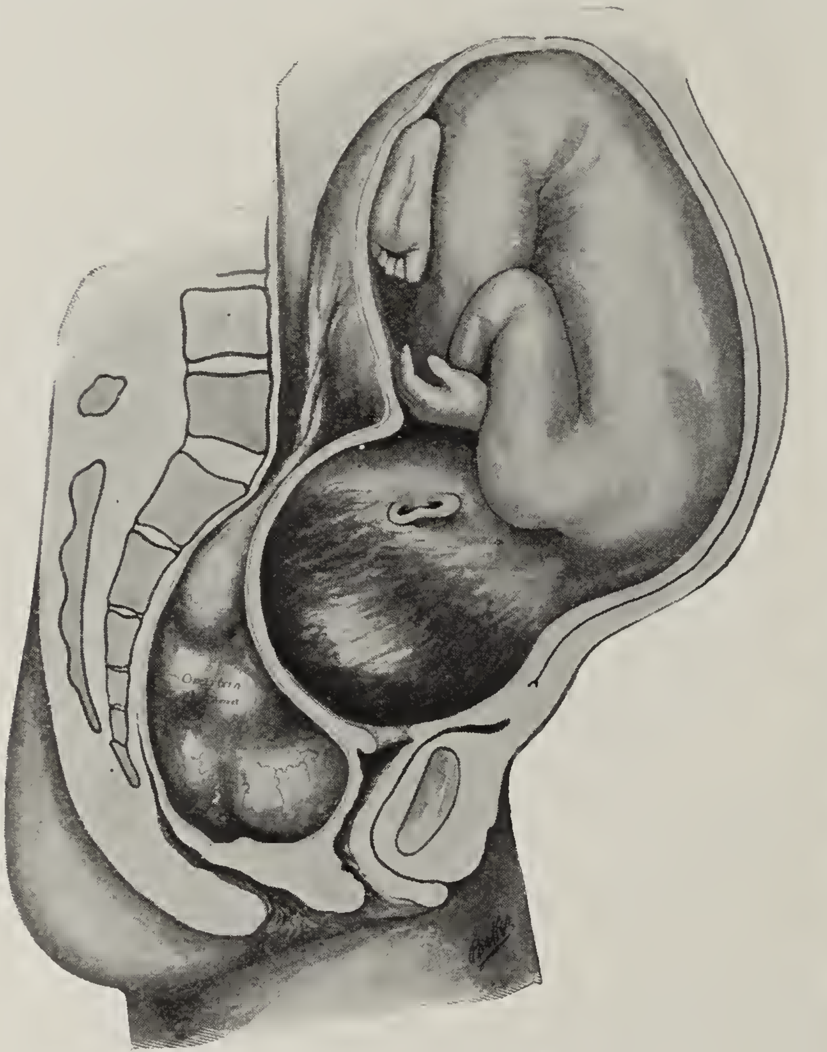
CHICAGO

Patient.—Mrs. C. F. H., aged 33, German, primipara, married. Since puberty the menses had been regular (every 28 days) till pregnancy began. The last menstrual period (remembered) began about August 25 and supposed quickening was first noticed about January 18.

Labor.—The patient entered hospital in labor June 19, 1908, complaining of having had violent labor pains for fifty-three hours. The uterine contractions were strong and rapidly increased in frequency to one in every two minutes. Abdominally the child's lower limbs could be distinctly palpated near the fundus uteri. The child's head was easily palpated above the pelvic brim and apparently not larger than the average. The fetal heart tones were from 180 to 200 and weak. The external pelvic measurements of the mother were normal. Vaginally the cervix uteri was found dilated enough to admit two fingers easily. The head was high up and could be reached with difficulty, position left occipito-anterior. The bag of waters was still intact but accidentally ruptured during the examination, resulting in the discharge of the liquor amnii with much meconium. The posterior vaginal fornix was bulged forward by something giving at first the impression of a loaded sigmoid and rectum, though it had not the doughy feel of feces but rather the elastic sensation of a cyst. So far as one could judge, the internal pelvic measurements were normal, though the promontory was covered by the tumor. During a pain the head showed but little tendency to engage, while the mass posteriorly drove the posterior vaginal fornix markedly forward into the vaginal lumen, the head (apparently normal in size) also becoming more prominently outlinable on the anterior abdominal wall. In a well-formed woman with a normally shaped and situated uterus and with an absence of any pelvic contraction or marked increase in the size of the child's head or other parts above the normal, the only inference possible was the presence of a mechanical obstruction probably due to a tumor in the cul-de-sac of Douglas. Attempts to reposit the obstructing tumor above the pelvic brim while the patient was in the knee-chest position were fruitless.

Operation.—Preparations were immediately begun and the abdomen opened by a 12 cm. median (Wagner) incision extending from the umbilicus downward toward the pubis. Compresses were now carefully packed between the abdominal wall and the uterus (*in situ*) to avoid contamination of the peritoneal cavity. The uterus was then also incised in the anterior median line, upper third, encountering the placenta, which was rapidly shelled off at one edge and the child rapidly delivered, the cord doubly clamped, and divided. The afterbirth was now rapidly delivered when the uterus retracted. The uterine incision was now closed by catgut *à étages*, and all compresses being removed, the exploration of the cul-de-sac revealed a cystoma firmly incarcerated under the promontory. The patient was now placed in the Nélaton position and the intestines walled off with fresh compresses. The tumor was then lifted out of the cul-de-sac of Douglas and delivered whole, its long, thin pedicle ligated, divided and the stump covered with peritoneum. The abdominal incision was now closed with catgut and through-and-through silkworm-gut sutures. The mother made an uneventful recovery. Unfortunately, though the child was delivered within one hour of the time I first saw the case, it could not be resuscitated.



An ovarian cystoma obstructing labor at term.

Tumor.—The cystoma was approximately of the size and tenseness of a half-filled two-quart fountain syringe, and as it lay on a flat surface measured 15x19x4 cm. Probably a more tense cyst could have been more easily displaced upwards.

The case is unique from the standpoint that the tumor must have been present before pregnancy began, and teaches the necessity, at as early a date as possible in every pregnancy, of making a careful and systematic examination (a) as to whether there is any tumor present; (b) whether the pregnancy be intrauterine or extrauterine; (c) whether the uterus be retroverted, and (d) whether the pelvis is contracted or of normal dimensions.

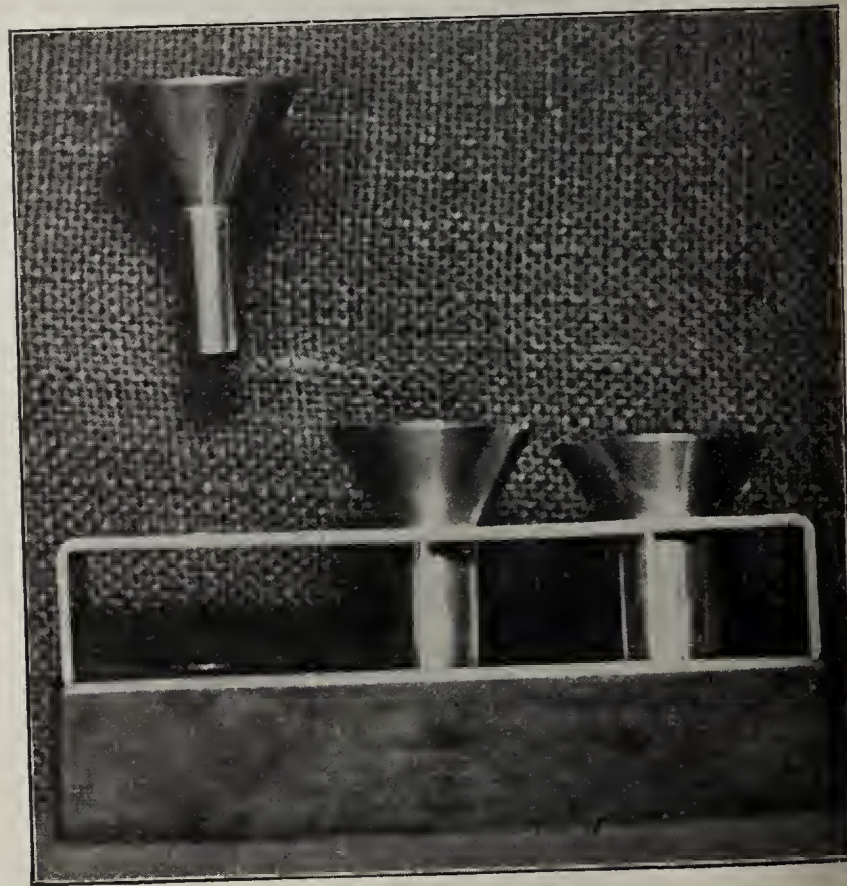
100 State Street.

MOLD FOR CARBON DIOXID SNOW

R. L. SUTTON, M.D.
KANSAS CITY, MO.

When carbon dioxid snow is employed as a destructive agent in skin lesions it must first be molded into suitable shape. If a large area is to be attacked a closely packed mass of the substance may be altered as required by means of a sharp knife, but in the majority of instances a "pencil" best answers the purpose.

In making these cylinders the snow is quickly transferred from the chamois, where it collects as it escapes from the reservoir, to a matrix or form, into which it is tightly pressed by means of a small rammer. The form or mold commonly employed is simply a short piece of hard rubber, glass or metal tubing. No on but a person who has had experience in filling thes small caliber tubes realizes the waste of time and material the process usually entails.



Mold for carbon dioxid snow.

I have had made of German silver a set of thre funnel-mouthed tubes, which renders this procedure speedy and economical one. The internal diameter o the barrels measure 1, 2 and 4 cm., respectively, and a are of the same length, 4 cm. The freshly-made sno is transported from the chamois to the molds by mear of a teaspoon.

Further to expedite matters the molds are set uprig in a frame, the lower ends being sunk slightly below t surface of the platform. When the tube is filled t mold is withdrawn from the frame and the stick snow pushed out.

HAMMOCK HEAD BANDAGE

SAMUEL E. NEWMAN, M.D.
ST. LOUIS

At the suggestion of several of my colleagues I wish to offer to the profession a new head bandage. Since an otherwise simple thing may be made complicated and incomprehensible by wordy details, I have tried to clearly illustrate each step of the procedure. The photographs and diagrammatic drawings are self descriptive, and require little further explanation.

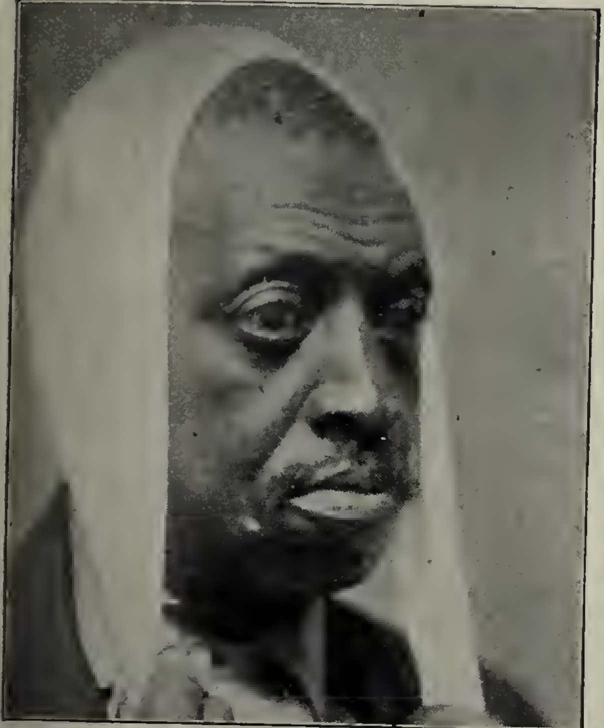


Fig. 1.—Application of the hammock bandage: this is pulled taut and held by the patient.

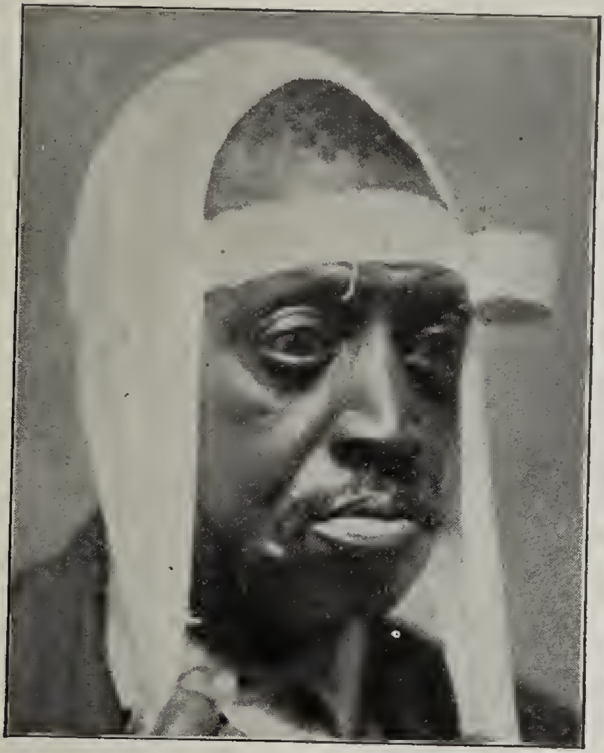


Fig. 2.—A one-inch or two-inch bandage is applied around the head.

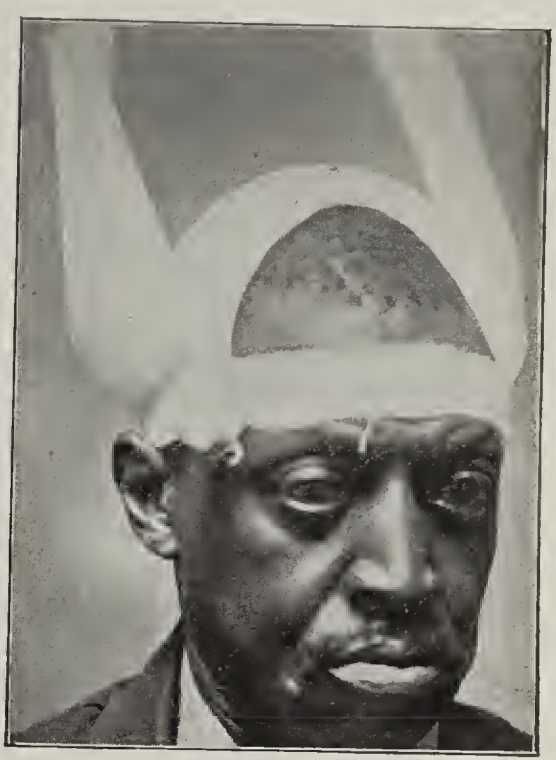


Fig. 3.—The ends of the hammock are elevated, the ears freed and the encircling bandage is continued.

METHOD OF APPLYING THE BANDAGE.

After the dressings have been placed on the wound the head is put in a hammock composed of two layers f gauze (Fig. 1). This is pulled taut and held by the atient. A one or two-inch bandage is applied around e head, running from the glabella of the frontal bone a point just below the posterior occipital bone (Fig. and Fig. 6, A, B). I have found a narrow starch banage of advantage for this purpose.

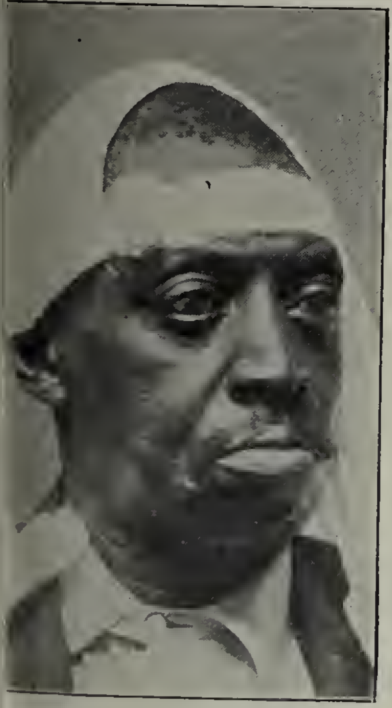


Fig. 4.—The ends are ropped and the encircling andage covers in the folds hus made.

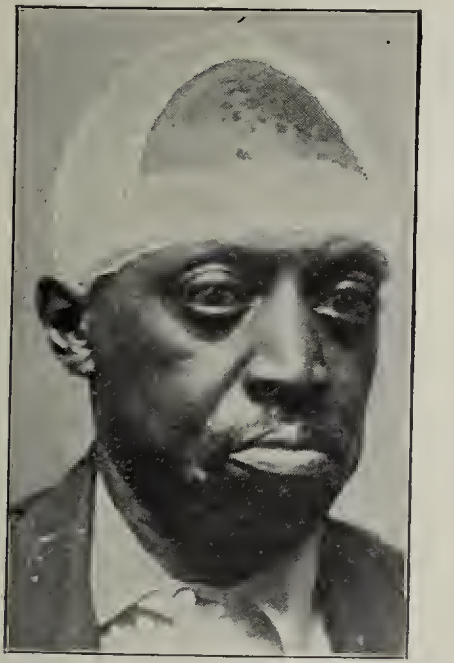


Fig. 5.—The excess material is cut away and the procedure completed by a few rounds of the encircling bandage.

The ends of the hammock gauze are elevated above the head and the ears freed before the encircling bandage is continued around its circumference. (Fig. 3 and Fig. 6, B, C). The ends are dropped and the running bandage covers in the fold, thus made in the hammock (Fig. 4 and Fig. 6, D, E). All excess material is cut away. The procedure is finished by a few rounds of the roller bandage (Fig. 5 and Fig. 6, F).

ADVANTAGES

The "hammock bandage" is undoubtedly a simpler and more effective one than the time honored "skull cap," and I heartily recommend it to the profession. This bandage possesses the following advantages:

1. Simplicity and ease of application.

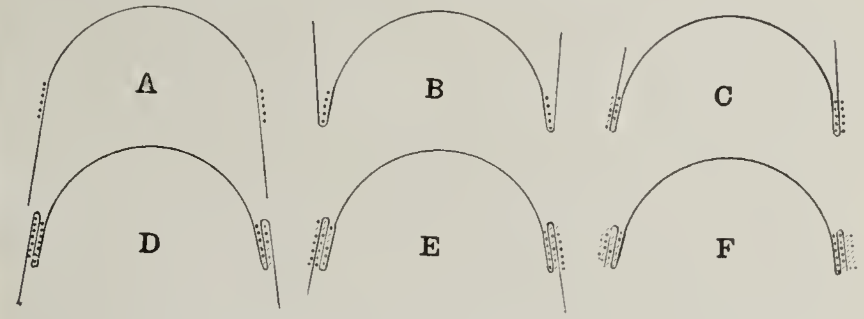


Fig. 6.—Schematic representation of the method of applying the hammock bandage.

2. May be used to cover a small area of the scalp or the entire surface.
3. Does not slip or come off if properly applied.
4. May be made to exert a moderate or firm pressure on the wound.
5. Economy of bandage material.

4900 Berlin Avenue.

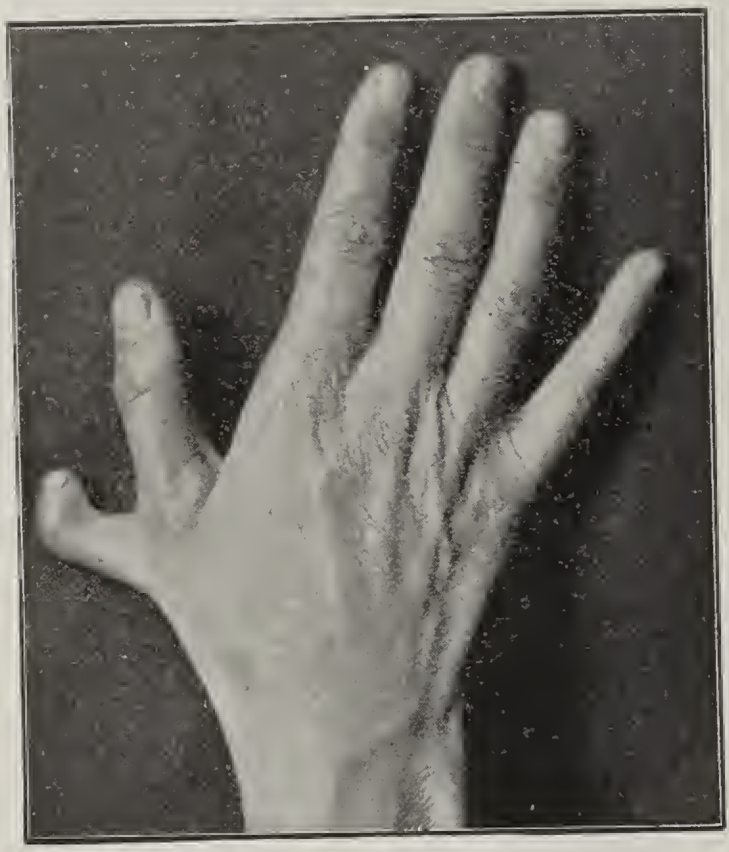
Infant Feeding.—Giving infants some form of food that will be retained and cause gain in weight is not necessarily good infant feeding. The food must contain enough proteids and mineral matter to repair waste and produce new tissue, and enough fats and carbohydrates to supply energy; except, of course, when the infant is sick or suffering from indigestion, when it may be necessary to give temporarily a one-sided diet.—G. R. Pisek, in *Amer. Jour. Obst. and Dis. of Women and Children.*

A CASE OF POLYDACTYLISM

W. A. STROTHER, M.D.
BEDFORD CITY, VA.

The accompanying illustration shows an interesting case of polydactylism. The patient is a white woman, 35 years of age. She says that, so far as she knows, there is no history of polydactylism in her family. She has five children, all of whom are normal in this respect.

The supernumerary thumb here shown is well developed and shows a well-defined metacarpo-phalangeal joint, which is capable of flexion and extension to a slight degree. The phalangeal joint is also well defined and exhibits some degree of flexion and extension.



A case of polydactylism.

A supernumerary thumb on the other hand was stitched to the normal thumb in infancy, and the result of the union presents the appearance of a very wide thumb with a single wide nail.

IMPROVED METHODS OF APPLYING PLASTER SPICAS AND JACKETS

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ALBANY, N. Y.

My attention has been called many times (1) to awkward methods of applying spica bandages to patients relaxed by an anesthetic, after operating on an inguinal hernia, for instance; (2) to awkward methods of supporting the shoulders, head and feet while applying plaster-of-Paris bandages, as for coxitis, to adults and children when not under an anesthetic; and (3) to the frequency of threatened syncope in adult patients when suspended by Sayre's apparatus for the application of plaster-of-Paris jackets.

The following methods have been of much service to me in my practice and are presented in the hope that they may be helpful to others in solving these problems: The first is simple and the necessary accessories can be found in any hospital. The second is more complicated, but will find numerous uses in any hospital where much bone work is done (which means every hospital).

The device for applying a plaster-of-Paris spica to an anesthetised patient may be arranged as follows: At the foot of the operating table place a small table whose top is about eight inches below the level of the operating table. If tables of different height are not at hand the operating table can be raised on blocks. When ready to apply the spica bandage place the hip support on the low table in position and draw the patient down over the end of the operating table until his shoulders and head alone are supported on the operating table and his hips rest on the hip support, his legs being supported by an assistant.

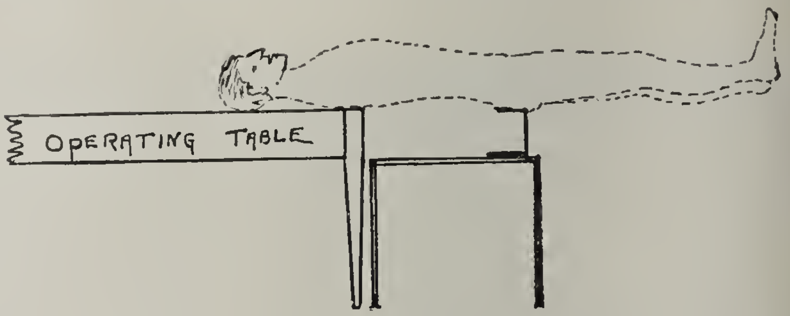

Fig. 1.—Improved method of supporting patient while applying a plaster-of-Paris spica bandage to secure immobility of the ulcerated and diseased bony surfaces.

The device for applying plaster-of-Paris spicas or jackets to conscious patients was suggested by the need of overcoming two difficulties. Adults commonly "faint" when a jacket is being applied by the Sayre suspension method. To avoid this syncope the extension is often relaxed to the detriment of the jacket. The difficulty with the Goldthwaite frame is lack of extension. It occurred to me that a modified Sayre's extension applied to a Goldthwaite frame would solv both difficulties. Just at this time I became acquainte with Stein's extension apparatus. With a few modifi

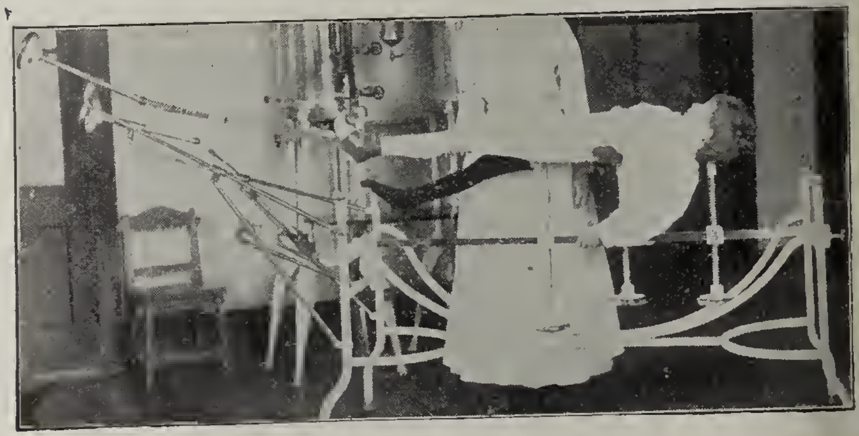

Fig. 2.—Stein apparatus.

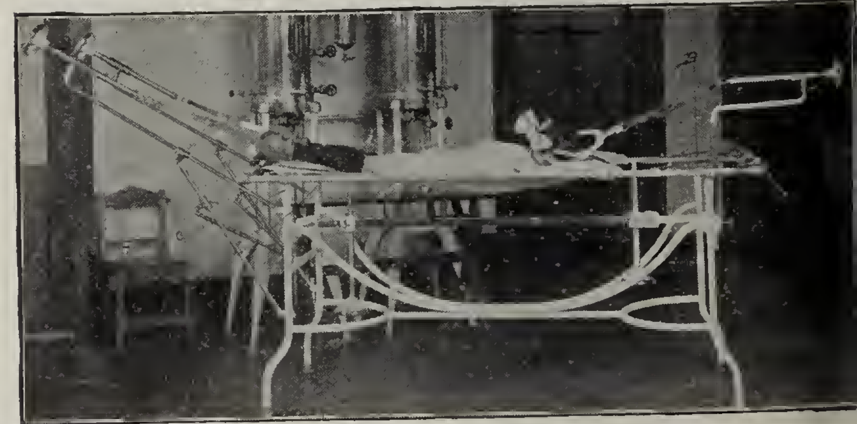

Fig. 3.—Improved method of supporting patient while applyin a plaster-of-Paris spinal jacket to secure immobility of the disease vertebra. This device combines the advantages of the Goldthwait frame and the Sayre suspension methods. It obviates the dis comfort of vertical suspension by head and arms. This advantag is particularly noticed in treating adult patients. Note tha child is lying on a muslin stretcher support.

cations this table has become a most valuable aid to my orthopedic work.

The original use of the Stein apparatus is clearly indicated in Figure 2. The objections to its usefulness as a general orthopedic table are: first, the fact that the original body supports are so large that they interfere with the application of the plaster bandages; second, that the leg extension arms should have joints permitting of any degree of abduction or adduction of the leg; and, third, that in applying jackets, hyperextension of the spine to relieve the pressure on the bodies of the vertebræ can be more readily obtained with the patient lying on the abdomen than on the back. Therefore modifications to the table were made as illustrated in the accompanying photographs and described below.

For applying spica bandages the apparatus is used as represented in Figure 2, except that a small metal hip support is substituted for the original large leather-covered hip support. For applying plaster-of-Paris jackets the supports in the original Stein apparatus are removed and a Goldthwaite frame is placed on top of the table resting at A-B-C-D (Fig. 3). In cases of lateral curvature the forcible corrective circles of Lovett an be applied to the Goldthwaite frame.

Thus one may have an excellent orthopedic table which can be used as an ordinary operating table or, y the attachment of the accessories, combines the virues of Sayre's, Goldthwaite's and Lovett's apparatus.

I am indebted to Dr. James F. Rooney of Albany for he excellent photographs of the apparatus.

98 Chestnut Street.

BARREL-HOOP SPLINT FOR FRACTURE OF THE CLAVICLE

LEIGH F. WATSON, M.D.
OKLAHOMA CITY, OKLA.

Fred. W., aged 10, was struck by a street car on June 4, 08, and sustained a complete oblique fracture of the middle ird of the left clavicle. He was admitted to the New York lyclinic Hospital and treated in the service of Dr. John A. dine.

A splint was made from a wooden barrel-hoop long enough r the ends to fit snugly into the infraclavicular fossa while shoulders were drawn upward, backward and outward, by assistant standing behind the patient. A short piece of the p was fastened to the inner surface of each extremity of splint. (Fig. 1.)

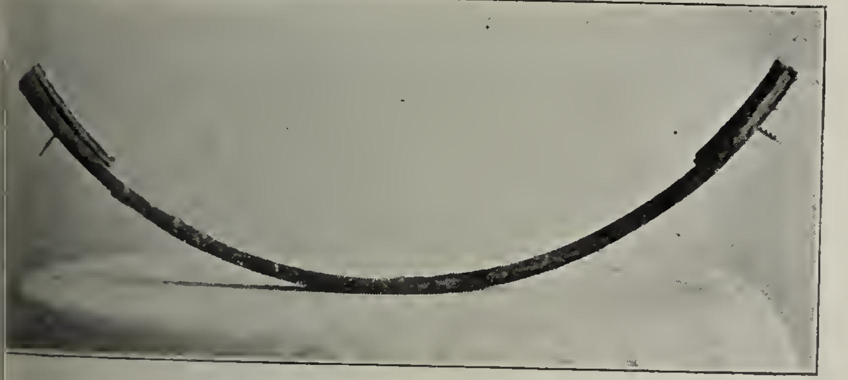

Fig. 1.—The barrel-hoop splint.

he nails were left projecting to prevent the bandage slip-g. This extra piece made immobilization firmer and al-ed free movement of the chest in breathing. The ends of splint were then padded with cotton. A cotton pad was in each axilla to prevent chafing. While the assistant l the shoulders upward, backward and outward the frac-d ends were approximated and the splint applied and ly secured by a figure-of-eight bandage. (Figs. 2-3.)

Dr. Bodine suggests that, in such cases, if there is not accurate coaptation of the fragments, a small roll pad may be placed above and below the seat of fracture and an adhesive strip secured to the back of the shoulder and brought down over the fracture, and fastened to the front of the chest, or used as a sling for the forearm of affected side.

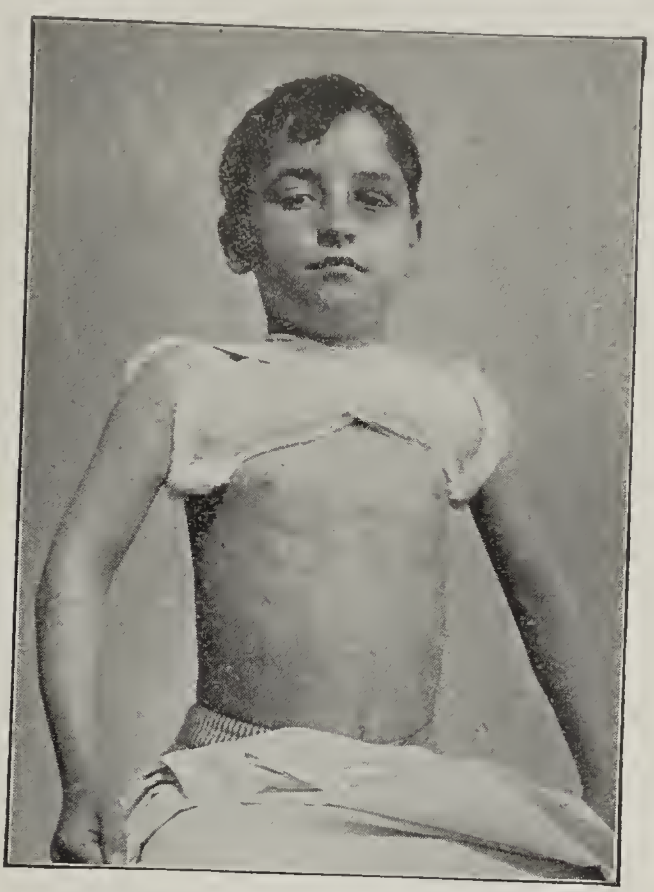

Fig. 2.—The barrel hoop splint applied.

Long strips of adhesive plaster were applied over the bandage to prevent loosening from slipping and stretching. The patient had no pain at the seat of fracture while wearing the splint, and used the arm of the affected side as freely as the other. Union was prompt and without deformity.

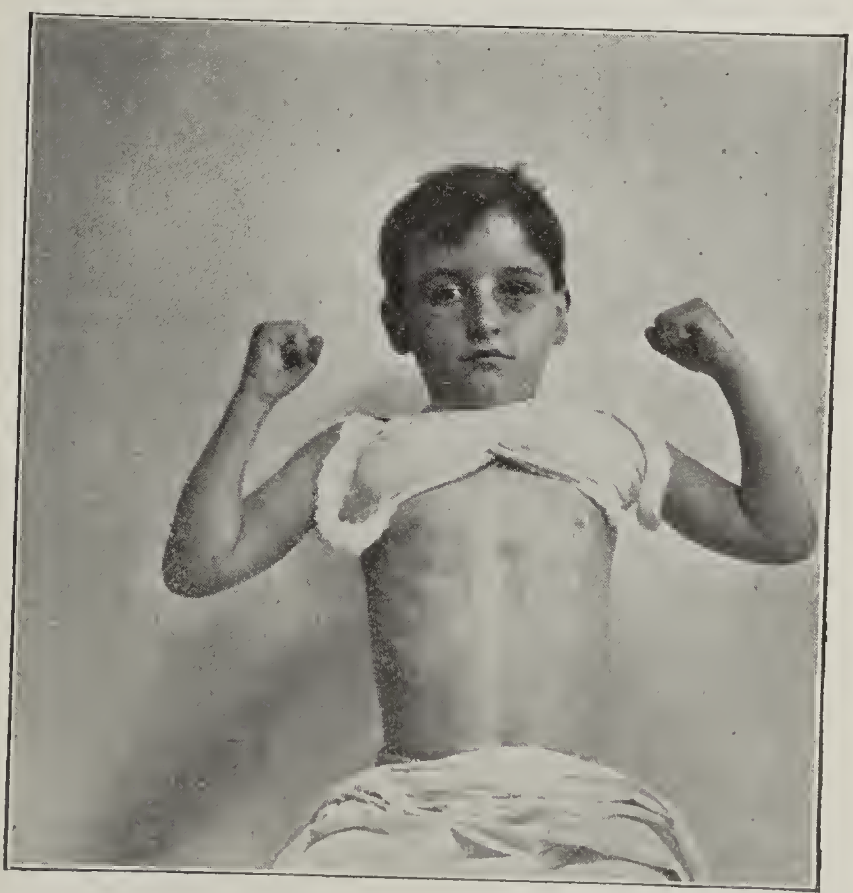

Fig. 3.—The barrel-hoop splint applied, showing amount of rigidity secured in spite of arm motion.

The advantages of barrel-hoop splint may be given as follows: 1. Simplicity and ease of application. 2. No discomfort to patient, nor detention from light work—nor from school, in case of children. 3. No possibility of shoulder or elbow-joint adhesion as an after result.

DEAF-MUTISM, WITH REPORT OF CASES*

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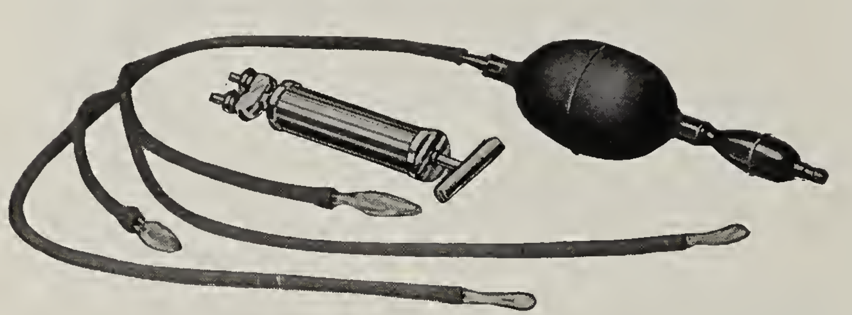
MACON, GA.

There is much evidence to prove that occlusion of the Eustachian tubes is the primary cause of deafness in the majority of cases among children who retain their speech. An attempt to point out why occlusion of the tubes is probably the primary cause also of deaf-mutism is one of the purposes of this paper. To do this I must first call attention to those conditions in the middle ear which are the prompt results of complete and partial occlusion of the Eustachian tubes.

CAUSES OF DEAF-MUTISM

When the occlusion of the tubes is complete the surrounding tissues absorb the gases in the air which is pent up in the middle ears. A vacuum is thus created and the atmospheric pressure of fifteen pounds to the square inch is brought to bear on the occluded openings of the tubes and tympanic membranes. We may expect such a pressure to rupture the membranes or force entrance through the tubes. When the tubes are only partially closed or entirely closed except in the act of swallowing, at which time the pharyngeal muscles pull them open and allow some air to enter the middle ears, the membranes may not be ruptured but subjected to considerable pressure which would have the effect of forcing them inward.



Suction instrument for reducing dislocations of the ossicular chain in deaf-mutes.

This movement of the membranes carries the ossicular chains inward also, and the brunt of the pressure is borne by the foot of the stapes where it rests in the oval windows. The pressure may be sufficient to cause inflammatory reaction where the stapes impinges within the windows. The amount of the pressure and, therefore, the intensity of the reaction will be in proportion to the amount of air which finds its way through the occluded tubes; the less air, the greater the pressure and the inflammatory reaction. The resisting power of the tissues varies with the general condition of the subject affected, and the amount of damage will therefore be different for the individual; in one slight damage may occur; in another the inflammatory reaction may be sufficient to destroy the adjacent tissue and extend to the more essential parts within the labyrinth and produce the pictures found in autopsies of the deaf showing much destruction of the nerve routes. Such patients are incurable, of course.

Erroneous opinions might have arisen easily from such findings; the investigators, seeing inflammatory evidence localized here about the labyrinth only, might decide that the primary cause was spontaneous labyrinthitis when the primary cause was perhaps to have been found in the occlusions of the tubes by adenoids in the pharynx or by granulations in the fossa of Rosenmüller.

But this is a digression. I wish to point out what seems the very important fact that forcing the stapes too deeply into the oval windows and its retention there is equivalent to a dislocation of the stapes, because the stapedius muscle, the only function of which is to support the stapes in its proper relation to the labyrinth, would be put on such continuous tension as would cause it to lose its contractile power. Occlusion of the Eustachian tubes causing pressure on the tympanic membrane sufficient to dislocate the stapes and prostrate the stapedius muscle, then will cause deaf-mutism if it occurs in young children. Given sufficient occlusion t prostrate the stapedius, any very young child might become a deaf-mute, because hearing depends on th proper position of the stapes. When the stapes is force into the oval windows Nature depends on the stapediu muscle to replace it; if the power of the muscle is los the stapes can not replace itself. It may lie ever s lightly in the window and the stapedius could not replace it any more than a string tied to it could replac it of its own volition. For that muscle to gain contro of the stapes and give hearing once more, the stape must be placed in position.

The reason we have not given hearing to deaf-mute heretofore is that we could not pull the stapes outwar from the oval windows; that is, we could not reduc the dislocation. Neither inflation nor suction wit Politzer's bag will effect the reduction. Pulling c pushing the tympanic membranes will not avail. Natu in her efforts often clears the Eustachian tubes and r establishes the air pressure, and on inspecting the ea we see the tympanic membranes and the malleus i their proper positions and the ears to all appearanc normal.

There is considerable play in the ossicular chain b tween the malleus and the incus, which permits t membrane with the malleus to swing outward when t tubes are opened. Such movement does not move t stapes outward or permit the tone of the stapedius return.

We have long needed some artificial device to act a substitute for the prostrated stapedius to pull t stapes back to its proper position. It has been repe edly demonstrated that just as soon as the stapes is in proper position a deaf-mute will hear. The stapedi will regain its power and the hearing will remain unl the tubes are again occluded and the stapedius pr trated. This applies alike to congenital and the quired deaf-mutism.

I have attempted to devise an instrument which raise the stapes and give hearing to such deaf-m patients as have not had the stapes bound too stron by the results of inflammatory processes. That it wo tend to move the stapes may be demonstrated by taching the instrument to a glass model of the ear wh I have also constructed.

In applying this method for relief of deaf-mutism is necessary that the tubes be open. The attitude child's mind should be expectant and cooperative cause the centers of hearing and speech are dorman deaf-mutes.

I have exhibited from time to time to the profes some practical results I have been able to get in ap ing the method to the relief of deaf-mutism. Those patients shown at Savannah and some treated since retain their hearing and speech. After hearing is established the use of words has to be acquired and it usually necessitates persistent teaching. The work is being done under considerable handicap because of lack of material.

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* Read before the Sixth District Medical Association of Georgia, Macon, Nov. 11, 1908.

Dr. Love, of Glasgow, who has had ample opportunity to observe, says that about 70 per cent. of deaf-mutes have enlarged tonsils or adenoids, which would indicate that in a large number of deaf-mutes occlusion of the tubes is the primary cause of their deafness. What percentage of these may be benefited is yet to be determined.

In the attempt to demonstrate new medical ideas, mistakes are apt to be made and burning criticism will urely follow. It is usually of that old brand which ondemns without investigation and would crucify professional character without a trial. It has caused lastng heartaches to some of the best and brightest men he medical profession has ever known.

The criticisms are, as a rule, of such a nature as to e easily refuted; if, however, the publication of the cientific principle were withheld until criticisms were efuted, the truth would lose something of its prestige, he deaf something of value, while the physician sought ome selfish vantage.

REPORT OF CASES

In order that comparisons may be drawn between the rst cases having hearing established and those coming ter, I have selected the cases of two patients whose earing was established in 1898-9, and other cases hich have come to me within the past twelve months:

Case 1.—The patient, M., aged 18, a deaf-mute from birth, me for treatment in 1898. On inspection, the general aparance of the ears were normal, the tympanic membranes mewhat retracted. On a test of air conduction, there was rception of loud sounds when made very near, somewhat betr in the left ear than in the right. The bone conduction was rmal. The patient had adenoids which were not removed. e tonsils were not diseased. He was under treatment once day for three months, at the end of which time he had hearg in his left ear for words spoken in a conversational tone, t no improvement in the right ear. He has retained his aring and learned to talk. Various experiments were tried this case, and hearing was not improved until an attempt s made to raise the stapes from the oval windows by sucn.

Case 2.—The patient, Miss S., aged 12, a deaf-mute from th, came for treatment in 1899. On testing by aerial conction, I found that hearing existed for loud voices near by. ne conduction was normal; tympanic membranes normal in pearance and in position; except for a few adenoids which re not obstructing the Eustachian tube, the throat also was mal. There was marked improvement in the hearing after first treatment. After ten days the patient could hear rds spoken in a low tone. She retains hearing for conversanal tones. No effort has been made to train her to speak, l she has picked up only a few words. She is very poor, l her mentality is below the average.

he next cases are those which came to me this year.

Case 3.—The patient, Miss J., aged 10, came for treatment February, 1908, with a history of deafness caused by asles one year previous. Her ears suppurated and she bee profoundly deaf and lost the power of speech almost irely while under the care of other specialists. Examina revealed retracted tympanic membranes and adenoids ch closed the Eustachian tubes; bone conduction good; ring by aerial conduction nil. After three months she ld hear words spoken near the left ear. After eight months hears conversation by use of the speaking-tube in the left ear, but hears very little with the right. She has regained the power of speech and carries on conversation by use of the speaking-tube. There is a slow but steady improvement in hearing through the use of the suction massage instrument.

Case 4.—A little girl, aged 4, child of a physician, came July 25, 1908, with a history of congenital deaf-mutism. Her parents stated that they noticed that she did not begin to talk at the usual age. They then discovered that she was deaf. On inspection the tympanic membranes were strongly retracted, and there was evidence of adenoids and closure of the Eustachian tubes. Bone conduction was good. The patient gave no evidences of hearing by aerial conduction. I began treatment by removing the adenoids thoroughly under general anesthesia. She was then allowed to go home for a week. When she returned, treatment was given once a day for a week, at which time she began to hear and talk. She was again taken home, caught cold and returned after ten days with catarrhal discharge from both ears, the Eustachian tubes being tightly closed. Under treatment again, these conditions were relieved, and the patient began to talk once more. After three months she now hears a whisper at a distance of three feet, speaks words and sentences quite freely, and gives promise of gaining her lost powers in full.

Case 5.—The patient, a boy, aged 8, came for treatment July 28, 1908, with a history of having had some hearing and speech when about 2 years old. He had suddenly stopped speaking. At the time he came to me his hearing by aerial conduction was good for words spoken near and in a very loud tone. He retained the use of the words "mamma" and "papa." On inspection, tympanic membranes were found to be slightly retracted, and there was partial closure of the Eustachian tubes. He had been operated on the year before for adenoids without any beneficial effect on his hearing. Under general anesthesia, I removed with my finger granular tissue from Rosenmüller's fossa. Treatment began three days afterward, and improvement came in the patient's hearing, speech, and general expression at once. After three months, he hears and speaks almost normally, and his expression has changed from that of a semi-idiot to that of a bright, beautiful boy.

Case 6.—The patient, a girl, aged 16, had begun to speak at the usual age and suddenly ceased. She was taken to a specialist and had adenoids removed with no good effect on her hearing. I found her profoundly deaf and dumb. The tympanic membranes were slightly retracted, and air could be forced through the Eustachian tubes. I operated for adenoids under general anesthesia, and broke down granular masses in the fossa of Rosenmüller. The next day I made an attempt to raise the stapes, and after the treatment could get no evidence whatever of any ability to receive sound. She is one of the many patients in whom probably the adhesions binding the ossicular chain are too strong to be broken.

The family history as to other deaf-mute members was negative in all these cases.

The Condition of the Peripheral Blood Vessels in Shock.—In the article with the above title, by Drs. M. G. Seelig and E. P. Lyon of St. Louis, in The Journal, Jan. 2, 1909, page 45, the accompanying illustration was incompletely printed. Through a defect in the cut the heavy marks in the line showing the seconds were eliminated, rendering the illustration pointless.

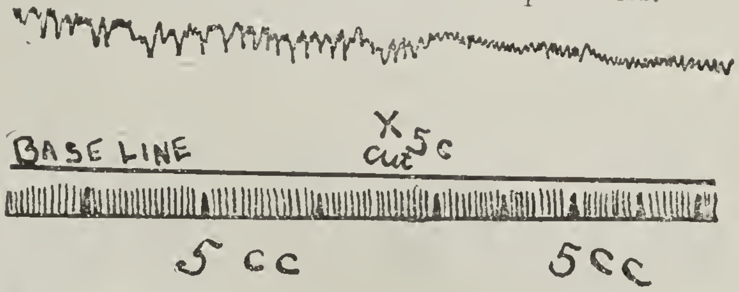

Fig. 2.—Tracing indicating outflow of blood in experiment on Dog 3. Very low blood pressure. Animal in profound shock approaching *exitus lethalis*. Division of sciatic (×) followed by a proportionately more rapid outflow from femoral vein than in Fig. 1. Time markings, 1 second. The distance between the heavy marks represents the time required for the flow of 5 c.c. of blood.

A REPORT OF FORTY-EIGHT NEW CASES OF PARATYPHOID FEVER (TYPE A)

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AND
JOHN A. RODDY, M.D.
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The scientific investigations of the last decade have shown that paratyphoid has the same geographical prevalence as typhoid fever. Since Achard and Bensaude, in 1896, described the first two cases of this disease and called it *infection paratyphoidique,* several hundred cases have been recorded. Soon after Achard and Bensaude's discovery Widal and Nobecourt isolated an organism from a post-typhoid abscess which was identical with that described by the former observers. Acting on Gilbert's suggestion, they named it para-coli infection. Later Cushing, Hewlett, Coleman and Buxton, Longcope, Libman and Meltzer reported cases in America.

In Germany, Schottmüller and Curth were the first to recognize cases of paratyphoid fever. Schottmüller was the first to divide paratyphoid bacilli into two groups, based on cultural and agglutination differences. De Feyer and Kayser confirmed the observation of Schottmüller and divided paratyphoid bacilli into two groups, A and B.

During the last five years a great many analogous observations have been reported, which nearly all belong to Schottmüller's paratyphoid, Type B. Infections with paratyphoid bacilli, Type A, are rare; in Germany, where typhoid cases have been closely studied, only a few cases of para A have occurred.

Netter is the only European who has reported a number of cases of paratyphoid fever caused by the para A bacillus. He reported seventeen cases, but his observations were made by agglutination tests only; blood cultures were not made. It appears that paratyphoid fever A occurs more frequently in the United States than in Europe.

METHODS OF INVESTIGATION

Before reporting our findings we wish to describe the methods we employed in making blood cultures and agglutination tests. From May 1, 1907, to May 1, 1908, there were 262 medical patients in the Allegheny General Hospital who had fever or abdominal symptoms or both. From every one of these patients 3 to 5 c.c. of venous blood was taken under aseptic precautions and put in 60 c.c. of a sterile mixture of two parts of calf bile, one part bouillon, 10 per cent. glycerin and 2 per cent. peptone. This was then incubated for fifteen hours at 37 C., after which it was inoculated on tubes of agar. The agar was then incubated at 37 C. for fifteen hours. At the end of that time it was examined microscopically, and if a motile Gram-negative bacillus was present it was inoculated in milk-sugar bouillon, grape-sugar bouillon, milk and litmus-whey. Eighty-one per cent. were negative, 11 per cent. positive typhoid, and 8 per cent. were para A positive. (For rapid, accurate, clinical work it is only necessary to put the blood in calf bile bouillon, incubate for fifteen hours and then inoculate the above-mentioned culture media with it. In this way it is possible to reach a diagnosis in a period of only thirty hours.)

All agglutination tests were made by Proescher's method[1]; the serum used was obtained from animals which had been inoculated with pure cultures of para A and para B bacilli and subsequently developed an agglutination-titer of 1 to 40,000.

Morphologically, the paratyphoid bacillus is similar to the typhoid bacillus, but is generally a little shorter and has from eight to ten flagella and possesses a high degree of motility. It stains with the usual anilin dyes and is Gram-negative. It ferments grape-sugar, but not milk-sugar, produces no indol, and does not coagulate milk. The surface growth on agar and gelatin can not be distinguished from typhoid cultures. The cultural distinctions between the two groups of paratyphoid bacilli is that A produces a constantly acid reaction in litmus-whey, the solution always being red, while B first turns litmus-whey red, then blue and continues alkaline. This difference is constant, but the agglutination test with an artificial serum is the most reliable method of differentiation. Para A is not so fatal to mice, guinea-pigs and rabbits as para B. The lethal dose of para A is a hundred times more than the lethal dose of para B.

The organisms isolated from all our patients were exactly the same, and they were identical with paratyphoid A bacilli obtained from other laboratories for comparison.

A complete report of our laboratory investigations, together with a review of all the cases that have been studied and reported throughout the world, will be published at a later date.

CHARACTERISTICS OF DISEASE

Etiology.—Season, age and sex play the same part in this disease as in typhoid fever. Most of the cases occur in September and October, but a few in March, April and May. In the 48 cases studied, 17 patients were females and 25 males. From 20 to 30 is the most susceptible period; 75 per cent. of the patients were i the third decade of life; 3 were under 20, being 15, 1 and 19 years old. Ten were between 30 and 40; on was 48, and another, the oldest, was 66. Six of th forty-two stated that they had previously suffered wit typhoid fever. Their statements were probably correct but we can not be positive.

Immunity.—Typhoid fever does not confer immunit from paratyphoid fever. An attack of paratyphoi fever usually immunizes from subsequent attacks. Th period of incubation varies from two days to two week Two persons who accidentally swallowed small amount of a pure culture became ill, one five days and the oth seven days after imbibing.

Onset.—This is not so gradual or insidious as i typhoid fever. Headache, backache, stiff neck, sorene of all the muscles, especially those of the back and leg unnatural fatigue and anorexia are the initial sympto in the majority of the cases. Fifteen per cent. of t cases start with acute catarrhal pharyngitis, sore throa a dry, unproductive cough and chilly sensations. In per cent. of the cases, the onset more closely resembl typhoid fever, the chief symptoms being nausea, vomi ing, diarrhea and abdominal tenderness. Headache o curs in nearly all cases; epistaxis less commonly th in typhoid; 20 per cent. of the patients complained of diarrhea and 25 per cent. were constipated. The tongue is covered with a thin white fur.

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[1] For Proescher's method of agglutination, see Centralbl. Bakteriol., 1902, abth. I, p. 400. On account of lack of time. t feces were only examined in ten cases; in four of them the para bacillus was isolated. Methyl-green agar was found to be the b medium for this purpose. Urinary examination was made in fift cases, the bacteria only being recovered from one.

First Week.—Headache is the most constant symptom; toward the end of the week the spleen enlarges and becomes tender and a roseolar rash may appear on the abdomen. Headache usually stops before or early in the second week.

Second Week.—Slight tympany, abdominal distention and constipation or diarrhea occur. In contradistinction to typhoid fever, in this disease the appearance of the tongue is the same throughout the disease. It is moist, covered with a thin white fur and is normal in size and shape. The tip and edges are not clean. It does not become dry, swollen, brown, fissured and sore. From the seventh to tenth day, in most cases, the temperature begins to fall, the appetite returns and convalescence sets in.

Variations.—These are frequent in onset and course. According to the most pronounced symptoms of onset, the cases may be divided into three groups: 1, those in which nausea, vomiting, diarrhea and abdominal tenderness are the chief symptoms (22 per cent. of the cases belong to this group); 2, those in which the predominating symptoms are acute catarrhal pharyngitis, sore throat and cough (these constitute 15 per cent. of the cases); and, 3, the greatest number, the typical cases, n which the patients complain of severe headache, backache, stiff neck, marked soreness of all the muscles, but especially those of the back and legs and excessive fatigue. The most striking symptom in this group is he stiff neck. In some cases the onset is sudden; in ll it is more rapid than in typhoid fever.

Temperature.—The temperature curve was not like he classical one described by Wunderlich. It rose less gradually, sometimes abruptly; the daily fluctuation as greater; the fastigium was much shorter and not so igh. On the first, second and third days the evening emperature was 1½ degrees F. higher than the evening temperature of the day before, and each morning here was a remission of a fraction of a degree. The ighest temperature was reached the evening of the hird or fourth day and was about 103 F. During the ext three or five days the evening temperature maintined the same level; each morning there was a remis-on of 1 to 1½ degrees. From the sixth to ninth day sis began in most cases. The temperature fell a de-ree every evening and the morning remission was arked; the temperature became normal about the fif-enth day. Hyperpyrexia did not occur and the tem-rature in itself was never a dangerous symptom. fter the temperature had been normal for a week, a lapse might set in and be of shorter, equal or longer ration than the initial attack.

Skin.—In one-third of the cases, those of patients in hom the temperature stayed about 100 F. for more an ten days, a roseolar eruption appeared on the ab-men and one on the chest. It consisted of discrete, cular, elevated, flattened papules, 2 to 4 mm. in di-eter, which disappeared on pressure and reappeared hen the pressure was removed; they lasted from three six days and gradually faded away. No other signs peared on the surface of the body, and in this the dis-e differed from typhoid fever.

Mouth.—When first observed the tongue was uni-mly covered with a white fur, moist, did not become own, dry, enlarged or fissured nor painful and rapidly cleaned up when the temperature returned to normal. Acute catarrhal pharyngitis occurred in six cases; the mucous membrane was dry, red and injected. Parotid abscess occurred in one case. It was opened, drained and rapidly healed; the pus was not examined.

Respiratory System.—Acute catarrhal laryngitis, cough and bronchitis occurred at the onset in twelve cases. Pneumonia occurred in one case, that of a patient who had been ill in bed at home for three weeks, and was admitted with lobar pneumonia involving both lungs.

Circulatory System.—The pulse was from 80 to 110, and the pulse-temperature ratio was about the same as in typhoid fever. Dicrotism occurred in only three cases, which was in contrast to typhoid. The pulse was regular and of good tension. After the seventh day the pulse became slightly irregular in some cases. No heart lesion developed during the disease.

Gastrointestinal Tract.—Nausea and vomiting were present at the onset in some cases, but soon disappeared. In many patients the bowels were normal at onset and later became constipated. Unfortunately the stools were not studied. Slight tympany and distention occurred in some cases, but was of short duration. Abdominal pain and tenderness was present at the onset in nine cases. A mild diarrhea, which lasted less than a week, occurred in about 20 per cent. of the cases. The majority of the patients, while in bed, were constipated.

Urinary System.—The variation from normal in the urine was slight. Retention occurred in one case. In 25 per cent. of the cases the Diazo reaction was positive. The urine was examined for bacteria in fifteen cases, but was present in only one.

Liver and Spleen.—The liver was found enlarged in three cases. The area of splenic dulness was increased, the organ not palpable, in ten cases; in fourteen cases the spleen was palpable and tender.

Complications.—These are rare and probably never fatal. One patient developed a parotid abscess and recovered. A patient who had been ill in bed at home for three weeks was admitted with consolidation of both lungs and died in less than twenty-four hours after admission. No one can say whether the pneumonia was a complication of paratyphoid fever or the paratyphoid an occurrence in the course of some other disease.

Prognosis and Mortality.—The prognosis is far more favorable than in typhoid fever, since complications are few. Death is only a possibility. Recovery is rapid and uninterrupted in most cases. The mortality is less than 2 per cent.

CONCLUSION

Paratyphoid fever is a distinct disease, differentiated from typhoid fever by the following characteristics:

1. It is due to an infection by a bacillus which is not the typhoid bacillus.
2. The onset is more sudden, the duration shorter and the disease milder than typhoid fever.
3. Hyperpyrexia never occurs, complications are rare, and there are no sequelæ.
4. The mortality is less than 2 per cent.

On account of the variability of the initial symptoms, the maintenance of fever for more than two weeks in some cases and the frequent similarity of irregular cases to mild cases of typhoid fever, a positive clinical diagnosis can rarely be made. All require, and should have, for exact diagnosis, an examination of the blood and the recovery, growth and recognition of the bacteria.

The 48 cases described in this paper occurred in the service of Drs. O.Hail, Wolf and MacNaugher, members of the medical staff Allegheny General Hospital. We wish to express our indebtedness to them for the use of their clinical charts and records.

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Therapeutics

TOXEMIAS OF PREGNANCY

The disturbances of the last month of pregnancy and some of the severe conditions at parturition are due to varying causes, and the treatment that is efficient and satisfactory in one instance may not be efficient in another.

Dr. Collin Foulkrod, Philadelphia, in the *American Journal of the Medical Sciences,* October, 1908, well discusses this important subject.

He cites the following causes of toxemias due to or during pregnancy: These are intestinal indigestion; disturbances of the parathyroids and thyroid; disturbances in the fetal organism, in the placenta, in the kidneys, or in the liver. He emphasizes the seriousness of changes in the liver, and believes that when metabolic disturbances have involved the liver the patient's condition is serious.

He believes that 50 per cent. of pregnant women suffer from some form of intestinal disturbance, and it is certainly true that intestinal disturbances are concomitant with or preliminary or subsequent to most toxemias.

When instances occur which are positively demonstrable of serious toxemias being caused by prolonged constipation, it is certainly logical to presume that constipation even in a mild form is provocative of the absorption of toxins that should have been eliminated by the intestines. These toxins seriously impair the perfect activity of the liver, to which they first go through the portal circulation. If the liver is so continuously irritated it can not well do its normal work, and more or less toxins or irritants to metabolism soon get through this filter into the systemic blood and cause nervous, circulatory and kidney irritations. Such irritations at first, and perhaps continuously, may be inconsequential, but they may be the forerunners or the instigators of serious conditions in the latter part of the pregnancy. A primary axiom in pregnancy, then, should be that constipation must not be allowed, and such means must be inaugurated and persisted in as will prevent constipation, intestinal stasis, intestinal fermentation, putrefaction and the absorption of toxins. If any one of the digestive organs is not properly functionating it should be assisted, if possible, and the diet so arranged as not to aggravate this disabled organ, and to relieve it of as much work as possible.

It is now acknowledged, both physiologically and clinically, that the thyroid gland normally hypersecretes during pregnancy. This is doubtless necessary to neutralize the nitrogenous poisons that occur from the double metabolism of mother and child. If the thyroid does not secrete properly, various toxemias occur. A malsecreting thyroid can probably allow pernicious vomiting to occur during pregnancy, can certainly interfere with the nutrition of the fetus, can interfere with the health of the mother, and can allow puerperal eclampsia.

If by a careful study of the pregnant patient it is decided that the thyroid gland is not properly secreting, thyroid substance should be administered. The dose during pregnancy should be small. Just preceding parturition, if it is feared that eclampsia may occur, and especially if the kidneys are insufficient, thyroid should be given in large doses; and if eclampsia does occur, it should be given in very large doses. If a patient gives birth to a child showing imperfect development or symptoms of under-thyroid secretion, although it might not be a cretin, certainly thyroid should be administered to the mother throughout her subsequent pregnancies, unless the symptoms present forbade its use. A daily dose for a pregnant patient, short on thyroid secretion, should not be more than 0.20 gram (3 grains) once a day, while a patient who showed serious toxemia or critical symptoms of metabolic poisoning should receive 0.30 gram (5 grains) three or four times a day for a short period. A patient needing thyroid just before or during parturition may be given 0.60 gram (10 grains) once or twice, while a patient with eclampsia may be given 1.30 grams (20 grains) at one dose.

While Foulkrod speaks of disturbance of the function of the parathyroids being possibly a cause of toxemia. i has not yet been proved. Consequently under what con ditions prepared parathyroid gland substance should b administered to the pregnant woman has not been de termined, and therefore its administration would b empirical.

Malnutritions of the fetus and degenerations of th placenta may cause the formation and absorption of tox ins that will poison the mother. Such toxemias partak of the nature of blood poisoning. The cause being di covered and improvement not soon taking place woul seem to call for cleaning out the uterus—this, of cours after a consultation.

Foulkrod does not believe that primary kidney tox emias are so frequent as primary liver toxemias, but b lieves that a secondary kidney disturbance may be th consequence of almost any toxemia. This has doubtle many times been the cause for laying the blame of pre nancy toxemias on the kidneys when these organs ha not been at fault.

As Foulkrod says, a pure uncomplicated true nephrit toxemia should certainly be discovered. A uremic co dition from nephritis of pregnancy must almost alwa be a progressive condition. Consequently a progressi chronic nephritis can only be overlooked by utterly ne lecting to make proper examinations of the urine. I chronic nephritis, by evidences in the urine, shows progressive inflammation, a final toxemia, due to allo ing a pregnancy to continue too long before interferen should be prevented. Consequently the most serious toxemias and eclampsias are those that do not present kidney symptoms or signs until the last moment, and these toxemias are due primarily to disturbances of other organs than the kidneys.

If the kidneys were previously healthy, i. e., if an insidious chronic interstitial nephritis were not present, a nephritis due to pregnancy should be quickly recognized by the albumin in the urine. Therefore, an examination for albumin and casts is usually sufficient to show whether the kidneys are in primary trouble or not. On the other hand, to determine whether liver disturbance or other toxemias are present, Foulkrod urges that it is necessary not only to determine the amount of nitrogen in the twenty-four hours' urine, but the sources of this nitrogen; how much is urea nitrogen, how much ammonia nitrogen, and how much is purin nitrogen. If, in a pregnant patient who shows disturbances that denote toxemia, the total amount of urine output is greatly decreased and the nitrogen is also decreased, the kidneys may be at fault. If the liver is much disturbed the relation of the urea nitrogen to the ammonia nitrogen is changed, the urea nitrogen being decreased and the ammonia nitrogen increased. If such urinary findings persist, viz., if there is a gradually increased amount of ammonia nitrogen and a gradually decreased amount of urea nitrogen, it shows that there is serious liver disturbance, and Foulkrod advises the induction of labor rrespective of albumin and casts. When there is pernicious vomiting in pregnancy the same changes in the nitrogen output of the urine may take place, and if an ncreased amount of food can not be in some manner etained, or if retained the ammonia nitrogen output is till high, the pregnancy should not be allowed to o on.

ILLUMINATING GAS POISONING

Dr. Glenn I. Jones, in the *American Journal of the ledical Sciences,* January, 1909, after discussing the hemistry and symptomatology of the condition, says hat the prognosis is based on "the duration of exposure; egree of coma; condition of the pulse, respiration and emperature; condition of lungs; condition of blood; nd the presence of cutaneous blebs." If the coma is rolonged forty-eight hours or more the prognosis is bad. f there is edema the prognosis is bad. If the inhalation f the illuminating gas has endured but a short time, esponse to treatment is rapid. Jones states that all ases which develop cutaneous blebs end fatally.

The treatment of the patient should be plenty of fresh ir; the tongue should be drawn forward, and, if respiration is failing artificial respiration should be begun. enesection should be done from one arm, and from "a int to a pint and a half of blood should be removed," nd simultaneously a quart of physiologic saline solution ould be transfused into the median basilic or cephalic ein of the opposite arm. Two hours later, if there is ot sufficient improvement, venesection may be done gain. Saline solutions should be given subcutaneously ery two hours in quantities of one pint. Or perhaps etter the saline should be given by the colon by the ntinuous method. Jones believes that these saline solutions "diminish toxemia, lessen the tendency to edema of e lungs, increase the affinity of the red cells for oxygen, nd stimulate the circulatory system."

As soon as possible after the patient has been discovered Jones advises the hypodermatic injection of 2 c.c. 30 minims) of ether, 1/100 of a grain of atropin, and c.c. (30 minims) of suprarenalin solution (1 to 1000). He does not believe nitroglycerin or other vasodilators are indicated, but that vasoconstriction is what is needed. Dry heat should be applied to the body to prevent the loss of that necessity of life.

Jones believes that while the venesection and injections of saline are being done an assistant should pass the stomach tube and wash out the stomach with a solution of potassium permanganate and then introduce into the stomach a solution containing 90 grams (3 ounces) of magnesium sulphate. If at any time the respiration or circulation fails, artificial respiration should be done again and circulatory stimulants again administered.

Jones does not believe that direct transfusion of blood is of any more benefit than the saline transfusions.

If the patient survives, the urine should be watched daily for some time that disturbances of the kidneys may be immediately noted.

Jones does not believe that inhalations of oxygen have any more value than ordinary air.

In all serious conditions of shock, coma and collapse, while everything that ought to be done should be done, there is a constant tendency to do too much, especially with drugs hypodermatically. Jones does not caution against the over-use of atropin or suprarenal preparations, but simply states that the suprarenalin should be repeated when indicated. If the suprarenal solution is injected hypodermatically the blood will acquire the vasoconstricting material slowly and continuously for a long time. Therefore it would be inadvisable to inject a suprarenal solution too frequently, especially as the dose he first advises, 2 c.c. of a 1 to 1000 suprarenal solution, is very large, in fact, large enough for serious consequences if the blood acquired it too rapidly.

He also does not state how often the ether should be administered, and it would seem that the secondary effect of ether would be that of a vasodilator, although the primary effect is quick and immediate stimulation. In other words, after the attempt to quicken the circulation or awaken a patient by the stimulation of ether hypodermatically it would seem inadvisable to repeat it frequently.

Also 1/100 of a grain of atropin hypodermatically should not be repeated frequently, certainly not for a number of hours.

It is not clear, if there is circulatory failure, why the hypodermatic use of strychnin is not advised.

As a circulatory and cerebral stimulant caffein should be considered, and also the hypodermatic use of a saturated solution of camphor in sterilized olive oil.

Irrigation of the Bowels with Red Wine.—F. Houssay for some time has been lauding the advantages of lavage of the intestines with heated red wine (40 C.) in infantile diarrhea and in the *Archives de Médecine des Enfants,* April and November, 1908, xi, he cites some typical examples to demonstrate the soothing, cleansing and healing influence of this lavage. It is especially useful in mucomembranous enteritis, and general convulsions do not contraindicate this treatment. He practices in a wine-growing district (Loir-et-Cher) in France, and ascribes the action to the alcohol, tannin and potassium salts naturally in the wine. The wine must be fresh, with not more than 7 or 8 per cent. of alcohol, and he uses one liter for a lavage, repeated two or three times the first day, two liters on the following days, continuing until the stools return to normal. It is important to supervise carefully the regular and ample outflow of the fluid. The reservoir is raised about three feet above the level of the anus, and he uses a two-way cannula. None of the wine is to be retained, the aim being merely irrigation of the intestines, not retention of an enema.

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EXPERIMENTAL STUDIES ON IMMUNITY IN CANCER

We are all so acutely concerned with the efforts that are being made to learn something concerning the power of the animal organism to protect itself, and possibly to confer immunity against malignant growths, that there will undoubtedly be general interest in the discussions and articles by which the German investigators have recently tried to gather up the loose ends of the subject and to take inventory of our actual achievements and knowledge of the problem. A symposium on cancer problems at the last meeting of the German Pathological Society in Kiel,[1] together with the animated discussion that followed, serves to give a good insight into the views now held by German pathologists, while Anton Sticker, one of the active investigators of transplantable tumors, has recently published a terse summary of the existing situation concerning "the immunity and spontaneous healing of cancer according to the results of the modern experimental investigations."[2]

Sticker emphasizes the widespread existence of a natural immunity to tumors, which is shown by such facts as the following: Tumors arising spontaneously in animals can never be transplanted into animals of any other species, and only a small proportion of malignant tumors can be transplanted even into animals of the same species. Metchnikoff was unable to transplant human tumors to anthropoid apes, while Sticker has made over four hundred attempts to transplant human tumors to various domestic and laboratory animals without success. Even with the most readily transplanted tumors, one seldom obtains 100 per cent. of takes, for a larger or smaller number of animals will be found to resist successfully the implanted tumor cells. Sometimes a special strain of a given species may be immune to a tumor which readily attacks other strains — for example, mouse carcinomas have been found which could not be transplanted to mice raised in Berlin, although readily growing in Norwegian mice. As yet we have no understanding of the underlying principles of this natural immunity.

Artificial immunity against the transplantable tumors of animals has been secured by various means. If an animal recovers spontaneously from an inoculated tumor, which frequently happens, this animal will be found immune to subsequent inoculations, and in at least some cases its blood will protect other animals if injected before or soon after they are inoculated; occasionally this passive immunization has been found able to cause retrogression of tumors that were already growing actively. Animals have also been rendered actively immune to tumors by previous injection of tumor cells directly into the veins, by which route no tumors are ever produced; while, in the case of transplantable mouse cancer, immunity has been secured by injection of mouse embryos, mouse liver, mouse testicle, benign mouse tumors, and even by injection of normal mouse blood. On the other hand, attempts to secure active immunity by injection of cells killed in various ways seem to have been generally unsuccessful.

At the meeting of the German pathologists the warmest discussion arose over the validity of Ehrlich's views concerning that form of immunity which he has designated as *athreptic*. The main facts and the history o this subject are, briefly, as follows: If a tumor is implanted into an animal in several places at one time i is common for several or all of the inoculated sample to take root and grow; but if a single tumor has bee inoculated and has begun to grow vigorously a secon inoculation will seldom take. If an implantation tumo is extirpated, however, the animal is now susceptible t a new implantation even if made the same day as th resection is performed, although if the growing tum is only partially removed it is still impossible to cau new implantation tumors. In the case of mouse tumo it makes no difference whether or not the tumors us for the first and second implantation are the same, f the presence of rapidly-growing carcinoma will preve successful inoculation with a sarcoma, and conversel but Sticker has found that a spindle-cell sarco growth in a dog did not prevent successful inoculati with a round-cell sarcoma. Ehrlich's explanation this phenomenon is as follows: The first rapidly gro ing tumor attracts to itself so strongly the necessa nutritive substances that the cells which are implant later, being at first very poorly supplied with nouris ment, are unable to secure enough food and either peri or multiply very slowly. Consequently this form immunity is best seen when the first tumor is growi rapidly, and slowly-growing tumors may merely ca the second implantation to grow somewhat more slo than a primary implantation would.

This hypothesis of athreptic or exhaustive immun reminds one of the primitive hypothesis of bacte immunity advanced by Pasteur, namely, that after fection the immunity to subsequent infection with same organism is due to the fact that all nutrient terial specific for this organism has been used up d ing the first infection. A number of investigators h obtained results in harmony with this athreptic munity theory, among the earliest observations b those made in this country by L. Loeb and M. Herzog; but a number of the European workers have failed to secure resistance to a second implantation. These failures are ascribed by the Ehrlich school to the use of tumors which were not rapidly growing, in which the athrepsia was not strikingly exhibited. As yet, however, the results have not been conclusive or unanimous enough to permit one to decide either the soundness of the explanatory hypothesis or the universality of the phenomenon, not to mention the significance of athreptic immunity as observed in mice and dogs for our understanding of the pathology of human cancer.

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[1] Verhandl. d. deutsch. pathol. Geselsch., 1908, Zwölfte Tagung.

[2] Ztschr. f. Krebsforschung, 1908, vii, 55.

EDUCATION AND THE FAMILY

"The School and the Family" is the title of a recent article by Professor Cattell,[1] in which he discusses the subject of the decrease of the birth rate in all civilized countries. He quotes the familiar statistics which seem to show that France lost about 20,000 in population last year, and suggests the possibility that the future history of the human race will be shorter than its past history, and that its extinction will be due to the gradual lower-ng of the birth rate as civilization advances.

Professor Cattell has been making some interesting observations for himself. A census of twenty-two apartment houses in New York City, for instance, shows that hese contain 485 families and just fifty-four children—one child to every nine families. Here is the matter from another viewpoint: "In eighty-one divorce cases ried in a single month in a New York City court—divorces have trebled since 1870—the 162 married perons had among them fifty-two children." Doubtless it s intended by this to convey the idea that, while the partment houses may represent such utterly artificial onditions as not to be worth citing, the divorce court ecords probably represent a pretty good average of the pper three-fourths of the population at least. He confesses that "these are extreme cases; but among the educated and well-to-do classes the number of children oes not nearly suffice to continue the race. The Harard graduate has on the average seven-tenths of a son, he Vassar graduate has one-half of a daughter."

While the cause of this lowered birth rate is ordiarily attributed to preventive measures consequent on lfishness and love of ease, the Columbia psychologist onsiders it largely a consequence of actual loss of reproductive power from overeducation. He states emphatically that it is due to the substitution of the school or the home as the chief educational institution. We re making people sophisticated and obliterating their atural instincts by rationalizing them. In his opinion, irls are more injured than boys, and many women are ade incapable of bearing children from overeducation, hile one in four can not now nurse her children. The llowing expression is epigrammatically startling: "It is probably not an exaggeration to say that to the average cost of each girl's education through the high school must be added one unborn child."

It is clear that Professor Cattell does not cherish unqualifiedly the high idea of the value of our school and collegiate education that is common. He says: "In any case, the residuum of knowledge surviving the eight years of elementary school is pitifully small;" and again: "One of the most persistent errors of our school methods is the teaching of a child at a certain age, with great labor and at the production of much stupidity, what could be learned easily and with pleasure a couple of years later. It is possible to teach an infant to walk two months before the body is ready, but bow-legs are likely to be the only pronounced result." He is also severe in his denunciation of the present system which has placed the teaching of children, even up to the age of 16, so entirely in the hands of unmarried females, that probably not more than one in fifteen of our teachers is a man. In one normal school in California the graduating class contained 272 women and just one man. The difference between the American and the German system in this matter will be realized from the fact that there two-thirds of the teachers in corresponding schools are men.

Of course not all that Professor Cattell says will be acceptable, either to educators, or to those occupied with social questions generally, or with education from a less special standpoint; but what he has to say is extremely suggestive. There certainly is a tendency toward sophistication and the obliteration of instincts that is likely to prove serious for the human race if it is allowed to continue. He says very well: "Perhaps the principal danger to our civilization is the checking of instincts by rationalistic considerations." All this is of interest to us as physicians, not as a mere academic problem, but rather in serious relation to our daily work. We have more opportunity than any other class of men for influencing people in the matter of the natural instincts and their proper conservation and exercise. Have we perhaps been too much influenced by some of the old Malthusian doctrines, that if the race were not checked the limitations of the food supply would check it? Professor Cattell answers, "But Malthus was a false prophet; thanks to the application of science the means of subsistence have increased more rapidly than the population. If the density of the population in the United States were equal to that of Great Britain, all the people in the world could live here in comfort."

Professor Cattell's remedy deserves mention for its startling character. It is that "the teacher should be the family, and so far as may be the scholar should be the family." He draws a picture of a school in the country, the house a model of simple beauty, either containing, or adjacent to, the home of the teachers, and surrounded by gardens, orchards and barns. It should be so constructed, esthetically and hygienically, as to be an object lesson both for the pupils and for the families around. The work should consist of two hours a day for study and two hours more for handicraft work or other labor. The "tricks of reading, writing and reckoning" should be taught by the master and mistress and their older children, with the help of others who are able. All should be encouraged to go as far as they care to along the paths of letters and science. The schoolhouse should be a sort of village club, used for purposes of social intercourse and recreation, as well as for instruction.

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[1] Popular Science Monthly, January, 1909.

"Such a school should be supported mainly by the work of those whom it serves; perhaps no taxation would be required; in any case the money needed for the master and mistress and their children to live in quiet elegance would not be much." The master and mistress would have ample time. "The wife could be spared when higher duties (childbearing?) demand it," and the man could devote himself to the completion of some pressing work, or to editing the local journal or practicing as physician, pastor, lawyer, or what not. Some industrial work should be connected with the school and apprentices would be trained who could carry expert skill to other neighborhoods." "Five thousand families," says Professor Cattell, "continually increasing in numbers, engaged in learning and in teaching, would give to this country a true democratic aristocracy."

In short, as a corrective for all the evils resulting from the modern supersession of the family by the school, Professor Cattell suggests a system of localized education, individual and industrial, in principle essentially resembling that which J. J. Walsh has essayed to demonstrate as prevailing in Europe during the thirteenth century.[2] Alas for its improbability! Before such a plan could materialize it would be necessary to reverse the entire mental current of twentieth century people.

THE PATHOGENESIS OF THE EYE SIGNS OF EXOPHTHALMIC GOITER

Few anatomic structures are enshrouded in more obscurity than certain unstriped muscles external to the eye. They have, however, attained recently a new importance since the discovery of their relation to the symptoms of exophthalmic goiter.

In 1858-59 Heinrich Müller described very briefly three groups of plain muscle fibers—one bridging over the infraorbital fissure, and one in each eyelid running vertically from the fornices of the conjunctiva to the superior and inferior tarsal plates respectively. Sappey's rather indefinite description of two bands of plain muscle lying one on either side of the eyeball, and termed by him "internal and external orbital muscles," has failed of confirmation at the hands of other competent anatomists.[1] The plain muscles of the lids, now known as the superior and inferior tarsal muscles, together with the M. infraorbitalis, constitute the so-called muscle of Müller, and it has been theoretically advanced that a spastic condition of these muscles causes the exophthalmos of exophthalmic goiter. Their obvious insufficiency, both from their size and position, to produce exophthalmos, together with the inadequacy of the many other theories advanced, led Landström[2] to seek the immediate cause of exophthalmos in a careful histologic study of the orbital contents. He removed intact by subperiosteal dissection the contents of several orbits, together with the lids and septum orbitale, and sectioned them serially in various planes. His preparations revealed a well-developed cylinder of plain muscle arising from the septum orbitale anteriorly and inserted just posterior to the equator of the ball. The result of his work he summarizes thus:

"The bulbus oculi enclosed within a connective tissue capsule and surrounded by a pad of fat is suspended within the orbit anteriorly by a cylinder-shaped plain muscle running from the septum orbitale to the equator of the bulbus and posteriorly by the recti muscles." The muscle is best developed mesially and least developed superiorly, corresponding to the position of the levator palpebræ superioris.

The ocular manifestations of exophthalmic goiter are so analogous to the effects of cervical sympathetic stimulation that many competent clinicians support thi origin of the signs.

Bearing in mind the attachments of the plain muscl described by Landström to the septum orbitale and eyeball, the eye signs of exophthalmic goiter become readil explicable. A spastic condition of the muscle woul have as its first effect a widening of the lid slit (Ste wag's sign). The free and easy movement of the lid being thus interfered with, an incoordination of th movements of ball and lids would follow as a natura consequence (von Graefe's sign).

The superior and inferior tarsal muscles running ve tically in the lids doubtless play a considerable rôle i the production of the two phenomena just describe Exophthalmos is produced when the hypertonicity the plain muscle — the opponens recti — overcomes th tonus of its antagonists—the recti muscles. Conver ence of the eye increases the distance between the orig and insertion of the mesial portion of the cone of pla muscle, which is consequently well developed to me this oft-repeated act. A spastic condition of the pla muscle would tend to overcome the tonus of its anta onist—the internal rectus—and a break in convergen would result (Moebius' sign).

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[2] Walsh, J. J.: The Thirteenth, the Greatest of Centuries.

[1] Merkel and Kallius: Graefe-Saemisch Handbuch der Aug heilkunde.

[2] Landström, John: Ueber Morbus Basedowii. Thesis, Sto holm, 1907.

Landström's histologic work confirms the important observations of MacCallum and Cornell.[3] These authors removed the roof of the orbit and orbital fat in dogs and on electrically stimulating the cervical sympathetic produced great exophthalmos and observed peristaltic waves passing backward throughout the tissue surrounding the eyeball. By dissection and histologic study they were able to demonstrate the presence of plain muscle fibers forming a smooth conical mantle about the eye continuous anteriorly with the musculature of the lids and forming abundant attachments about the margin of the orbit, passing backward thence to end about the foramen through which the optic nerve enters the orbit.

INDUSTRIAL ACCIDENTS

The casualties occurring chiefly among wage-earners engaged in industrial pursuits are becoming the subject of increasing interest and concern in this country. The accident rate of the United States, as we remarked a few weeks ago,[1] is far above that of any other. It can hardly be a matter of indifference to a nation that the loss of life and the maiming in its industrial army is double or treble that of its principal economic rivals. "The ever-increasing legislation for the protection of life and health in industry and the demand for more stringent employers' liability legislation emphasize the need of a more careful consideration of the facts by selected industries than has thus far been possible." With these words the eminent statistician, Frederick L. Hoffman, prefaces an important discussion of accident frequency in the United States in a recent government publication.[2]

The scope of this discussion does not include minute analysis of the causes of accidents, the degree of injury or the methods of prevention. Rather is the present monograph a clearing of the ground and a laying of the foundation for future studies in this important field. There are few readers of Mr. Hoffman's carefully prepared report who will not agree with his conservative and temperately stated conclusions: "The facts presented in this article warrant the conclusion that the casualty risk in American industries is a most serious one, toward the reduction of which every effort should be made. At least a more earnest effort should be made to profit by the industrial methods of European countries. Granting that the underlying conditions are often quite different and that many of our industrial accidents are the result of ignorance, reckless indifference, or carelessness, the fact remains that an immense amount of human life is wasted and a vast amount of injury is done to health and strength with resulting physical impairment, which has a very considerable economic value to the nation as a whole."

Hoffmann cites for illustration the accident liability of employés in coal mines in the United States, the average annual rate being 3.10 per 1,000 for the period 1897-1906. If this were reduced to 1.29 per 1,000, the average rate in the United Kingdom for the same period, the annual saving in human lives would be 915. If the rate of casualties of railway employés in this country could be reduced from 2.50 per 1,000, which was the average annual rate for 1897-1906, to 0.98 per 1,000, the average for the German Empire for the same period, 1,735 valuable human lives would be saved annually. On a conservative estimate the total mortality from accidents in the United States among adult male wage-earners is between 30,000 and 35,000. At least one-third and perhaps one-half of this fatality could be prevented by intelligent and rational methods of factory inspection, legislation and control. We are told in addition that during the period in question there were approximately not much less than 2,000,000 non-fatal accidents. It is plain that these not only involve a vast amount of human suffering and sorrow, but must materially curtail the normal longevity of the victims.

Some accidents are in the general sense of the term unavoidable and must be laid to the account of those natural forces which have warred against man from the beginning. Others, both minor industrial accidents and great catastrophes, are the fruit of carelessness or neglect. The recent construction-crib disaster in Chicago by which perhaps as many as seventy lives were lost does not seem to have been one of the unavoidable class which no exercise of human prudence or skill could have sufficed to avert. On the contrary, it has not been clearly shown that all possible precautions against explosions or fire or their results were in force on the doomed crib. The impulse to "fix responsibility," although in some respects elementary, is probably another sign of awakened interest in the problem of prevention. Industrial accidents are not the necessary and inevitable accompaniment of intense economic activity; they are the mark of a hasty and wasteful method of getting results, and are in large part so clearly preventable that future historians will doubtless wonder that the great social and economic waste that they entail was allowed to continue so long unchecked.

THE EXTINCTION OF TUBERCULOSIS

A distinguished physician has prophesied the early disappearance of tuberculosis as a scourge of humanity. A great deal of oversanguine optimism and comparatively few careful deductions from facts on this subject have appeared of late in medical literature. The progress already made in checking the mortality from tuberculosis has been encouraging indeed; but whether it warrants the confident expectation that tuberculosis will soon become extinct among the human race is a question which conservative minds can not yet answer with a ready affirmative. The paper by Drs. Willson and Rosenberger[1] in the present issue of The Journal is perhaps a timely as well as a sobering suggestion to some enthusiasts, for we are, as they say, only at the beginning of the crusade against tuberculosis. According to some pathologists, almost every adult is a tuberculosis carrier, and the possibilities of latent tuberculosis becoming virulent and infectious under favoring conditions can not be accurately estimated. When we consider how widely disseminated the infection is throughout the animal kingdom, and how universal in human civilized communities, it becomes evident that, before we can dream of its final extinction in man, we must also exterminate it among animals, and the whole world must join in the warfare against it. The universal extermination of tuberculosis will evidently prove a gigantic task; but the limitation of its ravages by every possible means is none the less an imperative and a profitable duty. Isolation and disinfection are measures of indisputable, though limited, usefulness; but for the present reliance seems to be most safely placed on the possibility of building up the resistance of the human body and the creation of an environment unfavorable to the germs of the disease by better methods of living, more sunlight, and better ventilation. Possibly the future may give us some means of producing immunity other than that habituation to the disease and its fostering conditions which is said to have rendered the Jewish race to a certain extent immune; and if so we may yet hope to be delivered from the "great white plague."

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[3] MacCallum, W. G., and Cornell, W. B.: The Mechanism of Exophthalmos, Med. News, Oct. 15, 1904.

[1] Jan. 9, 1909, p. 139.

[2] U. S. Dept. Commerce and Labor, Bureau of Labor, Bull. 78.

THE SPLEEN AND THE METABOLISM OF IRON

The function of the spleen has long been a riddle puzzling alike to physiologists and pathologists. It is known that it is an organ of importance in connection with the formation of the blood and also one in which dying red corpuscles are destroyed. Surgeons have removed the spleen in repeated instances without injury to the general health of the patients, a fact which makes it seem certain that the functions of this organ can be taken over by other parts of the body when necessity arises. Recently new light seems to have been thrown on the function of the spleen by certain researches of Grossenbacher.† This observer compared the iron metabolism in normal dogs with that in animals of the same litter from which the spleen had been removed. In the splenectomized dogs he found the daily excretion of iron larger than in normal dogs. This larger iron output was found not only when the animal was fed on a protein diet but also in the fasting state; it is not due, therefore, to interference with the absorption of iron from the food. The largest daily excretion of iron in a normal animal amounted to 11.2 milligrams, while in splenectomized animals it was as much as 29.2 milligrams. The lowest daily output in animals that had been operated on amounted to 18 milligrams. The increase in the excretion of iron continued for at least ten weeks after the removal of the spleen, showing that the compensatory activities of other organs had not by that time been sufficient to prevent it. It seems probable, therefore, that Grossenbacher is correct in his view that the spleen is an organ definitely concerned in the metabolism of iron; it is possible that its main function consists in retaining in the organism iron which otherwise would be excreted.

Medical News

CALIFORNIA

Itinerant Sanitary Inspection.—A traveling car illustrating sanitary methods of preventing disease is soon to start on a tour around the state, in charge of Surgeon W. Colby Rucker, P. H. & M.-H. Service. In this car is installed an exhibit showing how typhoid fever, tuberculosis and other diseases may be prevented.

Pasadena Will Report Infectious Diseases.—The mayor and council of Pasadena have recently passed resolutions in favor of more rigid enforcement of the ordinance compelling the report of infectious diseases, including tuberculosis, and have also made provision for the fumigation of rooms and houses made vacant by infected or tuberculous patients at the expense of the city. The medical society of Pasadena heartily supports the proposition.

Hospital Notes.—A dispensary was opened January 18, at the Telegraph Hill Neighborhood Association, under the direction of the San Francisco Association for the Study and Prevention of Tuberculosis.——The Okabe Hospital Association has been incorporated in Oakland, with a capital stock of $10,000, to construct a hospital for the benefit of the Japanese residents of the community.——The Peninsula Hospital Company has selected a site for its new building on the Embarcadero Road, South Palo Alto.——Highland Park Sanitarium, Los Angeles, built by Mrs. V. E. Tagliaferro, was formally opened December 6.

COLORADO

Memorial Window.—A memorial window in memory of the late Dr. S. Edwin Solly has been placed in St. Stephens Church, Colorado Springs.

Society Meetings.—At the annual meeting of Denver County Medical Society, Dr. Edmund W. Stevens was elected president, and Dr. Charles B. Van Zant, vice-president.——Fremont County Medical Society, at its annual meeting, held in Florence, January 4, elected Dr. George D. Cummings, Florence, president; Dr. Augustus T. Clark, Canon City, vice-president; Dr. Goodlow, Canon City, secretary, and Dr. James W. Rambo, Florence, delegate to the state medical society.——Lake County Medical Society, at its annual meeting held in Leadville, December 31, elected Dr. Henry A. Calkins, president; Dr. Benjamin F. Griffith, vice-president and delegate to the state medical society, and Dr. E. T. Boyd, secretary and alternate delegate, all of Leadville.——Weld County Medical Society has been incorporated by Dr. Charles B. Dyde, Ella A. Mead, and Charles A. Ringle, all of Greeley.

ILLINOIS

The Tuberculosis Institute.—The Chicago Tuberculosis Institute elected the following officers at its annual meeting: Dr. Henry B. Favill, president; Drs. Frank Billings and Robert H. Babcock, vice-president; David B. Forgan, treasurer, and Sherman Kingsley, secretary. Traveling tuberculosis exhibits are the latest educational propaganda announcements of the institute.

Personal.—Dr. Max F. Clausius, formerly of Jefferson Park, has been appointed physician of the Siletz Agency, Siletz, Ore.——Dr. Spencer S. Fuller, Paxton, sails for Vienna via the Mediterranean, February 9.——Dr. William D. Hohman has been elected president and Dr. Francis O. Lowe, vice-president and Dr. H. Nelson Heflin, secretary of the staff of St. Francis Hospital, Kewanee.

Tuberculosis Deaths.—Of the 84 deaths reported from tuberculosis in Chicago last week, only 34 were reported while living, 5 were reported after death; 1 on the day of death; each, one and two days before death; 1, three days befor death; 3, four days before death; 1, seven days before death 5, from one to two weeks before death; 4, from two to fou weeks before death; 4, from one to two months before death 4, from two to four months before death, and 2, from four t six months before death.

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[1] Page 449.

† Zentralbl. f. Physiol., 1908, xxii.

Tuberculosis Sanatorium Opened.—The new Chicago-Winfield Tuberculosis Sanatorium, the ground and buildings for which were presented by Charles A. Stonehill to the Baron Hirsch Woman's Club, the Jewish Consumptive Relief Society, and Willing Workers, will be opened February 7. The institution will be in charge of these societies but will be nonsectarian. Several cottages, each accommodating ten patients, are soon to be built. The endowment at present amounts to about $12,000 a year, and Dr. Theodore B. Sachs, of the Chicago Tuberculosis Institute, will be chief of staff.

INDIANA

Hospital to be Closed.—The board of managers of the Eleanor Hospital for Children, Indianapolis, has decided to close the present building on account of its inadequacy and insanitary condition.

Afflicted Physicians.—Dr. Thomas Macer, Evansville, is reported to be seriously ill with septicemia.——Dr. John L. Morris, of the Columbus Sanatorium, is reported to have been adjudged insane.——Dr. William H. Wischart, Colfax, is ill with septicemia.

Society Member Suspended.—At the session of the Vigo County Medical Society, held January 12, in Terre Haute, it is reported that Dr. James E. Donnelly was suspended from membership on account of violation of an amendment to the by-laws of the society, prohibiting lodge or contract practice.

Magazines Merge.—The *Indiana Medical Journal* and the *Central States Medical Monitor* have merged, and will hereafter be published under the name of the *Indianapolis Medical Journal*. Dr. Samuel E. Earp and Alembert W. Brayton are editors-in-chief of the new publication. The first issue will appear this month.

Medical Society News.—At the annual meeting of the Indianapolis Medical Society, held January 5, the following officers were elected: President, Dr. Theodore Potter; vice-president, Dr. Walter N. Sharp; secretary-treasurer, Dr. Roscoe H. Ritter; delegates to the state medical association, Drs. Allison Maxwell, Albert C. Kimberlin and Edmund D. Clark, and alternates, Drs. Thomas B. Eastman, William T. S. Dodds and Charles R. Sowder.——The Fort Wayne Medical Society and Blackford Law Club are arranging for occasional joint meetings for purposes .of mutual instruction and profit.

Personal.—Drs. Charles E. Barnett, Fort Wayne, and Charles C. Terry and family, South Bend, have returned from abroad.——Drs. Oscar S. Deitch, Indianapolis, Jeremiah A. Swailes, Acton, R. Samuel Records, Lawrence, and William B. McDonald, New Augusta, have been appointed deputy coroners of Marion county.——Dr. T. J. Toner, Gary, has been appointed local surgeon for the Chicago, Lake Shore and South Bend Railway.——Dr. George W. Anglin, Warsaw, has been appointed physician of Kosciusko county, vice Dr. Tiffin J. Shackelford.——Dr. Clarence G. Rea has been made secretary of the Muncie board of health.——Dr. William P. Richards, New Albany, has succeeded Dr. William L. Starr as coroner of Floyd county.

IOWA

Licenses Refused.—By order of the State Board of Health, issued January 22, licenses for the practice of medicine are said to have been refused Drs. J. H. Kern, Runnells, and Peter R. Rahl, Fort Dodge.

Personal.—Dr. John S. S. Chambers, Davenport, is reported to be seriously ill with appendicitis.——Dr. and Mrs. Lawrence W. Littig, Iowa City, sailed from New York for Europe January 6.——Dr. Leonard J. B. Bowman, Manchester, has been appointed superintendent of schools of Greeley.——Dr. Joseph A. Valenta, Iowa City, has been appointed a member of the legislative committee for the Iowa Health Officers' Association.——Dr. D. S. Byers, New Hampton, is reported to have been committed to the State Hospital for the Insane, Independence.

Medical Society Meetings.—Scott County Medical Society, at its annual meeting, January 17, in Davenport, elected Dr. William H. Rendleman, president; Dr. Gordon F. Harkness, vice-president; Dr. John V. Littig, secretary-treasurer, and Dr. Edward F. Strohbehn, delegate to the state medical society, all of Davenport.——At the annual meeting of Polk County Medical Society, held in Des Moines January 5, Dr. Andrew R. Amos was elected president; Dr. Robert L. Parker, vice-president; Dr. James W. Osborn, secretary, and Dr. Eli Grimes, treasurer.——At the annual meeting of the Medical and Surgical Staff of Mercy Hospital, Council Bluffs, January 7, Dr. B. A. McDermott was elected president; Dr. John F. Sprink, vice-president, and Dr. James M. Barstow, secretary (re-elected).

KANSAS

Personal.—Dr. Edwin J. Moffitt, Manhattan, has been appointed local surgeon for the Rock Island System and district surgeon for the Union Pacific System.——Dr. John C. Brown has resigned as president of the Wichita board of health.

District Medical Association Formed.—At a meeting recently held in Great Bend, physicians of Pawnee, Edwards, Barton and Rush counties formed a district association. The temporary secretary was instructed to apply to the state medical society for affiliation under the standard plan.

Antituberculosis Association.—At a meeting held in the House of Representatives, Topeka, Dec. 3, 1908, presided over by the governor of the state, the Kansas Branch of the National Association for the Study and Prevention of Tuberculosis was organized, with the following officers: Dr. Samuel J. Crumbine, Topeka, president; Chancellor Frank Strong, Lawrence, and Dr. Harriet Comstock, Hutchinson, vice-presidents; Dr. Charles B. Van Horn, Topeka, secretary, and Dr. Lewis H. Munn, Topeka, treasurer.

Society Meetings.—Douglas County Medical Society, at its annual meeting January 12, elected Dr. E. James Blair, Lawrence, president; Dr. George McL. Liston, Baldwin, vice-president; Dr. Harry L. Chambers, Lawrence, secretary; and Dr. James Naismith, Lawrence, treasurer.——Reno County Medical Society, at its annual meeting in Hutchinson, January 8, elected Dr. William F. Schoor, Hutchinson, president; Dr. Hazen H. Miner, Partridge, vice-president; Dr. M. C. Roberts, Hutchinson, secretary; Dr. Harry H. Heylmun, Hutchinson, treasurer; Dr. Frederick O. Forney, Hutchinson, censor, and Dr. Hunter J. Duvall, Hutchinson, delegate to the state society.——Wyandotte County Medical Society, at its annual meeting January 12, in Kansas City, elected Dr. Richard C. Lowman, president; Dr. William F. Fairbanks, vice-president; and Dr. Anna K. Masterson, secretary-treasurer, all of Kansas City.——At the annual meeting of Clay County Medical Society, held in Clay Center, January 20, the following officers were elected: Dr. Xenophon Olsen, Clay Center, president; Dr. Charles C. Stillman, Morganville, vice-president; Dr. Benjamin F. Morgan, Clay Center, secretary; Dr. Samuel E. Reynolds, Clay Center, treasurer and critic, and Drs. Benjamin F. Morgan, Xenophon Olsen and Daniel P. Cook, all of Clay Center, censors.——Atchison County Medical Society, at its annual meeting in Atchison January 13, elected Dr. Arthur B. Chase, Atchison, president; Dr. Peter R. Moore, Effingham, vice-president; Dr. E. B. Knerr, Atchison, secretary; Dr. Edw. P. Pitts, Atchison, treasurer; Dr. Judson C. Cole, Huron, censor, and Dr. Edwin T. Shelly, Atchison, delegate to state medical society.——At the fifth annual meeting and banquet of the Allen County Medical Society, held in Iola, Dec. 16, 1908, Dr. Charles T. Halm, La Harpe, was elected president; Dr. Robert O. Christian, Iola, vice-president; Dr. Frank H. Martin, Iola, treasurer; Dr. J. W. Moore, Iola, censor; Dr. Guilford C. Glynn, Iola, delegate to the state society, and Dr. Paul S. Mitchell, Iola, alternate.——At the annual meeting of Shawnee County Medical Society, held in Topeka, Dr. William E. McVey was elected president; Dr. Charles F. Menninger, vice-president; Dr. John B. Tower, secretary; Dr. William A. Wehe, treasurer, and Dr. John E. Minney, censor, all of Topeka.——Washington County Medical Association, at its annual meeting, held in Washington, Dec. 23, 1908, elected Dr. Matthaeus H. Horn, Morrowville, president; Dr. George E. Tooley, Washington, vice-president, and Dr. William M. Earnest, Washington, secretary.——At the first annual meeting of Finney County Medical Society, held in Garden City, Dr. Andrew Sabine was elected president; Dr. Albert L. Brown, vice-president, and Dr. Piper, secretary-treasurer.

KENTUCKY

New County Hospital.—The Woodford County Hospital, Versailles, has been erected at a cost of $15,000, and given to Woodford county by Mrs. Lucy Alexander in memory of her husband.

Society Meeting.—At the annual meeting of the Kentucky Midland Medical Society, held in Lexington, January 14, the following officers were elected: Dr. Benjamin F. Van Meter, Lexington, president; Dr. Frank M. Beard, Shelbyville, vice-president, and Dr. George P. Sprague, Lexington, secretary-treasurer (re-elected).

Personal.—Dr. Joshua A. Sweeny, Louisville, who recently went to New York to undergo an operation for septicemia, has entirely recovered.——Dr. Samuel N. Scott, Somerset, is said to have been adjudged insane.——Dr. P. Henry Nevitt, Stephensport, is recovering from a serious attack of typhoid fever.——Dr. James C. Carrick has been re-elected president of the board of health, and Dr. Nathan R. Simmons, health officer of Lexington.——Dr. Samuel E. Woody, Louisville, has been elected president of the Baptist Sanitarium.——Dr. John K. Wood, Bowling Green, has been appointed second assistant physician at the Central Kentucky Asylum for the Insane, Lakeland, and Dr. R. Wickliffe Wood, Dansville, second assistant physician at the Eastern Kentucky Asylum for the Insane, Lexington.——Dr. E. E. Hume, mayor of Frankfort, has retired from active practice.

Jefferson County Society Meetings.—At the annual meeting of Jefferson County Medical Society, held in Louisville, Dec. 28, 1909, the following officers were elected: Dr. Charles W. Hibbitt, Louisville, president; Drs. John W. Blanton, Meadowlawn, and Thomas K. Van Zandt, Louisville, vice-presidents; Dr. J. Rowen Morrison, Louisville, treasurer, and Dr. Benjamin F. Zimmerman, chairman of the executive committee.——At the January 27 meeting of the society the chairman of the board of trustees of the Jefferson County Medical Library made a report in which he recommended that the society take over the management of the library and place it in the hands of a board of four members. The library has more than 3,000 bound volumes and 56 medical journals are on file. The society voted to accept the recommendation, which carries with it the payment of the debt of the library board incurred in the move into its new quarters. It was also voted to employ a librarian-stenographer to care for the library and report meetings of the society and its various sections. A proposition from the secretary-editor of the *Kentucky Medical Journal*, offering to publish a monthly magazine of 48 pages devoted exclusively to the interests of the society, and of which the editor-in-chief and his collaborators are to be appointed by the society, was accepted. The society adopted a uniform constitution for all sections, which is to be referred to the sections and approved by them, and then referred back to the society for final ratification. This has a provision that any member of the society shall be eligible to join the various sections, but must be elected by a majority vote, although all members are welcome to attend any of the meetings.

MARYLAND

New Hospital.—The directors of Washington County Hospital Association have decided to erect a $60,000 hospital on property recently purchased in the suburbs of Hagerstown for $37,000.——The City of Baltimore is about to erect a new hospital building at Bayview Asylum, at an expense of $150,000, to accommodate 100 patients.

Annual Meeting of Eudowood Hospital.—The annual meeting of the Eudowood Sanatorium Tuberculosis Hospital of Maryland was held January 25. The president, Dr. Henry B. Jacobs, reported that 178 cases had been treated during the year. In addition to enlargements and improvements, two new departments have been added, the Marie Bloede Memorial Hospital and the Farm Colony. The cost of maintenance at this sanatorium is said to be lower than that of any similar institution in the country as all milk and vegetables are raised on the farm and as all patients whose condition permits are required to work. A training school for special tuberculosis nurses has been established. Discharged patients are visited at their homes, and everything is done to assist them in maintaining their health.

MASSACHUSETTS

Personal.—Dr. Bradford H. Pierce has been appointed medical inspector by the Cambridge board of health, vice Dr. Albert P. Norris, resigned.——Dr. Josiah P. Bixby has been made a member of the board of health and Dr. Charles T. O'Brien city physician of Woburn.

Hospital Notes.—The Lamont G. Burnham Memorial Building on the grounds of the Boston City Hospital, erected at a cost of $150,000, by the bequest of the man whose name it bears, has been formally opened. The new building will be used as an *x*-ray ward.——The trustees of Newton Hospital announce that efforts of the charity workers of Newton for the removal of the debt of $19,000 during the last year have resulted in a subscription fund of $33,700.

Lectures on Tumors.—A course of lectures on tumors is to be given under the auspices of the Cancer Commission of Harvard University in the Amphitheater of Building D, Harvard Medical School, Longwood avenue, Boston, on Thursday afternoons, at 5 p. m., beginning February 4. The lecturers and topics are as follows:

February 4, Dr. Ernest E. Tyzzer, Boston, "The Bearing of the Experimental Investigation of Tumors on the Tumor Problem in General."

February 11, Dr. William T. Howard, Cleveland, Ohio, "The Regulatory Processes of Tumor Cells."

February 18, Dr. F. B. Mallory, Boston, "The Classification of Tumors.".

February 25, Dr. Harvey W. Cushing, Baltimore, "The Physiologic Pathology of Intracranial Tumors."

March 4, Dr. S. B. Wolbach, Albany, "The Etiology of Tumors, Considered from Our Knowledge of Congenital Tumors and Tumors Following Repeated Injury."

March 11, Dr. F. P. Gay, Boston, "The Problem of Cancer Considered from the Standpoint of Immunity."

District Society Meeting.—At the semi-annual meeting of the Essex North District Medical Society, held in Haverhill, January 6, the following committee was appointed to assist the American Medical Association in its plan to aid those organizations asking a National Department of Public Health: Drs. Charles E. Durant and John F. Croston, Haverhill; Dr. Roy V. Baketel, Methuen, and Drs. W. H. Coon and J. Forrest Burnham, Lawrence. A committee consisting of Drs. Francis W. Anthony and John J. Prevaux, Haverhill; Dr. Warrin W. Pillsbury, Newburyport, and Drs. Timothy J. Daly and J. Forrest Burnham was appointed to assist the Auxiliary Committee on State and National Legislation of the Massachusetts Medical Society for the year. A list of advertising doctors and medical companies in the district was presented to the society, and it was voted to send the list to the American Medical Association. Dr. Silas D. Presbrey, Taunton, president of the state society, addressed the meeting on the value to the community of continual watchfulness against improper medical legislation.

Requirements for Certified Milk.—The Medical Milk Commission of Worcester has issued a pamphlet detailing the requirements for the production of certified and inspected milk. Certified milk is to be free from pus and pathogenic organisms, is to contain not more than 10,000 bacteria to the cubic centimeter; to be of neutral or slightly acid reaction; to contain not less than 3 nor more than 4 per cent. of proteids; not less than 4 nor more than 5½ per cent. of sugar; not less than 3½ nor more than 4½ per cent. of fats; to be free from preservatives, color matter, and other contamination; not to be subjected to the action of heat; to be cooled to a temperature of 45 degrees within one hour of the time of milking, and to be kept at this temperature up to the time of delivery; not to be frozen; to be delivered in sealed glass bottles, and the milker to be personally clean and neither to have been or to be in contact with any contagious disease while employed in handling the milk. Inspected milk is to be free from pus and pathogenic organisms; must contain not more than 50,000 bacteria to the cubic centimeter; is to be neutral or slightly acid in reaction; to contain not less than 13 per cent. total solids nor less than 3½ per cent. of fat; to be free from preservatives, coloring matter and other contaminations; not to have been subjected to the action of heat; to be cooled to a temperature of 50 degrees within one hour of the time of milking, and to be kept at this temperature up to the time of delivery; not to have been frozen; to be delivered in glass bottles satisfactorily sealed, and the milker to be personally clean, and neither to have nor to have come in contact with any contagious disease while employed in handling the milk.

Proposed Legislation.—A bill has been presented to the legislature providing that all persons holding themselves ou by sign, business card, or otherwise as practitioners in th commonwealth of christian science, mental healing, hypnotism and doctors of divinity, or ministers of the gospel, conductin clinics for psychologic or divine healing, and all kinds of healers or preventives of human diseases shall register their name with the State Board of Health and state their place of business and the manner in which they heal disease, and th nature of the cases that they intend to treat and practice o in their profession, on or before April 1 of each year, and sha be subject to the management and control of the said boar All persons who register in accordance with the provisions this act shall receive a license to practice their profession healing disease or of preventing the same, and to sign deat certificates on the payment of a fee of $1 to the State Boar of Health, which shall have the authority to revoke an license granted thereunder in its discretion. Any person, wh not being licensed, practices or holds himself out to practic and accepts a fee of any sort for his or her services shall, a first conviction, be fined $25, and on a subsequent convictio be punished by fine or imprisonment, or both, at the discretio of the court.——The first milk bill of the session provides that, "milk that is pure and unadulterated, and from which no part of the cream has been removed shall be considered to be of good standard quality within the meaning of the statute, and milk which is adulterated or to which water or any foreign substance has been added or from which the cream or any part thereof has been removed, and milk produced from cows which have been fed on the refuse from distilleries, and milk from sick or diseased cows, shall be regarded as milk not of good standard quality."

MISSOURI

State Board Meeting.—The Missouri State Board of Health, at its annual meeting, held in Jefferson City, January 6, organized and elected the following officers: President, Dr. Robert H. J. Goodier, Hannibal; vice-president, Dr. John T. Thatcher, Oregon, and secretary, Dr. James A. B. Adcock, Warrensburg.

Eddyites May Practice Without Practicing.—In a case brought in Warrensburg to test the medical practice act, in which two prominent Eddyites of Kansas City were charged with violation of the law making it an offense to practice medicine or to treat the sick for pay without a license, Judge Thurmond held that the Missouri statutes do not apply to that form of practice performed by "Christian Scientists," and that the laws of the state do not prohibit or restrict in any way their practice.

St. Louis

New Site for Hospital.—The Skin and Cancer Hospital has purchased a site on Washington and Theresa avenues for the new building, made possible through the donation of $100,000 by Mrs. Barnard. The plans are well under way.

Society Meetings.—On January 25, the St. Louis chapter of the Society for Moral and Social Prophylaxis was organized. Rev. George R. Dodson presided, and a constitution based on that of the New York society was adopted. Nomination of permanent officers will be made at the next meeting.——On January 15, at a joint meeting of physicians and lawyers, the preliminary organization of the St. Louis Medico-legal society was effected. The purpose of the society, as outlined, is to make reforms in the existing coroner system, to develop expert medical testimony; to establish an expert commission on insanity; and to excite interest in laws affecting public health and in matters of mutual interest to the two professions. Former circuit attorney, A. N. Sager, was elected temporary president, and Dr. Henry J. Scherck temporary secretary.——At the annual meeting of the ophthalmic section of the St. Louis Medical Society, January 13, the following officers were elected: Chairman, Dr. Adolph Alt; vice-chairman, Dr. Meyer Wiener; secretary, Dr. John Green, Jr.; treasurer, Dr. William H. Luedde; and editor, Dr. Lewllyn P. Williamson.——The section of internal medicine of the St. Louis Medical Society has elected Dr. Louis H. Hempelmann, chairman; Dr. Louis M. Warfield, vice-chairman; nd Dr. Albert E. Taussig, secretary-treasurer.——The obtetrical section of the St. Louis Medical Society has elected Dr. Walter B. Dorsett, chairman; Dr. Oscar H. Elbrecht, vice-chairman; Dr. E. Lee Dorsett, secretary; Dr. Hugo Ehrenfest, treasurer; and Dr. Frederick J. Taussig, editor.

NEW JERSEY

Drastic Action of Hospital Directors.—The medical profesion of Newark is excited over the recent action of the direcors of the German Hospital in dropping three members of s staff, Drs. William F. Seidler, Marcus Seidmann and Fredrick Hexhamer. These gentlemen, one of whom was secreary of the medical organization of the hospital, were not ormally discharged from the service, but were discarded when he directors dissolved the medical board and established a ew one. It has been admitted that the recent action was aken not on professional but on commercial grounds, as these entlemen are said not to have aided in producing revenue or the hospital by bringing private patients to the institution r treatment.

NEW YORK

Gift to Hospital.—Announcement has been made that eorge Eastman, Rochester, has donated $400,000 to the ochester City Hospital for the purpose of rebuilding the hostal and making extensive additions.

Unregistered Physician Fined.—Agnes V. Kelley, Jamestown, said to have pleaded guilty, January 1, to the charge of acticing medicine without a license and to have been fined 00. The charge was preferred by Dr. Era M. Schofield, Jamestown, censor of the Chautauqua County Medical Society.

Albany Hospital Needs Aid.—The annual report of the Albany Hospital has just been issued, and shows that during the past year 3,044 patients were treated; of these, 726 occupied private rooms and 1,040 were in semi-private rooms. The city contributed something toward the support of those in public wards. The sum of $9,249 was received from contributors, which, although more than has ever before been given, is entirely inadequate to meet the expenses. The hospital has a floating debt of $45,000, made up in part of an unpaid balance due to the cost of erection and part of the accumulated yearly deficits.

Inspection of Factories.—The report of Dr. C. T. Graham Rogers, who was delegated to make an inspection of factories, states that the State Labor Department is seriously handicapped because the state labor law lacks provisions to regulate sanitation in factories. He urges a new code to cover deficiencies. He wants the minimum cubic air space for each person to be increased, summary powers to be given to the State Labor Department to furnish pure drinking water and sanitary plumbing, and to prevent factories being used as lodging places. He desires that the storing of foodstuffs in tenement factories be prohibited.

Insane Badly Treated.—The Commission in Lunacy, as a result of its investigation of the procedure adopted by county officials in different parts of the state in the temporary care and detention of insane persons pending their commitment to state hospitals, has revealed some startling abuses. Outside the Metropolitan District, 466 patients, of whom 87 were women, were confined in jails, lockups and police stations during the past twelve months. This was in direct violation of the spirit of the insanity law, which provides that "pending the completion of procedures necessary for commitment the patient must be cared for in a safe and comfortable place." Of the 1,615 new cases which developed in New York City, of which 653 were women, all were able to obtain hospital care only through police channels. It was agreed that the care and supervision of the indigent insane should properly devolve on the health officers of the state, pending the completion of procedures for commitment. In New York City this duty should devolve on the State Charities Aid Association.

Stony Wold Sanitarium.—The annual meeting of the board of directors of this institution was held January 26, when it was announced that the mortgage of $80,000 had been paid off and that the deficit of $25,386 left over from last year had been reduced by $3,000. The institution is in better financial condition than it has ever been before. Dr. D. Bryson Delavan reported that the percentage of apparent cures among the discharged cases was much greater than it was in 1907. Of the 224 patients treated during the year, 89 are still in the sanitarium, 135 having been discharged. Chancellor Henry H. MacCracken of New York University made an address, in which he said that New York State was behind some other states in that it practically left the care of its sick to private charities. In some states help was given to medical students, but New York did not educate any physicians. Some rural districts were unable properly to support a physician, and in some western states the state helped these small rural districts. The state should take up this matter as it did the matter of making suitable roads.

New York City

Addition to Dispensary.—The West Side German Dispensary has filed plans for the erection of a postgraduate department which will contain separate wards for male and female patients, a sun parlor and an anesthetic room.

Medical Certificates Not Accepted.—It has recently been decided at the Court of General Sessions that too many doctors have the habit of certifying to the inability of witnesses and defendants to appear in court, and that hereafter the doctor signing the certificate shall be required to come to court and to tell under oath the circumstances under which he made out the paper.

New Maternity Hospital.—The new Jewish Maternity Hospital on East Broadway was dedicated January 24. The institution is to be non-sectarian. An unusual feature of the hospital is a day nursery where children may be cared for during the absence of their mother at work; this will make it possible for many mothers to get the benefit of hospital care who otherwise could not leave their homes. An obstetrical training school for nurses will be maintained in connection with the hospital.

Norwegian Hospital Alumni Meet.—The Norwegian Hospital Alumni Association, Brooklyn, celebrated its one-hundredth meeting by a dinner at the residence of Dr. Sewell Matheson, January 13. The re-elected president, Dr. Robert E. Coughlin, presided as toastmaster. At the close of the dinner a silent toast was drunk to the Norwegian Hospital and its staff. The officers of the association are: President, Dr. Robert E. Conghlin; vice-president, Dr. John H. Ohly; and secretary-treasurer, Dr. Louis Stork, Jr., all of Brooklyn.

Memorial to Dr. McCosh.—A meeting was held December 17 to consider what steps should be taken to commemorate the services rendered the community by the late Dr. Andrew J. McCosh. It seemed to be the consensus of opinion that in view of Dr. McCosh's close identification with, and lengthened services at, the Presbyterian Hospital, the most fitting tribute to his memory would be a surgical pavilion, ward or operating room bearing his name in that institution. The precise character of the memorial could not be determined until it was ascertained how much money would be subscribed for the purpose. A committee was appointed to receive contributions and to formulate a plan for an appropriate memorial.

OHIO

Physicians Win Suit.—In the Common Pleas Court of Toledo the malpractice suit brought by Christian Kruse against Drs. James T. Lawless, Sr., and Jr., was decided in favor of the defendants. The plaintiff asked for $10,000 damages on account of alleged malpractice in reducing a fracture of the arm which was crushed in an ice-boat accident.

County Tuberculosis Hospital.—Franklin, Lucas, Cuyahoga, Hamilton, Mahoning and Allen counties have already complied with the requirements of the law establishing a tuberculosis hospital or contracting for patients in such an institution and prohibiting the keeping of tuberculosis patients in county infirmaries, which became effective January 1.

Hospital Notes.—The new building of the Providence Hospital, Sandusky, was dedicated January 20. The building contains eight sleeping rooms, parlor, nurses' study hall and work room.——The Woodhill General Hospital, Cleveland, established in the Newburg district, was opened to receive patients January 2. The institution will accommodate 25 patients.

Prohibit Prescriptions for Liquor.—At a meeting of Preble County Medical Society, it was decided by resolution to prohibit the issuing of prescriptions for liquor by physicians unless in cases of patients confined to the bed.——The members of the Guernsey County Medical Society are said to have adopted resolutions to issue no prescriptions whatever for alcoholic drinks, or medicine containing alcohol.

PENNSYLVANIA

Pittsburg Vital Statistics.—During 1908, there were reported 9,031 deaths in Pittsburg, equivalent to an annual death rate of 15.98 per 1,000. There was a decrease of 907 deaths as compared with the previous year. The mortality rate from tuberculosis was one per 1,000. The deaths from typhoid fever during the year were 254, or 286 fewer than in 1907. The deaths from measles increased from 62 to 252. Diphtheria, whooping cough, and diarrheal diseases of children caused relatively few deaths during the year. There were about 15,000 births during the same period.

Bill to Protect Babies.—Bills providing for the regulation of the sale of milk and for licensing persons boarding and keeping infants, and also for midwives, will be introduced at the meeting of the legislature. The milk bill regulates the sale of milk and its fluid derivatives and provides for licensing persons engaged in the business. The license fee is fixed at $5. For evasions of the law, a penalty of $50 fine or sixty days' imprisonment or both is to be imposed. A fine of $100 is the penalty fixed for violations in a bill providing for the regulation and licensing of persons receiving, boarding and keeping infants under 3 years of age. This measure, if passed, will go into effect September next.

Election.—At the annual meeting of the Medical Society of Franklin County, held January 19, the following officers were elected: President, Dr. Percy D. Hoover, Waynesboro; vice-presidents, Drs. Harry M. Miley, Chambersburg, and Ambrose W. Thrush, Green Village; secretary, Dr. John J. Coffman, Scotland (re-elected); assistant secretary, Dr. Henry C. Devilbiss, Chambersburg; treasurer, Dr. Johnston McLanahan, Chambersburg, and censor, Dr. J. Burns Amberson, Waynesboro. The society endorsed the "one board" bill which has just been introduced into the state legislature. A report was made urging the board of directors of the Chambersburg Hospital to allow legally qualified physicians to attend their private patients in the hospital.

New Medical Bill.—A bill intended to supersede almost entirely the present medical laws of this state will be introduced in the legislature at this session. The bill proposes a single board of medical examiners in place of the present three boards, representing the two elder schools in medicine and eclectic medicine. The single board is to consist of the superintendent of public instruction and eight other members to be appointed by the governor, two for one year, three for two years and three for three years from March 1, 1909. The qualifications for a license to practice medicine are very closely and rigidly defined, and the law is much more severe in its provisions with reference to malpractice and moral obliquity of any kind in practice than is the present act.

Vital Statistics.—During November there were reported 8,513 deaths in the state. Chief among death causes were pneumonia, 843; violence (including suicide), 819; tuberculosis, 797; diseases of early infancy, 444; nephritis, 404; diarrhea and enteritis, 349; cancer, 341; diphtheria, 243; typhoid fever, 185; scarlet fever, 131; meningitis, 56; whooping cough, 55; influenza, 50; measles, 34; and malarial fever, 5. The total number of cases of communicable diseases reported during December was 9,819, distributed as follows: Measles, 1,640; diphtheria, 1,588; scarlet fever, 1,537; chickenpox, 1,266; typhoid fever, 1,122; tuberculosis, 1,028; pneumonia, 789; whooping cough, 492; mumps, 139; erysipelas, 119; german measles, 43; cerebrospinal meningitis, 12; smallpox, 11; tetanus, 7; puerperal fever, 6; malarial fever, 5; trachoma, 4; and anthrax, 1.

Ordinance Regarding Tuberculosis.—The Tuberculosis League of Pittsburg has drafted and carried through the council of the city an ordinance, the object of which is to centralize the work in the Department of Public Health. The ordinance establishes the Division of Tuberculosis Inspection and Relief in the Bureau of Health under the Department of Public Safety, under the superintendency and direction of a commission consisting of the Superintendent of the Bureau of Health and four citizens appointed by the Director of the Department of Public Safety for terms of seven years, and to serve without remuneration. This commission is to be designated as the "Tuberculosis Commission of Pittsburg." The division of tuberculosis inspection is to prepare and keep accurate records of all cases of tuberculosis existing in the municipality, and inspect the dwellings, tenements, factories, shops and other places where cases of tuberculosis exist, ascertain the cause o infection, provide for the disinfection and cleansing of same and report to the proper department the cases needing charitable relief; to establish dispensary stations; to prepare and disseminate information as to the cause, treatment and relief of tuberculosis, and to adopt such other measures as will tend to eradicate the infection. The division is to have attached t it one clerk and five trained nurses, all to be appointed by th Director of the Department of Public Safety, who is also t provide suitable accommodation in connection with the Burea of Health for the use of the division.

Philadelphia

Hospital Buys Lot.—The Medico-Chirurgical Hospital ha purchased for $20,000 a lot 19 x 130 feet, on Eighteent Street, adjoining the new hospital building.

Malpractitioner Convicted.—Mrs. Anne Shoenborn, who said to have been thrice arrested and twice found guilty criminal malpractice, and who recently was refused a ne trial, was sentenced to two years' imprisonment, January 1 for attempted malpractice.

Dinner to Dr. Deaver.—A number of physicians who ha been operated on by Dr. John B. Deaver are to give a dinn in his honor at the University Club February 14. More tha 150 physicians are included in this category. A loving c will be presented to Dr. Deaver on this occasion.

Filtered Water for the Entire City.—An inspection of t work of completion of the 120 preliminary filters of the T resdale filter plant was made in January 29 by Direct Stearns of the Department of Public Works, and Chief Dunl of the Water Bureau, and it is declared that the entire ci will be supplied with filtered water by March 1.

Liquor and Drug Habit Disqualify.—The Philadelph County Medical Society has drafted a bill which includes provision barring from practice physicians addicted to the of liquor or drugs. In cases where this fact can be pro the license is revoked. Should a cure be effected, the pra tioner may be reinstated, but, for a second offense, the lice is to be revoked unalterably.

Spent to Aid Children.—More than $100,000 was spent during 1908 by the Cbhildren's Aid Society in aiding homeless and neglected children. The greatest single item was for board of children in the country, which amounted to $53,546, the sum expended for clothing amounted to $13,744. During the year, 394 children were received from various sources, and on December 31 the society had in its care 1,440 children. During the year, working homes were provided for 609 destitute mothers, each with one or two children.

To Separate Almshouse, Insane Asylum and Indigent.—A bill is now being framed by Dr. Joseph S. Neff, Director of Public Health and Charities, for presentation to the legislature providing for the separation of the Philadelphia General Hospital for the Insane and the Philadelphia General Hospital, now embraced in one group of buildings in West Philadelphia. The bill is so framed that the city will care for the indigents of the districts, and in return will have the use of the various plots of land now occupied by the district houses. It is proposed to locate the new City Almshouse or Home for Indigent, as the institution will be styled, at the Lower Dublin Almshouse, which comprises 150 acres, and the New City Hospital for the Insane at Byberry, where the city has 840 acres. Those infected with tuberculosis are to be cared for at Roxborough.

Officers Elected.—At the annual meeting of the Northern Medical Association of Philadelphia, the following officers were elected: President, Dr. Ralph E. Shrom; vice-president, Dr. William R. Bready, Jr.; secretary, Dr. Paul Bremer; treasurer, Dr. John W. Millick; corresponding secretary, Dr. Thomas Shriner; censor, Dr. Frederick Strauss; and librarian, Dr. Robert J. Hess.——The annual election of the Philadelphia Pediatric Society resulted as follows: President, Dr. John C. Gittings; vice-presidents, Drs. Herbert B. Carpenter, Charles A. Fife and B. Franklin Royer; treasurer, Dr. Howard C. Carpenter; and secretary and recorder, Dr. Maurice Ostheimer.——At the annual meeting of the South Branch of the Philadelphia County Medical Society, the following officers were elected: Chairman, Dr. Robert O. Kevin, and clerk, Dr. J. S. Kitchen.——At the meeting for organization of the Philadelphia Psychiatric Society, January 12, the following officers were elected: President, Dr. Charles W. Burr; vice-president, Dr. Albert R. Moulton; secretary and treasurer, Dr. Wilfred W. Hawke, and directors, Drs. John K. Mitchell and Francis X. Dercum.——At the annual meeting of the Medicolegal Society of Philadelphia, held January 26, the following officers were elected: President, Mr. Joseph Savidge; vice-presidents, Drs. Samuel P. Gerhard and Lambert Ott; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz, and censors, James Wolfe and Drs. Francis J. Kelly and William D. Robinson.——At the annual meeting of the Philadelphia County Medical Society, January 20, the following officers were elected: President, Dr. Frederick P. Henry; vice-presidents, Drs. William E. Parke, Charles J. Hoban, F. Mortimer Cleveland, John F. Roderer, W. H. Morrison, Frank W. Thomas and Ernest W. Kelsey; secretary, Dr. William S. Way; assistant secretary, Dr. Alexander R. Craig; treasurer, Dr. Collier L. Bower; censors, Drs. Jay F. Schamberg and Louis H. Adler, Jr., and recommended to the state society as district censor, Dr. Milton B. Hartzell.

TEXAS

District Society Meeting.—The annual meeting of the Cenral Texas District Medical Association was held in Waco anuary 12 and 13. The retiring president, Dr. William A. Vood, Hubbard, chose as a subject for his address the history f the Central Texas District Medical Association, in which e paid a glowing tribute of respect to the living and dead xpresidents. During the latter part of the first day's sesion the association met with the board of councilors of the tate Medical Association and a general discussion was held n the subject of division of fees. It appeared to be the conensus of opinion that division of fees should not be enouraged or countenanced by the profession of the state. r. Milton P. McElhamon, Belton, was elected president and r. William M. Yater, Cleburne, secretary. Marlin was elected as the place, and July 12 and 13 as the time of the ext meeting.

VERMONT

Gift to Hospital.—Mr. E. W. Bailey, Chicago, and Mr. L. Taft, Montpelier, have presented $10,000 to Heaton Hospil, Montpelier.

State Board Election.—At the annual meeting of the State oard of Health, held in Burlington, December 3, Dr. Charles Caverly, Rutland, was elected president, and Dr. Henry D. olton, Brattleboro, secretary.

VIRGINIA

Society Meetings.—The Alexandria Medical Society, at its annual meeting elected Dr. Geo. T. Kleipstein president; Dr. Martin D. Delaney, vice-president; Dr. Robert L. Wilkins, secretary, and Dr. Lewellyn Powell, treasurer.——At the annual meeting of the First District Medical Society, held in Newport, January 5, Dr. Walter A. Plecker, Hampton, was elected chairman; Dr. George J. Williams, Newport News, secretary, and Dr. Clarance P. Jones, Newport News, councilor.——Richmond Chapter of Shaw University Alumni was organized January 6, with the following officers: President, Dr. Edward R. Jefferson; vice-presidents, Walter Brown, D.D.S., and Silas H. Shackelford, Phar. D.; secretary, Dr. William H. Hughes; corresponding secretary, Dr. Q. William Moon; chaplain, Dr. J. A. Dawson, and historian, Dr. J. R. Griffin.

WASHINGTON

New Hospital.—Sacred Heart Hospital, Spokane, has recently been completed at a cost of $500,000. The institution is a six-story building and on the roof is a sun parlor for convalescent patients.

Quarantine Rules Still in Force.—Dr. Elmer E. Heg, Seattle, secretary of the State Board of Health, has sent official notice to all local steamship owners and agents that the quarantine regulations are still in force as regards rat guards and fumigation.

Health Officers Organize.—The health officers of Washington met in Seattle recently, organized the Washington State Association of Local Health Officers, and elected the following officers: President, Dr. James E. Creichton, Seattle; vice-presidents, Drs. William W. Ballaine, Bellingham, Matthew B. Grieve, Spokane, and Albert P. Duryee, Everett; secretary, Dr. A. A. Brayer, Seattle, and treasurer, Dr. James F. Leslie, Watertown.

Personal.—Dr. Spiro Sargentich, Tacoma, returned from a visit to Montenegro January 15, and has resumed his work as health commissioner.——Dr. William C. Hastings, Seattle, fell on an icy pavement January 16, breaking his right hip.——Dr. Caleb E. Martin, Bellingham, health officer of Whatcom county, has resigned.——Dr. W. C. Wood has been appointed city physician of Seattle, vice Dr. R. A. Van Voast, resigned.——Dr. Nevin D. Pontius and Frederick Bentley, Seattle, have started on a trip to Honolulu, the Orient, and Europe.——Dr. X. P. DeDonato has been appointed health officer of Georgetown, vice Dr. Scott P. Wooden.

Medical Society Meetings.—At the annual meeting of King County Medical Society the following officers were elected: President, Dr. Grant Calhoun; vice-president, Dr. Robert M. Stith; secretary, Dr. Louis H. Redon, and treasurer, Dr. Herbert C. Ostrom, all of Seattle.——At the annual meeting of Spokane County Medical Society, held January 7, the following officers were elected: Dr. Harold H. McCarthy, president; Drs. Arthur T. R. Cunningham, and Peter D. McConack, vice-presidents; Dr. Carroll L. Smith, secretary; Dr. Samuel E. Lamber, corresponding secretary; Dr. Charles McC. Doland, treasurer, and Drs. Wallace W. Potter, Wilson Johnston, and George K. McDowell, censors, all of Spokane.——Skagit County Medical Society met at Mount Vernon recently and elected the following officers: Dr. George B. Smith, Anacortes, president; Dr. Adolph J. Osterman, Mount Vernon, vice-president, and Dr. Arnold L. Brandt, Mount Vernon, secretary-treasurer.——At the annual meeting of Lincoln County Medical Society, held in Davenport, Dr. Lee Ganson, Odessa, was elected president; Dr. Rufus P. Moore, Davenport, vice-president, and Dr. L. F. Waggoner, secretary-treasurer.

GENERAL NEWS AND COMMENT

Repetition of Alleged Original Articles.—The much too frequent practice of securing the publication of the same article in various journals, in the department allotted to original contributions, is unjustifiable on many grounds. It is unfair to the journal in which the article is first published, for it is a well-known rule of journalism that articles are accepted as original only on the understanding that they are not published elsewhere, save as a reproduction, with credit to the journal first publishing them. It is unfair also to those of the other journals that undertake to publish the article in ignorance of the fact that it has already been published. It is unfair to the readers of the various journals, who certainly do not subscribe for several periodicals in the expectation of finding the same so-called "original" matter in all of them. It is particularly trying to librarians, editors, and literature researchers, when compiling or searching indexes, to find themselves confronted again and again with the same article. The Journal has many times commented on this matter. A recent instance is an article which appeared in *Surgery, Gynecology and Obstetrics* and the *Chicago Medical Recorder* for October, as well as in the *Virginia Medical Semi-Monthly* for October 23. It has since made various reappearances—which The Journal ceased to chronicle in its Current Medical Literature Department after the ninth publication—and is apparently still going strong. Its latest appearance is in the *Medical Fortnightly*, Jan. 25, 1909, where we find it announced on the cover under the head of original articles—"Perforating Wounds of the Uterus Inflicted During the Course of Intra-Uterine Instrumentation." This is immediately followed on the table of contents by the title of an editorial on "How Long, O Lord, How Long?" How very appropriate!

CANADA

Clean Milk for British Columbia.—Dr. Charles J. Fagan, Victoria, medical health officer of British Columbia, has prepared an elaborate report on the milk industry of that province. He was sent last summer to investigate the conditions as they existed in the large cities of eastern Canada as well as in some cities of the United States.

Vancouver's Mortality Rate in 1908.—According to the mortality statistics prepared by Dr. Underhill, medical health officer for Vancouver, the death rate in that city for 1908 was 9.816 per 1,000, and 13.059 per 1.000 in 1907. Of contagious diseases there were 590 in 1908 as against 679 in 1907. The report made as to tuberculosis notices 22 new cases and 72 deaths during 1908. In the previous year there were 28 new cases and 69 deaths.

Sanatorium for London.—Drs. Bruce Smith, Charles Hodgetts and Dr. John A. Amyot, Toronto, of the provincial staff, recently conferred with the staff of the London Hospital relative to the establishment of a sanatorium for consumptives in that city. It was intimated that the government was prepared to give a substantial grant if the hospital would employ part of the Contagious Diseases Hospital for that purpose. Twenty thousand dollars will be required and of this amount $4,300 has been secured.

Inducement to Study Tuberculosis.—Mr. W. J. Gage, Toronto, the promoter of the system of sanatoria under the Canadian National Sanitarium Association, and its treasurer announces a scholarship to the value of $100 for the students of the Faculty of Medicine of the University of Toronto, to encourage a closer study of tuberculosis. He also announces that he will donate a gold and silver medal to fourth and fifth year students and graduates of not more than one years' standing who will pass the best prescribed examinations in this important subject.

Personal.—Dr. William A. Young, managing editor of the *Canadian Journal of Medicine and Surgery*, Toronto, is convalescing from a prolonged and severe illness and will shortly proceed south for his health.——Dr. J. C. Davie, Victoria. B. C., is ill with cerebral hemorrhage.——Dr. Julius E. Lehmann, Winnipeg, city bacteriologist, has returned from Europe.——Dr. James H. Richardson, surgeon to the Toronto jail, has resigned after a service of over fifty years.——Dr. George R. McDonagh, Toronto, has gone on a visit to Rio de Janeiro.——Dr. Peter Macdonald, Wingham, Ont., has been appointed postmaster of London.——Dr. Frank Hall has again been elected mayor of Victoria, B. C.

The Muskoka Hospital.—In connection with statements made of exorbitant charges being made at the Muskoka Free Hospital for Consumptives, Mr. W. J. Gage, Toronto, writes that no patient is allowed to enter the hospital, no matter how desirous he may be to pay his way, as alleged, at $15 a week or more, as that institution is for patients who can not afford to pay anything for their maintenance. If a patient can pay $7.00 a week or more he is admitted to the Muskoka Cottage Sanatorium, a mile distant from the hospital. In the last weekly report of the hospital, dated January 23, there were 65 patients in attendance. Of these 38 contributed nothing to their maintenance: four paid $3.50 a week or less; four paid $4.00 a week; seven paid $5.00 a week, and two paid $6.00 a week. No patient is refused admission to Muskoka Free Hospital because of poverty.

Annual Banquet at McGill.—At the annual banquet of the faculty and student body of McGill University, the arrangements were under the charge of Mr. T. F. Cotton, B. A. As a feature of the occasion the undergraduate body presented to former Dean Roddick a splendid bust of himself, the work of Dr. J. J. Ross. Dr. Roddick in replying referred to the Roddick Act, or dominion registration. He stated that it still stood on the statute books of the dominion and could be made use of any day by the medical profession of Canada. Six of the nine provinces are ready to go on with it, while the other three are watching each other. He expects, however, that they will soon come together and put into operation the machinery he constructed several years ago while member of parliament at Ottawa. The new dean, Dr. Francis J. Shepherd, was the guest of honor. In his address he said he took office at a very critical stage in the faculty's career. The fire of 1907 had crippled the faculty; the establishment of the five years' course had curtailed the attendance; and there was the difficulty to handle of getting the necessary financial aid to rebuild and reequip. Despite these the medical faculty was going ahead. He prophesied the time when six years would be necessary for a course in medicine. In his opinion the public ought to give more financial support to medical schools than they do, in the form of endowment.

FOREIGN

Indian Medical Congress.—This congress, which is to be held in Bombay February 22-25, will confine its attention to the special problems of disease and sanitation in India. The work will be done in five sections: Section 1 dealing with cholera, dysentery, typhoid and tropical diarrhea; Section 2 with malaria, plague, Leishman-Donovan body invasion, and relapsing fever; Section 3 with animal parasites and diseas carriers, snake venoms, beriberi, mycetoma, leprosy, and elephantiasis: Section 4 with disposal of sewage in India, water supplies, disinfection and naval and marine hygiene, including quarantine; and Section 5 with ophthalmic surgery, ves ical and renal calculi and tropical surgery.

The Next International Congress on Climatology.—Th eighth International Congress for Hydrology, Climatolo Geology and Therapy by physical agents is to be held i Algiers, April 4-10, 1909. Membership is open to all inter ested in questions connected with these subjects. The fee i $4.00. The congress coincides with the celebration of th semicentennial of the medical department of the Algier University. A number of prominent French physicians for the committee on organization, assisted by physicians in a the other European countries, besides those of Norther Africa. Prof. Max Einhorn, 20 East Sixty-third Street, Ne York City, is at the head of the committee in this country.

The Catastrophe in Southern Italy.—Following the Sicilia earthquake, the medical profession took the lead in the wor of relief, and Professor Durante left at once for Messina wit six surgeons from his clinic at Rome and nearly two doze medical students. About $5,000 was put at his disposal once by the Italian Red Cross, with some supplies, and th university students raised another $2.000. Rummo and Ca tellino of Naples also organized relief bands. Among th professors in the medical department of the Messina Unive sity are G. D'Urso, U. Gabbi, A. Salamoni, P. Ferraro and Sanfelice. The latter was absent at the time delivering le tures on his method of serotherapy of cancer. He has recent had offers to found an institute for this method of treatme but it is said that he rejects everything which savors commercialism. Professor Gabbi was rescued by his 12-yea old, but he lost a daughter in the quake. Some of the oth professors were away on their intersemester vacation. T organized efforts of the army surgeons were much more effe ive after the catastrophe than those of the rank and file the profession which lacked the advantages of organiza for concerted action. Steps have already been taken in hi quarters to ensure better organization of the medical for for sanitary purposes. There were no means of shelter e by the fourth and fifth day after the quake, and physici had to care for the wounded in a persisting rain, and wi out any protection from the icy wind blowing a gale from sea. Bureaucratic red tape is responsible for the lack of necessary shelters, the *Policlinico* declares, as there plenty of portable barracks stored away. The impotence the medical men who hastened to the scene was felt so terly that the tragedy by the end of the week was even m moving than during the first days, waiting vainly for the sels that did not come. The editorial estimates the num of wounded that required care as about 20,000. Cajus la in the highest terms the self-sacrificing labors of the l physicians throughout lower Italy who seemed to escape earthquake as by some miracle, except at Messina, where Professors Barbera, Zincone, Mele and D'Urso, with the ter's assistant, Betagh, were among the victims.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 16, 1909.

British Medical Association

An acute controversy is being waged in the British Medical Association on the question of obtaining a charter. As originally construed the objects of the association were almost entirely scientific, but in recent years there has developed a strong tendency to take a more active part in such subjects as medical defence and the relation of the profession to hospitals and clubs. In order to enable the association to devote funds to these objects a legal alteration in its constitution has become necessary and application has been made to the government to grant a charter.

The Health of London

The report of the health officer to the London County Council, Sir Shirely Murphy, for 1907, has just been published. For the third year in succession the death rate has not been exceeded by any previous year and is lower than that of any English town with a population of over 200,000, with two exceptions. In 1905 and 1906 the rate was 15.1 per 1,000 inhabitants, a lower rate than ever recorded; in 1907 it fell to 14.6. This rate compares favorably with the other great capitals of the world. Thus, in 1907, the rates were as follows: Paris, 18.5; St. Petersburg, 24.7; Berlin, 15.4; Vienna, 17.3; Rome, 18.2; New York, 18.5. Comparing the three years, 1905-7, with the decennium 1891-1900, there was a gain of 19,000, 19,000 and 22,000 lives respectively, representing a gain in "life capital" (the total life expectation of those who survived in excess) of 2,000,000 years of life. On the other hand the birth rate for 1907 was 25.6, the lowest recorded in London; the marriage rate was 17. The death rate from the principal epidemic diseases was very low—only 1.42. No death occurred from smallpox and the death rates from measles, influenza, diphtheria, enteric fever, diarrhea and phthisis were below the average, but those from scarlet fever and whooping cough were above it. The condition as to vaccination is not satisfactory. During the first five years of the present decennium there were nearly 651,000 births, leaving after subtraction of deaths some 530,000 children under the age of 5. Of these, due to the abolition of compulsory vaccination, over 100,000 are unvaccinated. The existence of so large a proportion of unvaccinated children is necessarily a standing danger, although a considerable interval may elapse without any ill result.

The Youngest Known Human Embryo

Dr. J. H. Teacher of Glasgow has discovered the youngest known human embryo. Previously the classical 15-day ovum described by Professor Peters held that position. The ovum now in question was shown to the German Anatomic Society by Teacher and was accepted by Professor Peters as at least a day younger than his embryo. It is 0.77 millimeter in length and its age is established by the fact that only one coitus had to be taken into account and by the relation of this to the expected onset of menstruation. It is established beyond doubt that the maximum possible age is fourteen and one-half days, and the minimum twelve days. By comparison with other early embryos Dr. Teacher draws a number of conclusions. He agrees with v. Spee that there is an interval of seven days between fertilization and implantation of the ovum in the endometrium. Fertilization may occur at any time during the intermenstrual period and embedding either during endometrial quiescence or during what would be a premenstrual period if pregnancy had not occurred. He does not think that menstrual decidua is a preparation for the ovum or that menstruation is the abortion of an unfertilized ovum.

The Lay Press and Nostrums

Nowhere is venality more marked than in the degraded tone of the London press. It mainly represents capitalist interests and in any organ from the *Times* downwards one may read articles in denunciation of opponents which are a tissue of fallacies. To give the writers any credit for honesty one has to assume an incredible depth of ignorance. In such a medium it is not to be expected that the nostrum vendor will suffer from much restraint. The advertisement pages are freely open to him to put forward any claims however absurd. Sometimes there is a curious divergence between the editorial and advertisement columns. Thus in an editorial on a case in the law courts the *Times* lamented the fact "that the advertisement sheets of certain publications are continually made the vehicles of statements which can only be described as preposterous and frequently as being false to the knowledge of those who make them." The advertisement in question was appearing in the *Times* at the time and has appeared ever since! But the evil does not stop with the advertising pages. Not satisfied with advertisements on the same sheet as reading matter advertisers encroach on the reading matter itself. To encounter an article apparently devoted to some general topic of interest and to find after reading a column or so that it is simply an advertisement in a disguised form is an old experience. But of late one has become familiar with something much more specious—an editorial devoted to the same end. One of the most popular periodicals of the day is *T. P.'s Weekly*, edited by Mr. T. P. O'Connor, M. P. It is devoted mainly to the review of books and other literary subjects, and is of a high standard. Some time ago, under the title, "Forces," a series of articles appeared on the most eminent men of the day, such as Lord Kelvin, George Meredith and others distinguished in science and literature. One week the paper had the audacity to insert in the series an article devoted to Sandow, the gymnastic teacher. Gymnastics are an excellent thing in their way, but Sandow is exploiting his system, like any other nostrum vendor, as a cure for almost all the ills that flesh is heir to. It is heavily advertised in the press and even physicians have been enlisted to write testimonials for it. In the article in question, Sandow was represented as one of the greatest benefactors of humanity of the day. Of course the address of his establishment, to which no one would apply in vain, was given. In *Vanity Fair*, another high class periodical, is an article entitled "Health and Beauty," signed by the wife of the journalist mentioned above, a lady who is also well-known as a journalist. After reading into the second column one discovers that the object of the article is to exploit "Dr. Hommel's Hæmatogen." The address of the vendor is given of course.

London Hospitals

The work performed by the London hospitals in a year has been summarized by Mr. Percy E. Braun, the winner of the Howard Medal of the Royal Statistical Society for an essay on "The Cost, Conditions and Results of Hospital Relief in London." The chief items are as follows: Number of hospitals, 123, including twelve children's hospitals; total ordinary expenditure, $5,000,000; cost of provisions, $1,250,000; surgery and dispensary charges, $590,000; number of beds, 10,947; daily average of beds occupied, 8,977; in-patients, 132,670; out-patients, 1,871,495; out-patient attendances, 5,200,705; income from invested property, $1,300,000. Mr. Braun finds that the management expenses of the hospitals varies from 1.3 to 26 per cent. of the total ordinary expenditure. The most economical working in this regard was secured by the very large and the very small hospitals.

Gift for Medical Research

The medical school of London Hospital has received a benefaction of $100,000 which has been placed in the hands of its trustees to be invested to the best advantage. The income is to be paid yearly to three administrators, selected by the donor, who are to spend it in the advancement of medical research and the promotion of higher medical education. The administrators for this year are the chairman, Mr. Sydney Holland, and two members of the hospital staff. The money is to be spent on increasing the facilities for research and not on the routine teaching. The benefits of the gift will not be confined to students educated at the London Hospital but will be open to physicians from any part of the British empire who are willing to give up their time to advancing medical knowledge within the walls of the hospital. Young men capable of doing good scientific work are at present forced too soon into the routine of practice or teaching, by the necessity of earning a living. This fund will enable a certain number of carefully selected men to be freed from this necessity and apply themselves to research. The donor of this gift wishes to remain anonymous in the hope that the fund which he has just started will be increased by others. Some such fund is certainly much needed, as the British government does practically nothing to help research work but leaves everything to private munificence and enterprise.

Nurses for the Territorial Army

The new scheme for a territorial army equipped in every way analogous to the regular army instead of the old-fashioned militia and volunteers, has involved a vast plan of medical organization. As explained in previous letters, buildings have been marked out for use as hospitals in time of war and some of the most eminent surgeons in the country have volunteered their services in the various districts for staffing these hospitals. A parallel scheme of nursing has now been devised. A meeting was held in London for the object of appointing a committee to carry out the scheme of the War Office for the creation of a nursing service for the territorial force of London. In addressing the meeting, Sir Alfred Keogh, director general of the army medical service, stated that under the old volunteer system there were no proper field hospitals at all. It was thought that the ordinary hospitals would, if the emergency arose, receive the sick and wounded of the volunteer force. At the beginning of the late South African war the managements of the great civil hospitals were questioned with regard to the number of beds they could place at the disposal of the army, and it was found that there would not be more than 400 available. As this was a very inadequate provision, the War Office decided to call on the civil medical profession. Realizing that there was nothing between the field ambulance at the front and those hospitals, the newly formed British Red Cross Society was asked to take part in the general medical management of the territorial army. The War Office has agreed to remove the sick and wounded from the area of operations, asking the Red Cross Society at the same time to work in each of the great centers of medical activity, such as Aberdeen, Oxford, Glasgow and Cambridge. Each nurse must be qualified for this service by three years' hospital training. The country has been divided up into twenty-three centers, each containing a ladies' committee. It is estimated that there will be 520 beds in each hospital. Matrons will be trained for these hospitals by going one week in every second year to one of the great military hospitals to gain experience. London is to have four hospitals with 120 nurses each. An influential committee of ladies was appointed to carry out the scheme.

Cerebral Hemorrhage and Employers' Liability

The recent Employers' Liability Act, which greatly extends the liability of employers for the accidents of workmen in the course of their occupation, is constantly raising difficult legal questions as to whether the morbid condition is due to the occupation or not. The latest question has arisen with regard to cerebral hemorrhage. A workman, while employed in lifting a heavy weight, had cerebral hemorrhage. He was put to bed, and four days later a second attack occurred, which was followed by permanent paralysis. At the time of the first attack his arteries were in a degenerate condition. The sheriff-substitute at Glasgow, before whom the case was tried, found that the workman had received personal injury by accident in the sense of the Workmen's Compensation Act. An appeal was made to a higher court. The court of sessions, to which the appeal was carried, held that the workman's final disablement was caused by accident arising out of and in the course of his employment within the meaning of the act. Lord M'Laren. in giving judgment, referred to a precedent, a case of injury to the muscles of the back caused by over-exertion in the course of a man's employment. He could not see any distinction between this case and the rupture of the cerebral vessel. This wide extension of employers' liability has had a consequence unforseen by its framers. The act was brought in by a liberal government under pressure from the labor party. The object of the latter is, of course, to get as much as possible for workmen regardless of consequences to any one else. Employers insure their workmen against accident. When insurance companies find men suffering from some affection such as a slight defect of sight which may increase the risk of accident they refuse to insure them. The result is that many men quite fit to work are refused employment because of some slight disability. Probably as the result of the decision in the present case a man whose arteries shows signs of degeneration will find employment more difficult to obtain.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 16, 1909.

Annulment of the Unpopular Competitive Examination

At a cabinet meeting. January 11, the minister of public instruction announced that as a result of the investigation made into the conditions under which the written tests of the "competitive examination for admissibility to the *agrégation*" were made. he was convinced that these conditions had been entirely abnormal. He has decided consequently to annul the results of this examination. Moreover. the council of the faculty. at its session of January 14, heard and discussed the report which Professor Pinard had been commissioned to submit for the information of the minister of public instruction, on the unanimous feeling (the opinion of the promoter of this *concours*, Professor Bouchard, excepted) of the professors of the Faculty against this examination. It is, therefore. more than probable that, notwithstanding the efforts of Professor Bouchard to defend this institution, the system of a competitive examination entitling the winners to compete for the subordinate chairs in the medical schools is destined to disappear.

Two New Professors at the Paris Medical School

The faculty has been called on to fill the vacancies in two chairs, viz., that of operative medicine, rendered vacant by the nomination of Dr. Quénu to one of the chairs of clinical surgery (in place of the lamented Professor Berger), and that of clinical surgery occupied by Professor Le Dentu, who is retiring. There were six candidates for the chair of operative medicine, and Hartmann was elected by 22 votes against 12 for Lejars. For the chair of clinical surgery, Pierre Delbet was elected by 22 votes as against 9 for Schwartz and 2 for Tuffier.

Reopening of the Faculty to First and Second-Year Students

The minister of public instruction has authorized students of medicine of the first and second years to return to work in the medical school (in the practical courses) but at the first breach of order this permission will be withdrawn. If no fresh disorders occur, first and second year students may be allowed to take the usual January and March examinations cumulatively in March.

The Cross of the Legion of Honor for a Hospital Interne

In the New Year's appointments to the Legion of Honor appears the name of a hospital interne, M. Louis Bazy, son of the well-known surgeon. The act of courage which gained for the young interne—he is only 25 years of age—this distinction is as follows: One day last March, he being then an interne in the service of the late Professor Berger, at the Necker Hospital, was assisting his superior in an operation for purulent pleurisy when a jet of pus squirting from the wound struck him in the left eye. He ought at once to have disinfected the eye, but as this would have entailed a temporary arrest of the operation, Bazy remained courageously at his post. Some days afterward serious ophthalmia developed, and after six months of suffering enucleation of the eye was found necessary. A few days later, when this courageous act was related to the president of the republic, he decided to bestow the cross of the Legion of Honor on M. Bazy. It is worthy of remark that, since the system of internes (*l'internat*) was established in 1802, the list of internes who have met their death in the accomplishment of their professional duties is a long one, and the marble tablets in the Hôtel-Dieu, below a bas-relief by the sculptor Denys Peuch, are covered with the names of these noble martyrs to duty. About thirty years ago, the cross of the Legion of Honor was taken, four hours before his death, to the interne, Herbelin, who was attacked with diphtheria at the Trousseau Hospital.

Decrease of Tuberculosis in Postoffice Employés

Dr. Héricourt recently presented to the government chie of the postal and telegraph services his annual report on th service of special consultations for diseases of the chest i the postal service, and on the hygienic inspection of the post offices of Paris and of the department of the Seine. Thi medical service was established in 1905 to combat the rav ages of tuberculosis among postal employés. The results ob tained are most encouraging, as the number of tuberculou employés, which in 1906 was 1,048, fell in 1907 to 808, an in 1908 was only 505; that is to say, in the space of thre years the morbidity from tuberculosis has diminished b 50 per cent. This result is due to three important measures In the first place, the government undertook the sanitatio of the postoffices, rendering sanitary those buildings whic were capable of such transformation, and condemning tho in which the conditions could not be ameliorated. In 19 there remained 54 sanitarily defective postoffice buildings, against 91 in 1906 and 77 in 1907. To suppress the dange of contagion, each employé affected with tuberculosis wa supplied with a pocket cuspidor and care was taken that made use of it. Finally, those affected in the first degr were accorded a long leave of absence on good pay, whi permitted the arrest of the disease at its commencement.

Medical Inspection in the Schools of Paris

The inadequacy of medical inspection in the schools Paris has become particularly manifest since the closing the Roman Catholic schools has nearly doubled the num of scholars in certain rooms of the public schools. The co plete reorganization of the medical inspection service is to come up at the next meeting of the city council. It is proposed to increase the number of *circumscriptions* from 49 to 175. The high schools and the technical schools will be included in the new service on the same footing as the primary schools. The plan proposed defines the rôle of the medical inspector as follows: The physician shall inspect the existing schools, taking account of the cubic air space of the rooms, their lighting, ventilation, etc. He shall be consulted in regard to schools under construction, and shall not neglect during his visits to take note of the cleanliness of the building. The measures proposed particularly call the attention of physicians to the benches and desks, which, as LeGendre has stated, have created generations of myopes and of crookbacks. The prophylaxis of transmissible diseases will be assured, particularly by vaccination and revaccination. It is further proposed to make out for each pupil at the time of his entry into the school, an anthropometric record (weight, height and chest measure), a physiologic record (defects of vision and troubles of hearing), and an organic record (constitutional weakness, rachitis and tuberculosis). The necessity of giving both to pupils and masters elementary instruction in hygiene, to put them in position to defend themselves usefully against the great scourges which decimate the race—alcoholism, tuberculosis, etc.—is to be emphasized, as also instruction in the hygiene of daily life, how to breathe, to nourish themselves, to clothe themselves comfortably and to keep themselves clean. In this respect it is to be much regretted that the shower baths installed in a certain number of schools are not introduced in all. The medical inspectors are to be recruited by competitive examination. Their visits will be made weekly. The salaries will range from 800 to 1,200 francs per annum ($160 to $240).

Respite from Toil for Pregnant Workingwomen

Since the Berlin Conference of 1890, to the recent Congress at Rheims, the desirability of enforcing rest for workingwomen during pregnancy and after delivery has been repeatedly urged since toil in workshop or factory is particularly prejudicial both to the health of the mother and to the development of the child. There are, however, great difficulties in the way of the realization of the principle. Germany and Austria alone have passed effectual regulations in this line, for they have supplemented the prohibition of work by the pecuniary relief necessary to make the prohibition operative. In France, Italy and Switzerland, bills are under consideration for assuring to convalescent mothers aid during the suspension of their work. But, curiously enough, what especially retards the realization of this reform is the attempt to give too wide a scope to such assistance. In the French Chamber of Deputies some time ago, and recently in the Senate, such bills have failed of adoption, because they provided for giving of such relief to all wage-earning mothers, not merely to those employed in workshops or factories. It is nevertheless evident that the workingwoman in the factory or workshop has greater need of protection than the farm servant or the housekeeper.

The Hygiene of Mines and the Diseases of Miners

M. Gréhant, professor of general physiology at the Museum of Natural History, and member of the Academy of Medicine, has devoted himself for some time to the study of the application of physiology to hygiene. The perils of mining—diseases of miners and dangers of explosive gases—have particularly occupied his attention. He has recently been charged with a scientific mission to Belgium to study ankylostomiasis here, and some days ago he gave a public address on the occupation risks of miners, in which he presented a noteworthy summary of his work on fire-damp in mines, prosecuted since 1892. His researches have resulted in the construction of a simple apparatus for revealing even traces of ire-damp in the air; it thus becomes possible to note the proportional content at which an explosion of gas is to be eared. This proportion becomes considerably reduced when he atmosphere contains coal dust, and it was precisely the presence of coal dust which determined the terrible catastrophes at Courrières in France, at Fairmont in the United States, and at Hamm in Germany. To date, the best remedy nown against fire-damp is thorough ventilation of the mines. It is necessary, however, frequently to take stock of the roportion of dangerous gases contained in the air. Gréhant onsiders it absolutely necessary to make, day and night, epeated analyses of the air in the galleries, and he has simplified the eudiometric apparatus in such fashion that the ir can be tested frequently, each test requiring only five or six minutes. [His communications on the subject have been summarized in THE JOURNAL as they appeared.—ED.]

In regard to the question of parasites, it is interesting to note that Weinberg, in collaboration with Leger and Romanovitch, has been able, recently, to demonstrate in many mining departments of France the existence in an endemic state of an enteritis due to an intestinal anguillula. The latter is found especially in the foci of ankylostomiasis, both parasites needing for their development the same conditions of temperature and humidity. Weinberg has also shown that the mines of central and southern France are not free from the hookworm as is generally supposed. Speaking generally, intestinal helminths are met with in nearly 70 per cent. of miners. The trichocephalus is far the most frequent; the ascaris less so. With the exception of the ankylostoma and the anguillula, the intestinal parasites are found with a frequency almost equal among deep and surface miners, both making a daily use of uncooked vegetables derived from gardens fertilized with human manure.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 18, 1909.

Instruction in Medical Ethics

The Vienna Aerztekammer (local medical council of Vienna) has presented to the minister of education a petition for the creation of a special chair for instruction in medical ethics and sociology, according to a plan embracing the following points: (1), the relation of the practitioner toward the general public, the local authorities, and the law, civil and criminal; (2) his duties toward the local medical organization; (3) the relations between the doctor and his patients, the duties and rights of the latter in these relations, and his duties toward his colleagues in private practice (medical ethics in the stricter sense); (4) the duties of the doctor in regard to contract, club and insurance practice; and (5) the notification of diseases (infections, industrial or occupational).

Besides these social-medical subjects, social hygiene should be taught theoretically and practically. Physicians are not now, in Austria at least, in the front rank of those who are grappling with this problem; they must regain this position. The following subjects are recommended as appropriate for study: History of social hygiene, social statistics (morbidity and mortality of various classes, occupations, races, ages), and special hygiene (schools, buildings, food). If these studies were added to the curriculum of the medical student, the competence of the future physician would be increased and social progress advanced.

Campaign Against Idiocy and Cretinism

A report of the ministry of the interior gives some interesting figures in regard to the extensive government measures for combating the conditions of hypothyroidism and athyroidism, which are known to cause idiocy. Professor Wagner has made extensive studies and experiments in the regions in which these conditions prevail—several mountainous districts in the Alps and the Karst mountains with clay and lime subsoil. With Wagner's researches as a basis for work, local physicians have been instructed to administer thyroid tablets to certain idiots and to report on the results; 124 persons were thus under observation. In 80 per cent. a marked improvement was obtained in four to eleven months, under administration of quantities of 36 to 100 gm. (1 to 3 ounces) of thyroid substance; 12 per cent. showed no improvement within one year, while 8 per cent. did not tolerate even small doses well. In nearly all cases the integument became fairly normal, the height increased a little, and the intellectual qualities improved.

The Housing of the Poor

Rents are becoming very high in Vienna; but, slums not being allowed there, the question of the housing of the poor is a burning one. A philanthropic society has been organized with a view to the erection of a number of workingmen's houses which shall meet the requirements of hygiene and of the small means of the tenants. Among the rules in accordance with which the houses are to be planned are the following: No back rooms except kitchens, conservatories and corridors may look into the yard. Each floor must have a bathroom. The cubic air space must be at least 45 cubic centimeters per room. Overcrowding (more than four persons in a room) is not to be allowed. Sufficient provision must be made for ventilation and water supply. Water closets are to be arranged so that they will be warmed by the smoke coming from the kitchen stoves. The last provision is a novelty here and is very useful in winter.

The Antialcohol Movement

A recent report of the League of Austrian Antialcoholists contains much interesting information. For instance, many clinical teachers in the German and Slavic universities of Austria (in Vienna, Prague, Cracow, Lemberg and Graz) have recommended a non-alcoholic plan of treatment of diseases, such as pneumonia, erysipelas and septicemia, in which alcohol has hitherto been frequently used. Among the students, who still regard beer as indispensable at their meetings, the antialcohol movement is constantly gaining ground, in part because of the admission of women to the universities. The league has devoted considerable sums, thus far in vain, to the search for a substitute for beer.

The national expenditure for intoxicating beverages amounts to $250,000,000 for a population of 28,000,000 in the Austrian part of the empire. Temperance, instead of total abstinence, is now recommended in many parts of the country; this compromise attracts a larger following to the league. The necessity for temperance is now taught in many of the schools. Students matriculating at the universities are handed leaflets admonishing them, among other things, to let alcohol alone.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association.]

ZINC PERMANGANATE

An Examination Made to Determine the Purity of Preparations on the Market

W. A. Puckner and W. S. Hilpert

Zinc permanganate, not being official in any pharmacopeia, has no definite standard of purity. At the request of the Council on Pharmacy and Chemistry, an examination of zinc permanganate tablets was taken up in the Association's laboratory. To judge the quality of the tablets, it was necessary to learn the quality of the available brands of zinc permanganate on the market, an examination of which was undertaken.

ZINC PERMANGANATE

Specimens were purchased in the open market and, in order to obtain samples of recent manufacture, the various manufacturers and dealers were advised that their products were to be examined and were requested to submit specimens. In general, the purpose of this examination was endorsed and samples were promptly submitted.

In appearance the samples varied from dry, lustrous, crystalline masses of a dark-brown, almost black color, to moist, fine particles, more or less contaminated with the decomposition products of the permanganate. The bottles containing the moist samples bore evidence of decomposition by the varying degrees of discoloration of the inner surface of the glass. The specimens varied but slightly in solubility, all dissolving to deep violet-red solutions containing varying quantities of insoluble manganese oxid.

The specimens were examined[1] to determine their permanganate contents with the following results:

Brand.	Source.	Per Cent. of $Zn(MnO_4)_2 6H_2O$.
The Mallinckrodt Chemical Works..	Purchased	73.77
The Mallinckrodt Chemical Works..	Submitted	73.70
Powers-Weightman-Rosengarten Co..	Purchased	97.05
Powers-Weightman-Rosengarten Co..	Submitted	96.99
Merck & Co....................	Purchased	88.72
Merck & Co....................	Submitted	91.49
Lehn & Fink....................	Purchased	72.76
Lehn & Fink....................	Submitted	96.77

The specimens of the Powers-Weightman-Rosengarten Company's product were large crystalline masses free from any coating or admixture and readily soluble, leaving scarcely any insoluble matter. The Mallinckrodt Company's product was in small moist particles, devoid of the metallic luster characteristic of the product. It dissolved less readily than the P.-W.-R. brand and left considerable insoluble matter. The samples from Merck & Co. consisted of medium sized masses, free from moisture, but not so lustrous as the purer samples; they dissolved rather readily, but left an appreciable quantity of insoluble matter. The specimen bearing the name of Lehn & Fink, purchased in the open market, consisted of very finely divided material showing considerable evidence of decomposition; on the other hand, the specimen submitted was free from any signs of deterioration and consisted of large, well-formed, unbroken and dry crystals.

TABLETS OF ZINC PERMANGANATE

Three specimens of zinc permanganate tablets were examined. One specimen was submitted for examination by Burroughs Wellcome & Co.; the other two were products of H. K. Mulford Co., one specimen being supplied by the firm and the other purchased in the open market.

Burroughs, Wellcome & Co.'s Tablets: The tablets submitted by this firm showed unmistakable signs of decomposition by the presence of a coating of manganese oxid, which penetrated the interior of the tablets to some extent. They were very hard and dissolved very slowly, when simply agitated with a large amount of water, yielding in this manner only about 50 per cent. of the permanganate actually contained therein. When placed in the quantity of water required to make a solution of the strength suggested by the manufacturers the individual tablets varied in the ease with which they dissolved. In one case the tablet, in the required amount of water and frequently agitated, required three hours for complete disintegration; another required four hours, and still another after being in water eighteen hours showed only faint signs of disintegration. Only when the tablets were disintegrated by trituration with water was it possible to dissolve all the permanganate present. The tablets contained 86.28 per cent. of the claimed content of zinc permanganate (0.008 gm. per tablet).

H. K. Mulford Co.'s Tablets: In these tablets the properties were found to correspond more nearly to pure zinc permanganate. In color the tablets were almost black, showing no signs of decomposition or discoloration and were easily disintegrated in water, leaving scarcely any insoluble matter and requiring no trituration to effect solution; but in the actual estimation the tablets were all triturated simply for the sake of uniformity of technic. The tablets contained, in the specimen purchased in the market, 89.60 per cent. and in the specimen submitted by the manufacturer 89.58 per cent. of the amount of zinc permanganate claimed (1 grain per tablet).

SOLUTION OF ZINC PERMANGANATE

One specimen of Merck's zinc permanganate solution, 25 per cent., was also examined. It was found to contain 95.45 per cent. of the amount of zinc permanganate claimed, and might, therefore, be pronounced as complying with the label.

In 1881, Biehl[2] found that some brands of zinc permanganate solution had only 7 per cent. of the amount of th salt they were claimed to contain, while some of the crystalline solid products contained only 62 per cent. zinc permanganate. It is commendable that the manufacturers have mad sufficient improvements since that time in the manufactur of zinc permanganate to bring it to the uniformity of th present-day product. The analyses show that the specimen found on the market (with one exception, that of Lehn Fink), correspond in composition with those obtained direc from the manufacturers or dealers.

From the above it will be seen that the purity zinc permanganate now on the market varies from 72.7 per cent. to 97.05 per cent., a difference of 23.29 per cent. I view of this, it is evident that some standard of purity f zinc permanganate should be established.[3] With this end in view, this examination has been submitted to the Council on Pharmacy and Chemistry with the following recommendation: That zinc permanganate be included with New and Nonofficial Remedies as an unofficial non-proprietary article, and that it be required to contain not less than 90 per cent. of pure zinc permanganate. Physicians desirous of using this product will, therefore, be able to obtain a salt of good quality if they will write in their prescriptions: "Zinci Permanganas, N. N. R."

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[1] The method of valuation adopted was the one proposed and used by Dr. J. Biel (Proc. Am. Pharm. Assn., xxix, p. 268) in his examination of commercial solutions of zinc permanganate, i. e., the titration of the solution by standard oxalic acid. Because of the varying purity and quantities of insoluble matter admixed with and covering some of the particles, it was considered necessary to triturate the samples with water to extract completely the soluble matter. The samples were triturated with water, the mixture transferred to an asbestos filter and the filter washed till all the soluble matter was in solution. To the solution thus obtained dilute sulphuric acid was added, the solution warmed and treated with an excess of tenth-normal oxalic acid solution and then titrated back with tenth-normal potassium permanganate. Each cubic centimeter of tenth-normal oxalic acid is equivalent to 0.00408 grams of zinc permanganate, $Zn(MnO_4)_2 + 6H_2O$.

[2] Proc. Am. Pharm. Assn., xxix, p. 268.

As zinc permanganate is more easily reduced than potassium permanganate, the zinc salt is said to be the more powerful antiseptic and the claim is made that a comparison of the efficiency of the two substances based on the permanganate test is perhaps open to criticism. Physicians who wish to experiment with zinc permanganate may be interested in knowing that owing to its higher molecular weight zinc permanganate must be used in relatively larger quantities than potassium permanganate, provided the same permanganate content is wanted. By comparison of the equivalent molecular weights, about 1.4 gm. commercial (90 per cent.) zinc permanganate contains the permanganate equivalent of 1 gm. potassium permanganate.

CATARRH AND COLD CURES

The Composition of Some "Patent Medicines" Analyzed by the British Medical Journal

In continuing its investigation of secret remedies, the *British Medical Journal* (Oct. 24, 1908) takes up "catarrh and cold cures," giving analyses of Dr. Lane's Catarrh and Cold Cure, Van Vleck's Catarrh Balm, Dr. Mackenzie's "One Day" Cold Cure, Keene's "One Night" Cold Cure, Munyon's Catarrh Tablets, Munyon's Special Catarrh Cure, and Birley's Anti-Catarrh.

Dr. Lane's Catarrh Cure turns out to be a dilute solution (0.4 per cent.) of phenol (carbolic acid) and common salt (3.3 per cent.) in water. The preparation on which the Keene company guarantees the breaking up of any "ordinary" cold in one night is said to consist of "Cascara, Bromid, Quinin, Ipecac, Camphor, Bryonia." The analyst was unable to find any indication of bromid, camphor, cascara or ipecac, while the quinin turned out to be a trace of impurity in the cinchonin present, but he did find acetanilid in very appreciable quantities.

Munyon's Special Catarrh Cure consisted of sugar, which had possibly been medicated with a tincture containing infintesimal quantities of medicinal agents. The usual disproportion between cost and retail price is maintained in these as in other secret remedies.

Editorially the *British Medical Journal* takes up these 'catarrh cures" as examples of the methods of the nostrum makers and notes how the seriousness and evil consequences of the disease are exaggerated, quoting the statement from he advertisement of one of the articles that "it is estimated hat over 20,000 people died in the United Kingdom last year of consumption caused by catarrh." "The remedy put forward for this malignant disease is shown," says our conemporary, "to consist of a solution of a pinch of common alt with a trace of carbolic acid, the actual cost of the uantity sold for a shilling [24 cents] being one-thirtieth of farthing [1/60 of a cent]." The *British Medical Journal* oncludes: "So long as quack and secret nostrums enjoy their resent immunity from legal control, the only way to educate he public out of the practice of resorting to their employment appears to be persistent exposure of their useless or harmful nature. The public, or that part of it which plumes itself on its knowingness, is perhaps disposed to assume that the opinions of medical men on the subject are biased, but accurate statements of the real composition of particular nostrums can hardly fail to carry weight, even with the most suspicious."

The Proprietary Habit

The *Druggists Circular* (January) comments on the complaint of a pharmacist who has become discouraged because after several joint meetings of physicians and pharmacists in his city a physician's prescription has come to his notice in which were included four different proprietaries. The drug journal reminds the faint-hearted druggist that probably the great majority of physicians in his city have given up the use of nostrums and suggests that he should not lose heart so easily. It continues:

"We wonder how often and through how many years this druggist's mother, when he was a little boy, told him that he must hang up his hat when he came into the house and not throw it on a chair or table or bed where it would be in other people's way, look disorderly and be hard to find when he wanted it. And he had not been begged, pleaded with, argued to and bribed with many free samples, blotters, note books, calendars, pencils, prescription pads and the like, to throw his hat around, and he had not formed a more or less fixed habit of doing this before his mother began to work on him. Let us suppose that she had explained to him the advantages from an economic, artistic and ethical standpoint of hanging his hat on the rack in the front hall and had repeated the explanation once every three months for a year, while bad boys were giving him tops, bean shooters, pop guns, licorice sticks, twine, marbles and now and then a kite or a toy steam engine or a bow and arrows, to induce him to continue to hang his hat on the floor or mantel, what would have been the result?"

Hoff's Cure for Consumption

Several inquiries regarding the composition of "Professor Hoff's Cure for Consumption" having been received, the chemical examination of this preparation was taken up in the Association laboratory. The following is the report of the analysis:

Professor Hoff's Cure for Consumption, manufactured by Bendiner & Schlesinger, Third Avenue and Tenth Street, New York, is a dark brown liquid with a bitter taste and an odor of opium. The label on the bottle—at least since the advent of the Food and Drugs Act—states that the preparation "contains, in addition to other valuable medicaments, watery extract of opium 2 grs. to each ounce." Besides opium the preparation was found to contain approximately 2.5 gm. sodium cinnamate to each 100 c.c., sugar and a caramel-like coloring. The presence of heavy metals, iodids or bromids, could not be demonstrated.

The "Cure," then, consists essentially of sodium cinnamate (hetol) and extract of opium, a mixture at one time suggested for the treatment of tuberculosis, but which like many remedies has since been discarded. A remedy which depends on opium for whatever therapeutic effect it may have, is, when sold indiscriminately to the laity, inherently vicious.

Correspondence

Better Statistics of Industrial Mortality for the United States

To the Editor:—I read with much interest the leading editorial in The Journal, Jan. 9, 1909, p. 138, on "Industrial Hygiene: a Neglected Field," and wish to make it the basis of an appeal for the cooperation of the medical profession of the United States in securing more definite statements of specific occupation and industry of decedents on certificates of death. As you justly say, in this country industrial mortality and morbidity statistics are inadequate and often misleading from their very inadequacy; and this unsatisfactory condition contrasts strongly with the completeness of industrial mortality statistics in the other countries.

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[3] The need of some standard is indicated by a report from the nalytical laboratories of the H. K. Mulford Co., (Am. Jour. Pharm., Iay, 1908, p. 224) in which the following general statement is made:

"During the last few months we were unable to get a zinc permanganate which was entirely soluble in water. As this product is used not only for injections, but also for eye washes, it would vidently be dangerous to use a product containing insoluble matter, the latter causing irritation of the membranes to which he solution is applied. The best sample we got hold of contained per cent. insoluble matter; one sample submitted to us by a rominent house contained even 32 per cent. insoluble matter. As e all know, the salt decomposes very rapidly if exposed to light nd air, but the once decomposed salt is certainly unfit for medinal purposes."

The mortality of occupations is one of the most difficult problems of vital statistics, especially in the United States, where only a little over one-half of the population possesses fairly complete registration of deaths. The accuracy of figures showing occupational mortality from various causes of death depends on the completeness and precision with which several factors are recorded. These are: 1, occupation and age (in the census enumeration), 2, occupation and age of decedents (on certificates of death), and 3, cause of death (stated by the attending physician, health officer or coroner on the medical certificate). It is especially important that the mode of statement of occupation and of age shall harmonize on the population schedules and the transcripts of deaths, as otherwise the ratios of occupational mortality which are based on the comparison of these two sets of returns will be to some extent unsatisfactory.

Much attention is being given to the subject of occupation by the division of population of the census in connection with the preparations for the taking of the thirteenth census in 1910. The census bill, now in conference, provides for the statement after "occupation" of "whether or not employer or employé," and it is contemplated to ask the further question of "by whom employed," so that by reference to a list of industrial establishments, it is hoped, the precise nature of the industry as well as the specific character of the occupation of the individual can be established. Furthermore, an analytical study is now being made of the extremely numerous terms returned at the twelfth census for the designation of occupations, so that for the first time in this country the material will be available for a thorough classification of occupations. On the basis of this information and of previous experience precise instructions will be formulated for the enumerators of population at the approaching census, and it seems likely that the data relating to the occupations of the inhabitants of the United States who are enumerated in 1910 will be more valuable than any ever before collected.

Efforts are likewise being made to secure better reporting of occupations in the mortality returns. At the meeting of the American Public Health Association at Atlantic City, 1907, I submitted for consideration by the organized registration officials of the country propositions which emphasized the importance of uniformity of instructions in regard to the reporting of occupations in the population and mortality schedules, and specified the following points on which information might be secured: The kind of industry (pottery, for example) as well as the kind of occupation (laborer, for instance); the length of time employed from beginning the occupation until death; in the case of a recent change of occupation, the nature of the previous occupation, which may have been the predisposing cause of death; in the case of persons unemployed, the last previous employment, for the same reason; occupation of all decedents over 10 years of age, and of all decedents under 10, if employed in any gainful occupation; in the case of children under 10 years old, the occupation of the bread-winning parent.

The suggestions were published in the *Quarterly Publications of the American Statistical Association*, December, 1907. At the second annual meeting of the American Public Health Association held at Winnipeg, August, 1908, two of the propositions were adopted, and have now become accepted rules of practice of the registration officials of the United States. These are the rules that the nature of the industry should be ascertained as well as the nature of occupation, and that the occupation of all decedents over 10 years old should be stated, also the occupation of decedents under 10, if engaged in any gainful occupation.

The other propositions are still under consideration and will be reported on at the meeting to be held at Richmond, Va., during the present year. At the same time, a revised form of the "standard certificate of death" will be adopted, of which the improved statement of occupation will form a part, so that we shall be able to begin the use of the new blank on Jan. 1, 1910, and thus obtain better returns of occupations for the census year. It will then be possible for the Bureau of the Census to prepare, for the reporting of occupations, instructions that will be entirely consistent with the instructions given to enumerators for the return of occupations on the population schedule, and, with the cooperation of the state and city registration services, these instructions can be brought to the attention of every physician, undertaker, and local registrar in the United States who has to make out the original reports.

In the United States physicians do not as a rule, though they do occasionally, certify to the occupation of the decedent, but they might readily note, when the certificate is presented for statement of the cause of death, whether the occupation is properly stated or not. In fact, it might be possible to provide for an indorsement by the medical attendant of the statement of occupation, with the addition of such details as may be necessary for proper classification. He could call special attention to the effects of former occupation as determining the cause of death.

I am afraid, however, that physicians would be apt to consider even the simplest addition to the present form of question as unduly complicated and as savoring too much of "red tape" and inquisitiveness into personal particulars; and if so, it is not likely that the other classes of informants, who may not understand the practical uses of the data, will be likely to yield better results. I should therefore be very glad to learn the personal views of as many physicians as possible in all parts of the country with respect to the suggestions made for obtaining a better statement of occupation on the certificate of death, and to know how fully the medical profession is disposed to cooperate therefor.

What physicians can readily do without question is to furnish more precise statements of cause of death, and to use only the accepted medical terms to describe well-known diseases, taking special pains to note that diseases or injuries due to occupations are definitely indicated. Thus "lead poisoning (house painter)" would clearly indicate, not a case of accidental acute poisoning from some salt of lead, but a probable chronic poisoning, and, moreover, occupational, thus definitely assigning its position in the international classification. The painter may have been compelled to relinquish his proper occupation on account of his illness from the effects of lead, and the occupation given by the informant may hav been of quite a different sort. The physician's statement wil enable the true connection of occupation and disease to b shown. The means of the injury should always be given i deaths from violence, and a clear statement as to whether th violence was accidental, suicidal or homicidal. If the injury was connected in a direct way with the decedent's occupatio and the occupation is not clearly stated under the head o "personal particulars," then reference to it may be made i the statement of cause of death. For example, the informan may have given the occupation of a certain individual a "laborer." The physician, noting the insufficiency of the state ment, may report under cause of death: "Accidental fal down shaft (coal mine)." This will enable a correct com pilation to be made.

Mortality statistics of occupations can not rise above thei sources with respect to accuracy, and it would be a mistak to make too elaborate compilations of data for which th original statements were lacking in precision.

Cressy L. Wilbur, M.D., Chief Statistician.
Bureau of the Census, Washington, D. C.

Expression of Intubation Tube

To the Editor:—I notice in The Journal, January 23, p. 31 a communication from Dr. Golden regarding the expression O'Dwyer's tube. So far from being at all recent, this pr cedure lacks not very many years of being as old as intub tion itself, and has, I think, been commonly used for t removal of the short French tubes. The longer and diffe ently shaped O'Dwyer tube does not, however, lend its so readily to the application of the method, and often quires the use of force which might result in traumati of the larynx. The only serious case of "retention" of t tube with which I have had experience was probably the result of a demonstration of this process. I hope, therefore, that other operators will not be led by Dr. Golden's letter to try the method except in case of a real emergency.

THOMAS B. COOLEY, Detroit.

A Micro-Organism which Apparently Has a Specific Relationship to Rocky Mountain Spotted Fever

To the Editor:—Through an oversight in calculating, the serum dilutions, to which I referred in my article with the above title in THE JOURNAL, January 30, page 379, were wrongly stated. The dilutions actually employed were twice those stated in the article, and should have been given as follows: 1 in 2, 1 in 20, 1 in 40, 1 in 80, 1 in 160, 1 in 240, 1 in 320 and 1 in 400. Therefore the complete agglutinating power of the immune serum was manifested in the dilution of 1 in 320 instead of 1 in 160.

H. T. RICKETTS, Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CONTAGION AND INFECTION

To the Editor:—What is the difference in meaning between "infectious" and "contagious"? STUDENT.

ANSWER.—The confusion which exists regarding the significance of the words "infectious" and "contagious" is due in large part to the fact that they have grown into a usage varying somewhat from that which adhered to them originally. For the same reason the definitions found in the dictionaries are unsatisfactory; in fact, these are behind the times regarding these words. Good usage is the lexicographer's authority, and in case a certain usage has come to be universal among leading men, it may be considered as good usage.

The confusion may be cleared by holding fast to this statement: the term infectious is applied to all those diseases which are caused by parasites, particularly the microparasites, i. e., the bacteria, certain fungi and the protozoa. "Infection" is also used synonymously with "infectious disease." The term is not so commonly applied to conditions in which the body is invaded by the larger "macroparasites," as the intestinal worms, but it would not be improper to use it in such cases. When the surface of the body is the point of attack for such parasites as the pediculi, "infestation" is commonly used, but the distinction between "infection" and "infestation" is artificial to a certain extent. The term infectious, therefore, refers to the etiologic character of the disease.

To place the word "contagious" in its proper relationship to "infectious," we may say that infectious diseases may be divided into two classes: those which are contagious and those which are not. A contagious disease is one which is transmitted with greater or less ease from the patient to another person when the two come into direct or indirect contact. The word contagious therefore refers to a method of transmission which prevails among some infectious diseases. In earlier times the word "contagion" was used vaguely in referring to the unknown cause of a contagious disease, and the disease itself was also called a contagion; for example, a person was said to be suffering from a contagion. This use of the word does not prevail in modern literature. "Contagion" as now used refers to the act of transmission of an infectious disease by the medium of contact. It seems uncalled for, in relation to the question asked, to cite illustrations showing that there are all grades of contagiousness, or to enumerate the various vehicles of transmission which are utilized by the contagious infections.

METHOD OF DISGUISING TASTE OF ARTIFICIAL CARLSBAD SALTS

To the Editor:—In adding a teaspoonful of artificial Carlsbad salts to a glassful of water as a laxative, what could be added to this mixture to make it palatable, or reasonably so?

GEORGE H. WERK, Cincinnati.

ANSWER.—The addition of a little sugar and lemon juice often effectually hides the disagreeable taste of the salts contained in artificial Carlsbad salts. Many patients, however, take such salts largely diluted with water in preference to any other method of administration. This applies to salty substances in general. While disagreeable in concentrated solution, they often become comparatively pleasant when sufficiently diluted.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Jan. 30, 1909:

Greenleaf, H. S., major, granted leave of absence for one month.

Shook, J. R., capt., granted leave of absence for one month.

Koerper, C. E., capt., granted leave of absence for 14 days.

Clarke, J. T., major, granted an extension of 15 days to his leave of absence.

Bevans, J. L., capt., granted leave of absence for two months.

Church, J. R., major, granted leave of absence for one month.

Winter, F. A., major, ordered to accompany troops to San Francisco.

Kendall, W. P., major, ordered to accompany troops from Fort Ethan Allen, Vt., to Fort Leavenworth, Kan., and return to station.

Davis, W. R., capt., granted leave of absence for 15 days.

Coffey, A. M., M. R. C., ordered from Fort Sam Houston, Texas, to Fort Sill, Okla., for temporary duty.

Jordan, E. H., M. R. C., granted leave of absence for two months, with permision to return to the United States via Europe.

Wertenbaker, C. P., M. R. C., granted leave of absence for 10 days.

Stallman, G. E., dent.-surg., left Fort Sam Houston, Texas, for duty at Fort McIntosh, Texas.

Voorhies, H. G., dent.-surg., ordered to a month's duty at each of these posts: Fort Lincoln, N. D.; Fort Yellowstone, Wyo.; Fort William Henry Harrison, Mont.; Fort Missoula, Mont., and Fort Assiniboine, Mont.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Jan. 30, 1909.

Hart, G. G., acting asst.-surgeon, appointment dated Jan. 10, 1909, revoked.

Stokes, C. F., surgeon, ordered to report to the Surgeon General of the Navy for special temporary duty in connection with repair of hospital ships.

Huffman, O. V., asst.-surgeon, discharged from treatment at the Naval Medical School Hospital, Washington, D. C., granted sick leave for three months, and resignation accepted to take effect April 26, 1909.

May, H. A., P. A. surgeon, detached from duty with flotilla of light-house vessels, San Francisco, and ordered to the Pacific Fleet, sailing from San Francisco, Feb. 5.

Old, E. H. H., detached from the Naval Hospital, Norfolk, Va., and ordered to temporary duty at the Navy Yard, Washington, D. C., and to additional duty on board the *Mayflower*.

Thomas, G. E., acting asst.-surgeon, detached from the Naval Hospital, Boston, and ordered to the Naval Hospital, Norfolk, Va.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 27, 1909:

Young, G. B., surgeon, directed to attend the meeting of the Lake Michigan Water Commission to be held at Indiana Harbor, Ind., Jan. 23, 1909.

Cumming, Hugh S., P. A. surgeon, directed to proceed to Nagasaki, Japan, upon special temporary duty.

Fricks, L. D., P. A. surgeon, leave of absence granted Jan. 8, 1909, for 7 days from Jan. 9, 1909, amended to read 5 days from Jan. 9, 1909.

Sweet, Ernest A., P. A. surgeon, granted 7 days' leave of absence from Dec. 25, 1908, under paragraph 189, Service Regulations.

Stiles, C. W., chief division of zoology, hygienic laboratory, granted three days' extension of annual leave on account of sickness from Jan. 12, 1909.

Blount, B. B., Acting-asst. surgeon, granted 30 days' leave of absence from Feb. 1, 1909.

Bussey, Joseph C., Acting-asst. surgeon, granted 7 days' leave of absence, under paragraph 191, Service Regulations.

Hamilton, H. J., Acting-asst. surgeon, granted 30 days' leave of absence from Jan. 27, 1909.

Moncure, J. A., Acting-asst. surgeon, granted 30 days' leave of absence from Feb. 18, 1909.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 29, 1909:

SMALLPOX—UNITED STATES

Alabama: Tuscaloosa, Dec. 1-31, 20 cases; Mobile, Jan. 21, 1 case.

Arkansas: Texarkana, Nov. 22-Jan. 11, 10 cases.

California: Los Angeles, Jan. 2-9, 2 cases; San Francisco, 2 cases.

Illinois: Browning, Oct. 25-Jan. 20, 75 cases; Centralia, July 1-Jan. 20, 50 cases; Chicago, Jan. 2-9, 1 case; Danville, Jan. 10-17, 1 case; Ladd, Nov. 1-30, 4 cases; Taylorville, Jan. 18, 40 cases.

Indiana: Evansville, Jan. 9-16, 2 cases; Lafayette, Jan. 11-18, 12 cases.

Kansas: Atchison, Jan. 9-16, 1 case; Kansas City, Jan. 2-16, 2 cases; Topeka, Dec. 3-10, 10 cases.

Kentucky: Covington, Jan. 9-16, 2 cases; Lawrenceburg, Oct. 1-18, 200 cases, 1 death; Lexington, Jan. 2-16, 9 cases.

Louisiana: Arcadia Parish, Dec. 20-Jan. 11, 30 cases; New Orleans, Jan. 2-16, 4 cases.

Maine: Van Buren, Jan. 9-16, 7 cases.

Michigan: Detroit, Jan. 9-16, 1 case.

Missouri: St. Louis, Jan. 9-16, 1 case.

Montana: Butte, Dec. 15-Jan. 12, 12 cases.

Nebraska: South Omaha, Jan. 9-16, 1 case.

North Carolina: Wilmington, Jan. 22, 1 case, imported.

Tennessee: Green County, to Jan. 22, 103 cases; Knoxville, Jan. 9-16, 1 case; Memphis, Jan. 18, 1 case, imported; Nashville, Jan. 9-16, 4 cases.

Texas: Cotulla, Jan. 25, present; Laredo, Jan. 25, present; San Antonio, Jan. 2-16, 21 cases.

Vermont: East Dover, Jan. 21, 10 cases; Newfane, Jan. 11, 3 cases; West Dunnerston, Jan. 21, 1 case.

Virginia: Lynchburg, Jan. 9-16, 1, imported.

Wisconsin: La Crosse, Jan. 9-16.

SMALLPOX—FOREIGN

Brazil: Bahia, Nov. 14-Dec. 5, 61 cases, 4 deaths.

Canada: Halifax, Nov. 2-9, 2 cases; Winnipeg, Jan. 4-11, 2 cases.

Egypt: Alexandria, Dec. 2-9, 1 death; Cairo, Dec. 15-23, 5 cases, 8 deaths.

India: Bombay, Dec. 15-22, 3 deaths.

Java: Batavia, Dec. 5-12, 4 cases, 1 death.

Mexico: Guadalajara, Jan. 1-7, 1 death; Monterey, Jan. 3-10, 1 death; Salina Cruz, Jan. 1-15, 5 deaths; Veracruz, Dec. 12-26, 2 cases, 2 deaths; Yucatan, Dec. 1-31, 1 case; Camp Mengel.

New Foundland: St. Johns, Jan. 9-16, 3 cases.

Peru: Lima, Dec. 19, 3 cases.

Porto Rico: Mayaguez, Dec. 26-Jan. 2, 1 case.

Portugal: Lisbon, Jan. 5-12, 3 cases.

Russia: St. Petersburg, Dec. 12-19, 8 cases, 2 deaths.

Spain: Valencia, Dec. 19-26, 1 case.

Turkey: Constantinople, Dec. 20-27, 6 deaths.

YELLOW FEVER

Barbados: Bridgetown and vicinity, Dec. 29-Jan. 10, 4 cases, 3 deaths.

Ecuador: Guayaquil, Dec. 12-19, 1 death.

Mexico: Mexcanu, Jan. 2-9, 1 case; Merida, 1 death.

Trinidad: Port of Spain: Jan. 20, 1 death.

Brazil: Bahia, Nov. 21-Dec. 5, 3 cases, 2 deaths.

CHOLERA

India: Bombay, Dec. 15-22, 23 deaths; Madras, Dec. 12-18, 3 deaths; Rangoon, Dec. 5-12, 1 death.

Russia: General, Nov. 15-Jan. 2, 2,976 cases, 1,208 deaths; St. Petersburg, Dec. 23-31, 114 cases, 43 deaths.

Straits Settlements: Singapore, Nov. 29-Dec. 5, 29 deaths.

PLAGUE

Brazil: Bahia, Nov. 14-Dec. 5, 12 cases 6 deaths.

China: Hongkong, Nov. 7-14, 1 case, 1 death.

Ecuador: Guayaquil, Dec. 12-19, 1 death; Milagro, present.

India: General, Dec. 5-12, 2,044 cases, 1,588 deaths; Bombay, Dec. 15-22, 4 deaths.

Peru: General, Dec. 4-17, 60 cases, 20 deaths; Lima, 9 cases, 3 deaths.

Straits Settlements: Singapore, Nov. 25-Dec. 5, 1 death.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

MEDICAL LEGISLATION

Naval Medical Reserve Corps

Senator Gallagher has introduced amendments to the house bill (26394) of appropriations for the naval service for the coming year, to provide for a medical reserve corps for the Navy, similar to that provided for the Army, and also to provide for the reorganization of the hospital corps of the Navy. A bill to provide for the reorganization of the hospital corps was introduced into the last Congress and was endorsed by the Conference on Medical Legislation at its Chicago meeting in December, 1907. The proposed medical reserve corps for the Navy was discussed at the Conference on Medical Legislation recently held at Washington and was endorsed. The amendments proposed by Senator Gallagher are in the interest of efficiency of the medical department of the Navy, and should be adopted.

Proposed State Legislation

The following bills, which have been introduced into the various state legislatures, have been reported to the Bureau of Medical Legislation:

KANSAS

House Bill 301, to authorize an annual conference of state and local boards of health; House Bill 124, to provide for the regulation and inspection of hotels and public lodging houses and to vest the authority for its enforcement in the State Board of Health; S. B. 135, to amend the pure food law of 1907. This bill passed the Senate on January 22 and is now in the House.

MINNESOTA

H. F. 145, introduced by Dr. J. A. Gates, would regulate the manufacture and sale of "patent" and proprietary medicines. This bill would provide that each package of "patent or proprietary medicine" manufactured, sold or given away in the state shall contain the complete and correct formula on the outside wrapper and on the bottle or box. Any medicine containing more than a minimum quantity of morphin, heroin, cocain, chloral hydrate, belladonna, cotton-root, ergot or any other abortifacient, must show an additional poison label. The State Board of Health is to be authorized to analyze all preparations offered for sale in the state. A fine or from $50 to $500 and imprisonment for from thirty days to six months is to be a penalty for violation of the act. H. F. 169 would forbid objectionable or obscene advertising on the part of any person or corporation, either through newspapers, pamphlets, or by any other means. The production of any such advertisements is to be made prima facie evidence of the guilt of the persons advertising. H. F. 145, introduced by Dr. Gates, seeks to prevent the manufacture and sale of adulterated or misbranded drugs. The definition of adulteration and misbranding is as given in the national Food and Drugs Act.

NEBRASKA

S. F. 18 is an act to authorize the practice of osteopathy in Nebraska and to provide for a board of osteopath examiners. It is similar to former osteopath bills, except that it states specifically that licensed osteopaths shall have the right to report births and deaths the same as "physicians of schools of medicine," and that such reports shall be accepted by the officers of the departments to whom they are made. Evidently, those desiring osteopathic legislation have profited by their recent experience in New York. S. F. 66 is to provide for the registration of marriage statistics, and S. F. 116 for the equipment and maintenance of a State Board of Health bacteriologic laboratory. H. R. 94 is the same bill entered on the house calendar. H. F. 140 is for the sanitary regulation of bakeries, creameries, packing houses, slaughter houses, dairies, canneries, cheese factories, confectionery factories, restaurants, hotels, groceries and meat markets, placing the sanitary regulation of all buildings used for such purposes in the hands of the state food, drug and dairy commissioners. Section 4 of this bill will require that all doors and windows of all buildings in which food of any sort is handled be fitted with self-closing screen doors and with wire window screens. Section 6 will provide for cuspidors and regulates their use. Section 7 will forbid the use, as a living or sleeping room, of any place where food is prepared, served or sold. Section 8 will forbid the employment in any factory of any person afflicted with any infectious diseases. S. F. 142 is to regulate professional nursing, to authorize the State Board of Health to make such rules and regulations as may be necessary and to forbid any person to be known as a registered nurse without a certificate from the State Board of Health. H. R. 70 is a similar bill in the House.

NORTH DAKOTA

S. B. 8 is to regulate the sale of intoxicating liquors for medicinal, sacramental, scientific and mechanical purposes and to require a person who wishes to secure intoxicating liquors from a druggist, to present a written or printed prescription from a legally qualified physician.

NEW HAMPSHIRE

H. R. 23 is to provide for the equipment and furnishing o a state sanatorium for consumptives; H. B. 48, to forbid th manufacture and sale of any preparation containing cocain H. B. 107, to provide for the cleanliness of receptacles use for the delivery of milk and cream for domestic purposes H. B. 109, to specify the percentage of fat which must be i marketable milk, and H. B. 110, to regulate the manufactur and sale of ice cream.

OHIO

S. B. 3 is a bill to regulate the practice of optometry whic is defined in about the same terms as in the Vermont law mentioned last week. This bill is practically the same as a of the others introduced in the last two or three years in th various state legislatures, and is open to the same objec tions. It should not be allowed to become a law under an circumstances, as it is class legislation, is contrary to the interests of the public, and places the state in the position of endorsing unqualified and incompetent individuals whom the public accepts as properly qualified. This movement for the passage of this law in all of the states is the result of a concerted effort which has been going on for the last two years. The bills and the efforts to secure their passage in the various state legislatures all emanate from a central source.

PENNSYLVANIA

The Committee on Inebriate Hospital of the Medical Society of the State of Pennsylvania has introduced a bill into the state legislature to provide for the erection of a state hospital for the detention and treatment of inebriates. A committee of six persons is to select the site and to erect such an institution; $15,000 is to be appropriated for land and $150,000 for buildings. A board of nine trustees is to be appointed after the erection of the building.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month

General Subject for the Month, Normal and Pathologic Labor

First Weekly Meeting

ANATOMY

PELVIS

Bones: Ilium, wing, crest, spines, body; ischium, body, spine, tuberosity, ramus; pubis, body, spine, ramus; obturator foramen, sacrosciatic notch; sacrum, surfaces; coccyx.

igaments: At symphysis pubis, sacro-iliac articulations, sacro-coccygeal articulations, sacro-sciatic ligaments, obturator membranes.

alse Pelvis: Boundaries, iliac crests, distances between spines, between crests.

rue Pelvis: Boundaries, form, portions. (a) Inlet, superior strait: shape, boundaries; diameters, conjugata vera, obstetric conjugate, diagonal conjugate, effect of Walcher position on each, external conjugate or Baudelocque, transverse, oblique. (b) Obstetric strait: Boundaries; diameters, anteroposterior, bisischiatic. (c) Outlet, inferior strait: Definition; diameters, anteroposterior, transverse. (d) Cavity: Depth, walls; diameters, anteroposterior, transverse.

nclination of Pelvis: Degree, variations, significance.

xes of Pelvis: Axis of inlet, of outlet, line of progression.

oft Parts Connected with Bony Pelvis.—(a)—In large pelvis: Muscles, iliacus, psoas; vessels; nerves. (b) In true pelvis: Pyriformis, obturator internus, origin, relations, fasciæ. Vessels and nerves. Bladder and rectum. (c) Pelvic floor and outlet: Levator ani, coccygeus, transversus perinei, sphincter ani, fasciæ and attachments. Effect of soft part on diameters in each plane of pelvis.

Fetus

ead: Regions, occiput, vertex, sinciput; bones; sutures, sagittal, transverse, lambdoid; fontanelles; diameters, occipito-mental; occipito-frontal; suboccipito-bregmatic, biparietal, bitemporal; circumferences, maximum, minimum.

runk: Comparative size; bisacromial and sterno-dorsal diameters.

ips and Extremities: Diameters, bicristal, bitrochanteric, dorso-pubic.

PRESENTATION AND POSITION OF FETUS

ttitude.—Definition, causes.

resentation.—Definition, normal and abnormal, longitudinal and transverse, variations during pregnancy and labor. (1) Head: Frequency, causes; vertex, sinciput and brow, face. (2) Breech: Frequency, complete, knee, foot. (3) Trunk: Frequency, causes; shoulder, arms, etc.

Position.—Definition, points of fetus, of pelvis. (1) Vertex: L. O. A., L. O. T., L. O. P., R. O. P., R. O. T., R. O. A., (2) Face: Describe mento- positions (3) Breech: Sacro-positions.

Diagnosis.—(a) Abdominal palpation, (b) vaginal touch, (c) auscultation.

Reference books for seventh month: Text-books of obstetrics by Edgar, Hirst, Jewett and Williams, and the American Text-Book of Obstetrics.

Marriages

Ralph S. Cone, M.D., to Miss Zoe Warner, both of Brooklyn, N. Y., recently.

Julius Michaelis, M.D., to Miss Ethel S. Thomas, both of Brooklyn, January 20.

John Winster Green, M.D., Albion, Ind., to Miss Alice Westcott of Chicago, recently.

Thomas H. Weirich, M.D., to Miss Sarah Duval, both of Wellsburg, W. Va., January 20.

A. Aldridge Matthews, M.D., Seattle, Wash., to Miss Eva Hopkins, at Seattle, January 27.

Carl H. Wright, M.D., Yorktown, Ind., to Miss Josephine Barido, of Kane, Pa., January 26.

Luther S. Mason, M.D., Clover, Va., to Mrs. Annie Y. Cobb, of Danville, Va., January 20.

Sidney G. Hands, M.D., Murdo, S. D., to Miss Edith Collins of Hopkinton, Iowa, January 15.

James A. Peeples, M.D., Rising Sun, Md., to Miss Anna Hambleton, at Philadelphia, January 21.

William Horace Raines, M.D., Dublin, Ga., to Miss Anna Estelle Mitchell, at Baltimore, January 20.

Arvid Ouchterlony Taylor, M.D., Maysville, Ky., to Miss Alma Collins Martin, at Canton, Mo., January 12.

Rieves Andrew Manker, M.D., to Miss Anna J. Krauss, both of New York City, at Jersey City, January 17.

Briscoe Baldwin Ransom, Jr., M.D., Maplewood, N. J., to Miss Daisie Yarbrough of Staunton, Va., February 4.

Roy Mason Sweeney, M.D., Kellyville, Okla., to Miss Annette Ivy Buser of Lockwood, Mo., at St. Louis, January 21.

Deaths

Thomas Morton Hills, M.D. Yale Medical School, New Haven, Conn., 1863; a member of the American Medical Association and Association of New York and New England Railway Surgeons; surgeon of the Twenty-seventh Connecticut Volunteer Infantry during the Civil War; local surgeon for the New York and New England; New York, New Haven and Hartford, and Central Vermont railroads; proprietor of the Hills Hospital; died at his home in Willimantic, Conn., January 23, from pneumonia, aged 69.

Clement W. Jordan, M.D. Medical College of Alabama, Mobile, 1875; of West Point, Miss.; a member of the Mississippi State Medical Association; president of the local board of U. S. pension examiners; while making a professional call January 2, was fired on by a young planter, who mistook him for a robber. The shooting caused the horse of Dr. Jordan to rear and fall back, inflicting injuries which caused his death a short time later, aged 54.

Oliver Wolcott Gibbs, M.D. College of Physicians and Surgeons, New York City, 1845; of Boston; a member of the United States Sanitary Commission during the Civil War; Rumford professor at Harvard University from 1863 to 1897, and emeritus professor thereafter; a charter member and once president of the National Academy of Sciences; died in Newport, R. I., December 9, aged 86.

Andrew Howell Halberstadt, M.D. University of Pennsylvania, Philadelphia, 1853; a member of the American Medical Association, and founder of the Schuylkill County Medical Society; acting assistant surgeon in the army during the Civil War; one of the founders and visiting surgeon to the Pottsville (Pa.) Hospital and president of the local board of health since its organization; died suddenly at his home January 19, from acute gastritis, aged 77.

Joseph Greenberry Wolfe, M.D. Rush Medical College, Chicago, 1890; a member of the American Medical Association; professor and head of the department of pediatrics in the Chicago College of Medicine and Surgery, and physician to the Frances E. Willard Hospital; died from nephritis in that institution, January 28, five days after an operation for tonsillectomy, aged 48.

John Randolph Smith, M.D. Willamette University, Salem, Ore., 1878; a member of the Washington State Medical Association; a veteran of the Civil War; mayor of Vancouver from 1881 to 1888; coroner of Clarke county for several terms; and contract surgeon U. S. Army at Vancouver Barracks; died at his home January 7, from uremia, aged 64.

John Osborne Skinner, M.D. University of Iowa, Keokuk, 1855; a member of the Iowa State Medical Society, and a charter member of the Polk County Medical Society; surgeon of the Tenth Iowa Infantry during the Civil War; and one of the oldest practitioners of Des Moines; died at his home January 15, aged 84.

Silas C. Dove, M.D. Cincinnati College of Medicine and Surgery, 1879; a member of the Indiana State Medical Association; surgeon during the Civil War; for four terms coroner of Hamilton county; a member of the county board of health; died at his home in Westfield, Ind., January 18, from heart disease, aged 70.

Charles Haven Francis, M.D. Northwestern University, Chicago, 1901; of Reno, Nev.; a member of the American Medical Association and delegate from Nevada at the Chicago session; secretary of the Washoe County Medical Society; died at his home in New Lenox, Ill., January 14, from tuberculosis, aged 33.

Robert W. Young, M.D. Jefferson Medical College, Philadelphia, 1875; a member of the American Medical Association, and for several terms president of the Lehigh County Medical Society; local surgeon at Slatington for the Lehigh Valley Railroad; died at his home January 22, from pneumonia, aged 61.

John Walter Gray, M.D. New York University, New York City, 1898; of Summit, N. J.; first lieutenant and assistant surgeon of the Third and Fourth New Jersey Infantry, U. S. V. during the Spanish-American War; died at the home of his sister in Summit, January 22, from heart disease, aged 32.

John Ernest Capdau, M.D. Tulane University, New Orleans, 1897; a member of the American Medical Association; once a member of the State Board of Health, and one of the brightest young practitioners of New Orleans; died suddenly at his home, January 17, from heart disease, aged 33.

Joseph William Winters, M.D. Jefferson Medical College, Philadelphia, 1873; a member of the health board of lower Merion township, near Ardmore, Pa., and secretary of the school board for the same district; died at his home in Marion Square, January 15, from diphtheria, aged 68.

John Roberts Graves Howell, M.D. Atlanta (Ga.) Medical College, 1890; a member of the Medical Association of the State of Alabama; a member of the State Medical Board, and president of the Houston County National Bank; died at his home in Dothan, January 16, aged 48.

Omer C. Bowen, M.D. Eclectic Medical Institute, Cincinnati, 1866; a member of the Michigan State Medical Society; formerly supervisor and village president, and twice mayor of Manistique, Mich.; died suddenly at his home from heart disease, January 20, aged 68.

Edwin Henry Mallory, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882; Jefferson Medical College, Philadelphia, 1891; a member of the Iowa State Medical Society; died at his home in Linden, Iowa, from pernicious anemia, January 5, aged 52.

A. F. Richardson, M.D. Memphis (Tenn.) Hospital Medical College, 1903; a member of the Mississippi State Medical Association, and of the State Board of Health; was shot and killed in front of his drug store in Sturgis, Miss., Dec. 24, 1908, aged 33.

Herman George Nierman, M.D. University of Michigan, Ann Arbor, 1892; of Fort Wayne, Ind.; a member of the American Medical Association; died January 31, at Fort Wayne, from peritonitis, following an operation made five days before, aged 38.

Albert H. Bowers, M.D. University College of Medicine, Richmond, Va., 1906; of Gold Hill, N. C.; died in St. Leo's Hospital, Greensboro, January 13, from malignant disease of the intestines, for which he underwent operation January 2, aged 28.

John W. Hayden, M.D. University of Iowa, Keokuk, 1866; a veteran of the Civil War; once a representative from Jefferson county in the Iowa legislature; died at his home in Fairfield, January 12, a day after a surgical operation, aged 69.

David Clarence Lewinthal, M.D. College of Physicians and Surgeons, New York City, 1889; a member of the American Medical Association and New York Academy of Medicine; died at his home in New York City, Dec. 14, 1908, aged 40.

Lowell H. Smith (license, Colo., 1890), for twenty-eight years a practitioner of Colorado; a veteran of the Civil War; from 1893 to 1897 treasurer of Boulder county; died at his home in Longmont, January 5, from diabetes, aged 76.

William Calvin James, M.D. Vanderbilt University, Nashville, Tenn., 1880; of Springfield, Mo.; a member of the Missouri State Medical Association; died in St. John's Hospital, Springfield, January 12, from nephritis, aged 50.

David Adams, M.D. Medical College of Georgia, Augusta, 1853; an honorary member of the Medical Society of the State of Alabama; died at his home in Pine Apple, Ala., December 20, aged 79.

Sheldon D. Lord, M.D. Bellevue Hospital Medical College, New York City, 1867; for several years health officer of Sackett's Harbor, N. Y.; died at the home of his son in that place, January 16, aged 67.

Samuel Ashmore, M.D. Cleveland Medical College, 1853; surgeon of the Fifteenth Kansas Volunteer Infantry throughout the Civil War; died at his home in North Topeka, Kan., January 19, aged 83.

A. P. Reeher, M.D. Homeopathic Hospital College, Cleveland, 1883; formerly a practitioner of Nanticoke, Pa.; died in Wilkes-Barre, January 6, from the effects of an overdose of morphin, aged 65.

Edith C. Boutin, M.D. Kansas City (Mo.) Homeopathic Medical College, 1895; died at her home in Coyle, Okla., recently, and was buried at her old home in Hampton, Iowa, January 24, aged 46.

Robert A. Holyoke, M.D. Rush Medical College, Chicago 1885; of Lincoln, Neb.; and once coroner of Lancaste County; was found dead in his room in a hotel in Chicago January 31.

Raoul LaRose, M.D. Laval University, Quebec, 1906; attending physician at the Montreal Home for Incurables; died January 5, at the Hôtel Dieu in that city, from typhoid fever aged 27.

Donald Gillespie, M.D. University of the Victoria College Cobourg, Ont., 1860; died at his home in Cannington, Ont. Dec. 22, 1908, from heart disease, aged 70.

William Launcelot Downing, M.D. Rush Medical Colleg Chicago, 1885; of Minneapolis, Minn.; died in a sanitariu at Kenilworth, Ill., recently, aged 45.

John H. W. Pomeroy, M.D. University of Wooster, Cleveland, Ohio, 1888; died at his home in Kipton, Ohio, Januar 20, from appendicitis, aged 44.

Henry O. Smith, M.D. Bennett Medical College, Chicag 1883; of DeKalb, Ill.; died at the home of his sister in Yorkville, Ill., January 12, aged 56.

John Shotwell Townsend, M.D. Hahnemann Medical Colleg Philadelphia, 1874; died at his home in Baltimore, January 1 from heart disease, aged 59.

George P. Heithaus, M.D. St. Louis University, 1908; re dent physician at the St. Louis Obstetric Dispensary; di January 16, in St. Louis.

Alfred J. Bigelow, M.D. University of Buffalo, N. Y., 185 died at his home in New York City, January 22, from seni debility, aged 73.

Michael C. Moran, M.D. Rush Medical College, Chicag 1882; died at his home in Chicago, January 24, from hea disease, aged 56.

Russell Hulbert, M.D. Yale Medical School, New Hav 1898; of Middletown, Conn.; died in Hartford, Conn., Oct. 1908, aged 33.

Calvin B. Scott (license, Iowa, 1886), for more than thi years a practitioner of Fontanelle, Iowa; died January aged 74.

Green Berry May, M.D. Tulane University, New Orlea 1848; died at his home in Security, La., Nov. 26, 1908, aged

Orson Dorcelia Benson, M.D. Rush Medical College, Chicago, 1879; of Omaha; died in a hospital in that city, January 15.

Chauncey Pond (license, Iowa, 1886), died at his home in Sioux Rapids, Iowa, July 19, 1908, from myelitis, aged 76.

J. W. Good, M.D. Columbus (Ohio) Medical College, 1880; of Hooper, Neb.; died in Kansas City, Mo., January 14.

Willard Osman Ruggles, M.D. Boston University, 1880; died at his home in Mattapan, Boston, January 10, aged 53.

Cyrus Campbell (license, Kan., 1904), was burned to death at his home in Cherryvale, Kan., January 15, aged 74.

Pardon Cargill, M.D. Eclectic Medical Institute, Cincinnati, 1865; died recently at his home in Dixon, Cal.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK

ne Hundred and Third Annual Meeting, held at Albany, Jan. 26-27, 1909

The President, ARTHUR G. ROOT, Albany, in the Chair

The list of officers elected for the ensuing year was pubished in THE JOURNAL, Jan. 30, 1909, page 391.

Reports of the Secretary and the Treasurer

Dr. Wisner R. Townsend, New York, gave a detailed acount of the number of members in good standing, the num'er dropped for non-payment of dues, the number of deaths nd resignations, etc., as compared with the previous year, nd read the honor list of county societies whose memberhip list is fully paid up for 1908.

The treasurer's report shows that the income for the year xceeded the expenditure by $642.46. This result, he stated, as accomplished by economies that in many instances were ot to the advantage of the organization.

Approve Council Standard for Proprietaries

The society approved the resolutions unanimously passed t the session of the American Medical Association in Chiigo, 1908, to the effect that advertisements of medical reparations should be restricted to those approved by the ouncil on Pharmacy and Chemistry, and that all state assoations which now do, or hereafter may publish or control edical journals, be requested to restrict their advertisements such approved preparations.

Report of the Committee on Publication

This committee announced the resignation of Dr. J. P. arbasse, editor of the state journal, and the appointment of r. A. T. Bristow as acting editor. A detailed report of the pense of publishing the journal and directory was also ven.

The carrying into effect of the resolutions in regard to the vertisement of medical preparations as adopted by the nerican Medical Association, it was stated, will entail a ss of about $3,000 per annum to the journal. However, e committee heartily endorses these resolutions.

Report of Committee on Public Health

This committee, Drs. John L. Heffron, J. S. Billings, Jr., and R. Ford made the following report: A letter was sent to e secretary of every county medical society asking on what bjects pertaining to public health the society had held dissions. Replies were received from all the societies. No estions pertaining to public health had been discussed in societies. The subjects considered in the others were as lows: Milk supply and milk inspection, by six societies; ies, by one society; water supply, by one society; tuberculis, by three societies; sewage disposal, by one society; phoid fever, by two societies; national health officer, two societies; smallpox, by two societies; vaccinan, by two societies; county bacteriologic laboratory, two societies. It was safe to say that no new subject d ever emanated from a public health board which had not t been brought before the people by the medical profesn. It is the primary duty of members of the medical prosion to consider carefully every subject that has a bearing on the human welfare, to arrive at a definite opinion, and then to impress that opinion on the citizens of the community in which the society is doing its work. Medical societies should be vigilant in seeing that the health ordinances in their force in making public sentiment sufficiently strong to influence can be exerted by the county societies. The remuneration of county medical officers is so absurdly insufficient that it sometimes attracts only those who are idle or politically inclined and who are not the best men for the purpose. There is a long roster of men who are heroically as well as scientifically serving their communities without any pay practically, while there are other men who draw big salaries and are of little use to the state department. The inauguration of county bacteriologic laboratories, which was first recommended by this committee, has been taken advantage of by many counties and well-equipped laboratories have been established. If the incoming national administration fails to establish a national department of health the public health committees of the state medical societies should add their force in making public sentiment sufficiently strong to force this movement through.

Report of the Committee on Legislation

This committee reported that during the 1908 session of the legislature 200 measures were introduced relating to medicine and public health and sanitation. About 50 of these passed both houses, received the governor's signature, and became laws.

Report of the Counsel

MR. JAMES TAYLOR LEWIS: During the past year several states have adopted malpractice defense along the lines on which this state society has been conducting it. The only verdict ever recorded against a member of the society since the existence of organized malpractice defense, was reversed and set aside by the unanimous decision of the Court of Appeals. Up to the present time, actions for alleged malpractice suits have been defended in thirty-nine counties of the state. There is evidence of increase in the abandonment of cases brought as soon as the state society appears by attorney for the defendant. This is perhaps the best proof of the effect which organized defense is creating in the minds of the public. Requests have come asking for the prosecution of illegal practitioners of medicine in several counties, and on one occasion I was requested to and did attend a coroner's inquest and conducted the medical examination before the coroner. These matters were brought up in connection with the discussion of the question as to whether it was not appropriate that the state society should extend its usefulness beyond the defense of malpractice actions. The percentage of blackmailing malpractice cases has decreased and the percentage of *bona fide* malpractice actions has increased. In 1906 there were 30 new cases, in 1907 22 new cases, and in 1908 21 new cases. The amount involved in malpractice actions since the organization of the defense is over $500,000. There are twenty-three cases not yet determined.

President's Address: The Physician and Lawmaking

DR. ARTHUR G. ROOT, Albany: To those who make a study of the statutes annually produced by the State of New York, the most cursory examination is convincing that in their preparation there is a painful lack of the intimate knowledge necessary to make them effective. The medical profession has steadily applied itself to the study of hygiene and to bringing before the legislature each year enactments for the purpose of promoting a proper understanding and application of the rules that pertain to this important subject. Proper sanitation is vastly more important to the public weal than the protection of property rights. Technical knowledge of the subject is absolutely necessary to the proper construction of a statute that will accomplish its object and be effective in protecting the life of the individual. No one but a physician would have been capable of constructing the laws relating to the quarantine of contagious diseases that have robbed these diseases of much of their terror. No class of men other than physicians would have been so inspired *pro bono publico* as to sacrifice time and effort to the extent necessary to place them in the body of their laws and bring about their rigid enforcement. It is the object of the Medical Society of the State of New York that every individual who practices the learned and responsible profession of medicine should be properly equipped. No breadth of understanding or extent of technical knowledge can be too great for the physician who is properly equipped and who has the lives of others entrusted to his care. Recognizing this, the standard of requirements for those wishing to practice medicine has been steadily raised. The ridiculous claim that each school or system of medicine should have its separate examinations has been definitely and finally disallowed, and the public is thus permanently protected. The medical profession has preserved its own high standard and has protected the individual from useless and dangerous experimentation. In the domain of lawmaking the physician is the only natural and logical authority for subjects which affect life and health.

The Serum Treatment of Cerebrospinal Meningitis

Dr. L. Emmett Holt, New York: The serum used was obtained from a horse which had been immunized by injections derived from many strains of meningococcus. After making the spinal puncture, as much fluid is withdrawn as will come away readily. The head of the patient should be lowered and his hips raised. It requires some experience to acquire the technic of puncture and injection. The dosage has not yet been measured and in giving the serum it was administered in cubic centimeters and not in units. The initial dose is 30 c.c. During the epidemic of 1905, the board of health reported 2,700 cases with a mortality of 73.5 per cent. This treatment has no value in cases not due to the meningococcus. Of 59 patients under 2 years of age, treated by the meningococcus serum, 34 recovered and 25 died, a mortality of 42.4 per cent. In 88, between the ages of 2 and 5, the mortality was 28.4 per cent.; in 104, between the ages of 5 and 10 years, the mortality was 15.4 per cent.; in 149, between 10 and 20 years, the mortality was 27.5 per cent.; in 123 patients 20 years and over the mortality was 39 per cent. The results according to the time of injection show that of those injected during the first three days under 2 years the mortality was 9 per cent.; of those from 2 to 5 years old, the mortality was 22.8 per cent.; of those between the ages of 5 and 10 the mortality was 12.3; of those between the ages of 10 and 20 the mortality was 24; and of those over 20 the mortality was 44.5 per cent. Those injected from the fourth to the seventh day showed a mortality of 21.1 per cent. for those under 2 years, 32.5 per cent., for those from 2 to 5 years, 16.2 per cent. for those between 5 and 10 years, 24 per cent. for those from 10 to 20 years, 37 per cent. for those 20 years or over. Of those injected after the seventh day the mortality was 71.4 for those under 2 years of age, 27 per cent. for those from 2 to 5 years, 22 per cent. for those from 5 to 10 years, 36.6 per cent. for those from 10 to 20 years, and 36.6 per cent. for those over 20 years or over.

Scarlatina

Dr. H. A. Fairbairn, Brooklyn: It is very difficult to define this disease and there are no diagnostic symptoms. The streptococcus plays an important part as an etiologic factor; the severity of the case is dependent on this and it is the basis of most of the complications. The differential leucocytic count is valuable as indicating the presence of pus in the absence of fever. The important factor in the treatment is the treatment of the skin and the toxemia. The use of antitoxin thus far has been directed against streptococcus poison. As the desquamation scales produce the disease long after the streptococcus has disappeared these should be used to obtain a vaccine or antitoxin. The streptococcus has not been found in them after a period of ninety days. Quarantine can be abandoned after the first thorough desquamation. As one attack generally protects the individual against others, this serum might be employed as an anti-scarlatina serum. The amount of blood required for such purpose in an individual case is small. It could frequently be obtained from a parent or other relative of the patient. Its use could be attended with no risk and might be of great advantage.

Physical Training of Children

Dr. W. F. Sears, Binghamton: Our school children are stoop-shouldered and show poor physical development. A better physical condition would promote a better mental development. The condition of the students of West Point and Annapolis show what it is possible to do. Four years of military training should be a requirement for citizenship. The care of the individual is a fundamental part of military training.

Glandular (Pfeiffer's) Fever

Dr. W. B. Garlock, Little Falls: This is a sporadic or epidemic infectious disease, usually occurring in children between the ages of 2 and 10 years; it may occur in adults. Usually there is no general glandular involvement. Generally the liver and spleen are tender. There seems to be no tendency for the glands to break down. Laboratory tests have given negative results. There is a difference of opinion as to how the disease gains entrance, whether through the air passages or through the intestines. The prognosis is good and the only complications noticed have been glandular suppuration and congestion of the retina. These are rare. The treatment is symptomatic.

DISCUSSION

Dr. Leonard W. Bacon, New Haven, Conn.: A case which occurred in my experience was that of a student and it looked like a case of Hodgkin's disease. The source of infection seemed to be from the intestinal tract. There was a toxic adenitis.

Improvement in the Technic of Cataract Extraction

Dr. Lucien Howe, Buffalo: I wish to call attention to the fixation of the globe and to a pair of forceps for accomplishing this. In holding the conjunctiva with forceps in order to steady the globe, tears of the conjunctiva often occur and the globe rolls upward. This accident may occur even when the conjunctiva is caught with double forceps in two places. In order to obviate this difficulty, a pair of double forceps has been so arranged as to grasp, not only the conjunctiva, but also the tendon of the external and internal rectus. In this way the globe is firmly held, which facilitates the puncture and counter puncture and the completion of the usual Graef incision. In relation to the method of extracting the lens in cases in which the lens presents properly in the wound, bu can not be easily expelled, a pair of delicate forceps has been constructed with which to engage the lens, and to assist i drawing it forward. These forceps have been used a sufficien number of times to prove their usefulness.

Meller's Operation for the Removal of the Tear Sac: Wit
Report of Cases

Dr. A. Edward Davis, New York: A thorough knowledg of the anatomy of the lachrymal sac and the neighborin structures and a proper understanding of the relative pos tion of the internal palpebral ligament and the anteri lachrymal crest are essential in performing a successful e tirpation of the tear sac. As Dr. H. Knapp says: "Extirpatio of the sac is as radical an operation as an amputation an should not be resorted to unless other methods of treatmen have failed." Meller's operation is performed under coca in a relatively short time, from thirty to forty minutes, an as a rule is bloodless. The incision is made to the nasal si and above the internal canthus and follows the anteri lachrymal crest about two centimeters; care being taken n to wound the cornea and thus cause infection. The incision continued through the superficial fascia, the orbicular musc and the deep fascia; this exposes the sac which can then freed by cutting the lachrymal ducts with the scissors. Aft the sac is removed a few drops of cocain are instilled in the wound which is packed temporarily to stop all bleedin The sac should be stretched over a probe to make sure of complete removal. If any portion of the sac wall remains should be dissected away before the wound is closed. T lachrymonasal duct should next be curetted by a small sha chalazion curette, thus removing all particles of mucous me brane which might cause a continuance of the secretion. closing the wound, particular care should be taken that wound edges are accurately approximated and the sutures not oo tightly drawn. The operation for the removal of the tear sac is indicated first by chronic inflammation of the sac which an not be cured otherwise, or has resisted treatment for a ong period in such conditions as: 1. Large mucocele, chronic achrymal fistulæ, excepting congenital capillary fistulæ. 2. hronic stricture of the nasal duct. 3. Chronic catarrhal lacryocystitis with repeated attacks of acute phlegmonous nflammation and ulcers of the cornea complicating this disase. 4. When an operation on the ball of the eye, as excision f a cataract paracentesis, etc., is to be made on the affected ide. The local anesthesia is administered by means of a ypodermic syringe with a capacity of 1 cm. A 1 per cent. olution of cocain and adrenalin chlorid, 1 to 1,000, in the roportion of about 8 to 9 parts cocain to 1 or 2 parts drenalin. One-third of this solution is injected under the kin in the line of the intended wound; one-third deep into he periosteum above the top of the lachrymal sac and one-hird at the lower end of the sac deep in near the periosteum. he operation may be begun two or three minutes after the njections have been made. In the five cases reported there as healing by primary union with excellent results. In no se was there any hemorhage to speak of.

Ophthalmia Neonatorum

Dr. Julien A. Gehrung, New York: The instillation of a per cent. solution of silver nitrate into the eye is too irtating. I employ a modification of Crede's method when the ac is born, and then later, when the child is washed and ressed, the eyes are cleansed with 1 per cent. silver nitrate lution and this is followed by salt solution or a solution of lrenalin-chlorid, 1 to 1,500. The latter acts as an anesthetic d neutralizes the action of the silver.

(*To be continued*)

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Regular Meeting, held Jan. 6, 1909.

The President, Dr. James M. Tyson, in the Chair

e Roentgen Rays as an Aid in Diagnosis of Gastric Carcinoma

Dr. George E. Pfahler presented this paper, which was ustrated with about fifty lantern slides, showing carcinota throughout the alimentary canal. These were made m twenty-nine different patients in whom carcinoma was monstrated by means of the rays. This diagnosis was conmed in most cases by autopsy, operation, or by the subseent clinical course. The examinations were made both by ans of the fluoroscope and the radiograph. The patient s given bismuth food, which was followed into and through stomach. By watching its course and the subsequent ristaltic waves the evidences of carcinoma became aprent. He drew the following conclusions:

1. Gastric carcinoma is demonstrable when it will change course of food through the stomach, when it will dease the volume, or interfere with the peristaltic action; fix displace the stomach; cause an indentation in the stom wall or modify the rate of evacuation of the gastric tents.

2. With this aid, a diagnosis can be made earlier than has etofore been possible.

3. As a rule, it is a tedious and expensive study when done roughly, and therefore each case first should be studied ll clinically.

Great caution or thoroughness will have to be observed, errors will be made and this valuable method of investiga will fall into discredit.

DISCUSSION

r. James M. Anders: If it is possible by this method to ognize gastric carcinoma at an earlier stage than heretoe, an important step has been taken. My experience with loratory operations in early gastric carcinoma is that in the cases the disease was found at operation to be well advanced; in the majority of cases it was too far advanced to offer hope of a cure by extirpation. I agree with Dr. Pfahler on the importance of giving to the Roentgenologists all available clinical data regarding the patients sent for examination. In one of my cases recently Dr. Pfahler was able to satisfy himself of the presence of a small mass before it could be felt.

Dr. Judson Daland: The recognition by the *x*-ray of esophageal tumors has been particularly brilliant. It is a surprising experience, after having looked at the question from the ordinary clinical standpoint to witness the behavior of the esophagus when it is the seat of stricture, and to note the kefir and bismuth trickling through the stricture and slowly dropping into the stomach, I believe we have in the radiograph and the fluoroscope valuable additional aid in the diagnosis of carcinomatous conditions in the alimentary tract. The negative value of these means, in my experience, also has been of great importance. This study by means of the *x*-ray is one that can not be adequately done except by an experienced man. It requires not only a trained eye, but an active cerebrum. It seems to me that this work must ever remain in the hands of the specialist.

Dr. Joseph Sailer: My experience is that when carcinoma of the stomach can be diagnosed by the ordinary clinical means it is too late to operate.

Dr. Henry K. Pancoast: I should like to emphasize particularly the importance of the radiographer being supplied with all possible data regarding the patient to be examined.

Dr. Charles Lester Leonard: I believe that early examination of the stomach by the *x*-ray will lead to recognition of the disease when operation is of value.

Dr. George E. Pfahler: Of course, we will not be able to diagnose all carcinomas of the stomach; but I believe that in most cases with patience we can demonstrate carcinoma of the stomach before it is palpable, and that it is a step in advance of any of our clinical methods to-day.

CHICAGO MEDICAL SOCIETY

Regular Meeting, held Jan. 20, 1909

The President, Dr. Alfred C. Cotton, in the Chair

SYMPOSIUM ON SYPHILIS

The Value of the Spirochete in the Diagnosis of Syphilis, Especially the Primary Lesion

Dr. B. C. Corbus: During the past eight months I have examined 150 cases, including chancres, condylomata, mucous patches, papules, and inguinal glands. In no single instance when the organism was demonstrated has the subsequent course of the case shown the diagnosis to be wrong. So confident am I in regard to its specificity that I have formulated the following conclusions: 1. The spirochete is the true cause of syphilis, and its presence is equivalent to the diagnosis of syphilis, but its absence does not rule out syphilis. 2. By means of this method the spirochete may be demonstrated in all primary and secondary lesions of syphilis if the search is persistent. 3. The greatest value of Schaudinn's discovery is that it enables us to make a positive diagnosis from the primary lesion. 4. All primary lesions show the spirochete pallida. 5. The diagnosis should be made from the primary lesion. After the spirochetes have been demonstrated in the primary lesion, only harm can be done in waiting for other manifestations before beginning treatment.

The Serodiagnosis of Syphilis and Its Clinical Value

Dr. William J. Butler: The following results were obtained by me with the serum reaction in 150 cases of syphilis and suspected syphilis: 1. Of 10 cases in the primary stage, 100 per cent. gave a positive reaction. 2. Of 36 cases in the secondary stage, 95 per cent. gave a positive reaction. 3. Of 31 cases in the tertiary stage, 94 per cent. gave a positive reaction. 4. Of 16 latent cases, 56 per cent. gave a positive reaction. 5. Of 55 cases of visceral and parasyphilis, 76 per cent. gave a positive reaction. The large percentage of positive reactions obtained in the primary, secondary and tertiary stages, with manifestations, is competent evidence of its clinical value as a diagnostic measure. A positive reaction in a patient presenting suspicious symptoms is decisive for, and a negative reaction carries considerable weight against syphilis as the etiologic factor. Patients under vigorous specific treatment will not only show a disappearance of symptoms, but ultimately in practically every case of the reaction. With this latter point one is constantly impressed in cases that are followed sufficiently long. In latent cases the patients will show quite uniformly between 50 and 60 per cent. of positive reactions. Among the cases of syphilis of internal organs examined by me were hepatic cirrhosis, aortic aneurism, specific arteritis, myocarditis, etc. Eighty per cent. of aortic aneurisms are said to have their origin in a specific meso-aortitis, and a considerable proportion of the diseases of the arteries are dependent on syphilis. The large percentage of positive reactions (from 95 to 98 per cent.) obtained in patients with syphilitic manifestations and the disappearance of the symptoms and ultimately of the reaction under rigid specific treatment, admit of the deduction that a positive reaction indicates active syphilis. A further support of this view is the coincidence that the number of cases that give the reaction corresponds with the frequency of internal luetic changes in syphilis coming to autopsy. Recognizing that a healing of external manifestations of syphilis does not carry any assurance as to internal conditions in this disease, and remembering that a positive serum reaction indicates active syphilis, its clinical value becomes strongly evident. By it we are placed in a position to know whether the syphilis is only apparently or really in abeyance. It is an indispensable index for specific treatment. The serum reaction is found in congenital as well as in acquired syphilis, and with equal constancy. It is obtained with the milk of syphilitic mothers as well as with the serum. The serum is the more satisfactory to work with.

The Cutaneous Symptoms of Syphilis

DR. JAMES NEVINS HYDE: I wish to content myself with depicting four pictures representing the external manifestations of the disease in types that were somewhat uncommon and rather unfamiliar to the average practitioner. The first picture includes a sketch of two classes of subjects, both exhibiting trivial symptoms of the disease in its early periods. In the one class these insignificant features may never be followed by grave symptoms; in the second class are included those subjects who subsequently suffer from severe ravages of the disease. The second picture includes the subjects of the disease who, after infection, displayed one vivid exanthem, and afterward exhibited no symptoms of the disorder. The third picture includes the cases in which there is abundant evidence that the symptoms commonly presented during what has been generally called the "secondary" period of the disease may be seen ten, twenty, and even more years after the date of infection. The fourth picture is made to include the rare, oddly developed and confusing symptoms of the disease, where errors in diagnosis have been so frequently committed. I cite instances in which the bite of an animal supposed to have eaten previously poisoned flesh has been followed by symptoms declared to be septicemic; and cases in which an erroneous diagnosis has been made of leprosy, elephantiasis Arabum, pigmented sarcoma, etc. The practitioner is encouraged with the assurance that a correct diagnosis can usually be reached after careful, scrupulous and exhaustive research.

Congenital Syphilis

DR. I. A. ABT: A considerable number of syphilitic infants, apparently well at birth, die of marasmus before the end of the first year. Babies with congenital syphilis show a high mortality. No primary lesions occur. For this reason it is assumed that the disease soon takes on the character of a severe general infection, and for the same reason it is thought that the virus of the disease must diffuse itself rapidly. Levaditi, Verse and others found it possible to demonstrate spirochete regularly and in large numbers in the organs of syphilitic infants. Many experienced clinicians doubt the occurrence of congenital syphilis years after birth without the occurrence of early symptoms, believing that the early symptoms were overlooked. Congenital syphilis is almost at once a general disease, and for this reason the lymph glands do not play the part that they do in acquired syphilis. The lymph nodes are seldom involved to any great extent, but the visceral organs in congenital syphilis are very soon involved. Hochsinger makes the point that circumscribed gummata are far less frequent than diffuse infiltration of organs in congenital syphilis. The skin lesions occur for the most part later than those of the internal organs. Children are not born with this skin condition. It usually occurs at the fourth week, or later, and does not occur after the first year. It is observed that the skin at the site of this lesion is smooth and glossy, due to the tension produced by infiltration of the underlying skin. The second form of skin lesion characteristic of congenital lues is pemphigus. The most frequent and characteristic localization is the palms and soles, though other parts of the body may be involved. Congenital syphilis attacks the mucous membrane of the nose, gastrointestinal tract, the liver, the nervous system, kidney, testicle, spleen, the thymus, etc. Particularly characteristic for the syphilitic processes of the new-born infant is the fact that the changes in the various tissues and organs proceed from the vascular degenerations. This is borne out by all the histologic and statistical studies.

Parasyphilitic Affections

DR. ARCHIBALD CHURCH: The parasyphilitic affections may be classified as follows: (1) Tabes; (2) paretic dementia whether it occurs in adults as the result of acquired syphilis or the juvenile form due to hereditary syphilis; (3) intermediate, combined lesions of the cord resulting in degeneration in some cases; (4) the condition of the brain in children the result of inherited syphilis, which in some may be looke on as an agenesis, in others as a reduction of vitality, an in others as a tendency to degenerations. Fournier has insisted that locomotor ataxia is the result of syphilis. Er gave great support to this contention, and some argument ha been brought forward in relation to the subject of genera paresis, so that we will find ourselves in good company we take the position that without syphilis a man can no have locomotor ataxia or paretic dementia. In regard t paretic dementia, a crucial test was instituted by Kraf Ebing, who took thirteen cases of general paresis in whic there was neither evidence nor a history of syphilis, and inoculated all thirteen of these men with the juice of fresh a approved chancre. In no case was there any effect from th inoculation, and the only explanation of their immunity wa the demonstrated fact of a preceding syphilis. Practical every one is agreed that nine out of ten cases of locomot ataxia are postsyphilitic. Undoubtedly, with improv technic in reaction tests, cases of locomotor ataxia and paret dementia will give evidence of antecedent syphilis. Witho syphilis we can not have either locomotor ataxia or gener paresis, according to English and French authorities.

Therapeutics of Syphilis

DR. WILLIAM L. BAUM: The treatment of syphilis shou begin as soon as the diagnosis is definitely established by t finding of the spirochete in the primary sore or by other u mistakable evidences of the disease. In the treatment syphilis there is but one remedy whose action we can c sider in the way of a specific, and that is mercury. Th are three methods of its administration: (1) The endermat (2) the hypodermatic, (3) the internal, or by the mou There is no single one plan of treatment which can be f lowed as a routine method to meet the requirements of ev case of syphilis throughout its course; so that all of th methods are of value in particular cases under the pro conditions. I have arrived at the following conclusions: The inunction method of treatment yields by far the l results. 2. The hypodermatic or intramuscular inject method is often valuable when a quick or overwhelming ef is to be produced, especially in cases where the special se are threatened, and in certain severe nervous or old cutane esions; always to replace this method when the desired immediate result is produced. 3. The mixed treatment is, at imes, of great value, especially in cases in which the glandu-ar involvement is the most prominent factor. 4. The doses f iodids in eye lesions, in cerebral cases, and in ulcerations hreatening destruction of the vocal cords, etc., should be arge in the beginning and rapidly increased to the point of hysiologic tolerance. 5. Every patient should be instructed o take a short course of treatment in the spring and fall of very year, as long as he lives, and that this, by keeping the essels reasonably soft, will extend the expectation of life y many years.

Discussion on Syphilis

Dr. **Maximilian Herzog**: I agree with Dr. Corbus that it s important to find the spirochete in the primary and second-ry lesions of syphilis as a means of early and certain diag-osis. Schandinn, in 70 patients with primary and secondary yphilis, who had little or no treatment, found the spirochete 0 times in stained preparations. In 50 cases of the same ype Sobernheim found spirochete in every case. Mulzer ound the organism 20 times in 22 syphilitic cases, and eraghty in 30 cases found the spirochete 27 times. I have xamined material from about 30 cases, and of this number were negative. These cases were either recognized as soft hancres, and were used as controls, or later on were found be instances of soft chancres. Of the remaining 23 I found irochetes in 18 primary and secondary lesions, and those tients in whom I did not find spirochetes had been under ercurial treatment for some time.

Dr. **F. G. Harris**: While several methods have been ought forward to simplify reaction, none of them is so re-ible as the reaction enunciated by Wassermann. The longer e infection has taken place, all things being equal, the ronger is this test. It is probable that the reaction which present in the primary stage of syphilis depends on the ssemination of the infection. If chancre be taken early, a gative reaction is obtained. The presence of spirochetes mains the only reliable method for demonstrating the in-ial lesion. In the tertiary stage in from 90 to 96 per cent. the cases there is a positive reaction; and in the parasyph-tic cases the same thing occurs. A patient with acute syph-tic endocarditis was treated at the Cook County Hospital whom the diagnosis was made by the Wassermann test. e treatment of syphilis should be controlled by the Was-rmann test.

Dr. **W. T. Mefford**: Syphilis is more active and virulent some people than in others. In some people the serum re-tion will disappear after from 75 to 85 inunctions have en given, while in others it will take from 130 to 150 in-ctions to do this. As to milk, I am not sure as to whether would transmit syphilis to a non-syphilitic child or not.

Dr. **William Allen Pusey**: Syphilis, as a rule, is not ricious and unusual in its course, but manifests itself in certain matter-of-fact way. In rare instances, the so-called tiary lesions occur in the secondary period. Occasionally re are some manifestations which may be called secondary, urring late in the disease, but thanks to clinical medicine, dinarily syphilis pursues a normal, chronologic sequential urse. The cutaneous syphilides are among our most satis-tory and reliable standbys.

Dr. **O. S. Ormsby**: Several years ago I saw a man who pposedly had carcinoma of the penis, and in considering putation the questions arose as to whether he had had y venereal disease previously, and whether amputation ould be performed, or the patient treated with the *x*-ray. e lesion was found to be a typical instance of gummatous hilid, and iodid of potash relieved him. Syphilis may ur at any age. It is a disorder which occurs in any per-, no matter what the social position in life. In this ntry from 5 to 10 per cent. of extragenital chancres are erved on the lips, the tonsils, and other areas. Recently, the practice of Dr. Hyde, I saw two patients with extra-ital multiple lesions on the lip.

Dr. **Daniel R. Brower**: There would not be so much tabes l paretic dementia if a longer time were given to the treatment of syphilis in the beginning. A great majority of patients have inadequate primary treatment. Among certain peoples paretic dementia and tabes are practically unknown, while in this country their frequency is recognized.

Dr. **L. E. Schmidt**: Metchnikoff mentions a series of cases in which he inoculated monkeys with syphilitic virus and at the same time inoculated a series of patients. In one of these series the prophylactic treatment was favorable. This treatment consisted of calomel ointment, ten parts of calomel and twenty parts of lanolin. Knowing the cause of syphilis and watching the patients he had inoculated, in practically all instances in which the calomel ointment was used, within six hours after its use, the monkeys which were inoculated showed no signs of syphilis. With these results in mind, I think it advisable to consider the prophylactic treatment in every-day use.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Public Meeting, Witherspoon Hall, Dec. 15, 1908

The President, Dr. Albert M. Eaton, in the Chair

THE PUBLIC HEALTH AND THE MEDICAL PROFESSION

Vaccination as a Protection to the Public

Dr. **Joseph McFarland**: There are three questions that an analysis of the question, "Why Does Not Vaccination Protect Against Smallpox?" includes:

1. Why is it that there is no country in the world, no matter how thoroughly vaccinated, in which some cases of smallpox and some deaths from smallpox do not occur?
2. Why is it that there are so few epidemics of smallpox in which a certain number of vaccinated people are not made ill and some do not die?
3. Why is it, in some places, Philadelphia being one, that a greater number of vaccinated individuals than unvaccinated may die?

These questions form the stock-in-trade of those who through ignorance, personal prejudice, hope of personal profit or willful blindness are led to antagonize the well-known virtues of this measure of preventive medicine. The operation of vaccination itself is of no significance, nor is the sore arm. If the child does not suffer from the disease no good is done. Failure to understand this is the source of much that is said against the subject. The disease leaves behind it a peculiar condition of the body, a changed physiologic condition which is known to us technically as immunity. Immunity, like every other subject in biology and physiology, is subject to change and variation. As in measles and typhoid, some individuals do suffer from several attacks, so after years most persons can be vaccinated again, or if this is not done, may contract smallpox. A few persons develop relapses one after another in typhoid, because they have no immunity; so a few are not benefited by vaccination. There is no country so well vaccinated that some deaths from smallpox do not occur, because some vaccinations miscarry; some individuals are not made immune; some have outlived the immunity. These are all susceptible, and may be infected if smallpox can reach them. The danger of its reaching them is infinitely less if the susceptible are few in number. There are few epidemics in which some vaccinated individuals do not contract the disease. Certainly, those who though vaccinated have outlived the immunity are in much the same condition as those never vaccinated. In some places, more vaccinated than unvaccinated persons die. This is inevitable when the number of vaccinated greatly exceeds the unvaccinated, but the vaccination of the majority is inefficient. I appeal to every fair-minded individual to endorse the absolute necessity of more strict and thorough enforcement of vaccination so that the number of the unprotected shall be reduced to a minimum.

Vaccination as a Protection to the Public

Prof. **Edwin J. Houston**: It seems almost incredible in view of the overwhelming evidence from practically all parts of the world of the advantages to be derived from successful vaccination as a preventive against smallpox, that intelligent people should be found who are willing not only to take the risk for themselves of failing to insure this protection, but even to assume the grave responsibility of urging others to follow in their footsteps. I can not but think that much of this opposition comes from ignorance, not only of the danger existing in smallpox and the loathsomeness of the disease, but also of the almost certainty with which the disease can be contracted by exposure when not protected by vaccination. With other scientific men, I claim the right to read data and make my own conclusions, and I certainly am of the opinion that there never was a discovery so great as Jenner's, and never so great a boon given to the world as that which has practically stamped out of existence the most dreadful scourge the world has ever known. Before the publication in 1798 of Jenner's great discovery of vaccination, smallpox attacked from 85 to 95 people out of every 100, and of those attacked an immense number died. In Germany, where vaccination is compulsory, an epidemic of smallpox is unknown. During 1897, there were but five deaths from smallpox in the entire German empire. The population of Japan is nearly 47,000,000, and yet the number of deaths from smallpox was but four in 1901 and six in 1903. The stringent compulsory vaccination laws of Japan require a first vaccination within the first ten months of life, a second at the sixth year and a third at the tenth year. The United States, by its sanitary regulations, has practically stamped out smallpox in the Philippines. It can be shown that practically all the eminent physicians of this country are believers in vaccination, the disbelievers being few in number and found mainly outside of scientific circles. Moreover, the statement that the great medical schools of the world do not believe in vaccination is not borne out by facts. In 1907, the faculties of the medical colleges in Philadelphia passed resolutions affirming their belief in the efficacy of vaccination and urging that the present vaccination laws be left alone. Some time ago the president of one of the cotton mills in the South, in which I am interested, asked me if I could do anything to set the operatives right on the subject of smallpox. I wrote a circular, putting into plain English, the facts. Following this, instead of being opposed to vaccination, not only the people in that mill, but in the adjoining mills, insisted on being vaccinated. Dr. William M. Welch states that in every epidemic of smallpox occurring in Philadelphia within the past thirty years, instances have been observed of whole families being removed to the Municipal Hospital on account of the outbreak of the disease in these families; that in all such instances the unvaccinated children often died, while those who were vaccinated remained perfectly exempt, although living, eating and sleeping in the infected atmosphere for several weeks. The present vaccination laws in Pennsylvania are not compulsory. They, however, restrict the educational privileges of the schools to children who are vaccinated. Except in a few districts, the law appears to be satisfactory to the people. The antivaccinationists should carefully consider the grave responsibility they are assuming. In Philadelphia, in the epidemic of 1901-1908, about 5,000 persons were attacked, of whom 500 died, but not one had been successfully vaccinated within ten years.

Medical Legislation as a Benefit to the Public

Dr. George W. Wagoner, President of the Medical Society of the State of Pennsylvania: I shall consider some features of the Proposed Act to Regulate the Practice of Medicine, and in so doing I shall strive to eliminate that bias of mind which the training and associations of thirty years can not help but create. The "whereas" introducing the bill contains the only reasons that can be legally given for regulation, and the justification of the restrictions sought to be thrown about the practice of medicine:

> Whereas, The safety of the public is endangered by incompetent physicians and surgeons and due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons be allowed to practice their profession.

If the safety of the public is endangered by incompetent physicians and surgeons, then the state has an undoubted right, and it is its duty, by the exercise of its police power, to regulate and control every individual and thing that ma bring danger and harm to its citizens. But the regulation must bear equally on all persons. The next questions to b answered are: What constitutes the practice of medicine an who shall be classed as practitioners? The following definition of the practice of medicine taken from the New Yor Medical Practice Act, but slightly modified, seems to me t be definite, fair and comprehensive, and I would favor it incorporation in our act:

> "A person practices medicine within the meaning of this act wh holds himself or herself out as being able to diagnose, treat, ope ate or prescribe for any human disease, pain, injury, deformity o physical condition, and who shall either offer or undertake, whethe with or without drugs or medicines and whether with or withou fee therefor, by any means or method, to diagnose, treat, operat or prescribe for any human disease, pain, injury, deformity physical condition."

The most difficult phase of the problem is: How shall th state prove the qualifications of individuals desiring to pra tice medicine? If fundamental, undisputed, medical know edge renders an individual safe in his practice on the publi why should the state concern itself with non-essential sect rian knowledge? I am of the opinion that the state's dut ends with the examination concerning facts, and it becom inquisitorial and offensive when it undertakes to gauge opi ions and theories according to an arbitrary standard. would, therefore, exclude from the state's examination eve subject which has given rise to sectarianism in medicine. physicians are equal before the law, why should we dema that those who shall compose the Board of Examiners sh be tagged with certain names to indicate their peculiar fai and that not more than a certain number bearing a simi tag shall be members of it? The proposed act provides f the creation of a body known as the medical council, t actual duties of which properly belong to an authoritat board of examiners. If sectarianism is in fact and by i ference excluded from the medical act, there can be no ju reason for the creation of a medical council. It should the fore be stricken from a general law that ignores the exi ence of classes. I know the arguments of political expe ency that are urged in justification of its creation, but t ideal law is not founded on expediency, but on equal rig to all, special privileges to none. There are a number of ot things that the act must provide for—preliminary educati scientific education, whether or not there shall be recipro with other states or a state, revocation of licenses for ca and all the details of procedure necessary to make it c sistent, legal and practical. As these questions are in way modified by sectarianism there should be no difficulty drafting general provisions to cover each point. I maint that an act regulating the practice of medicine must clearly in the interest of the public health. It must general legislation, in no sense must it be class legislat The principles underlying such an Act must be true, founded on the facts of modern experience and culture.

A Layman's View of Medical Legislation

Samuel Scoville, Jr., Esq: I represent to-night, not doctors but the doctored, not the prominent physicians but patient patients, the laymen. We laymen have personal important reasons for our interest in this great moveme It is our appendices that are being removed right and le mostly from the right; it is our stomachs, livers and l and other internal bric-a-brac that suffer; it is we who h la grippe and bubonic plague and beriberi. The sub interests us laymen as a matter of life and death. sick man is vitally, wholly, unreservedly and uncondit ally interested in the standard of efficiency in the med profession. Regarding the bill itself, as I understand situation now, an embryo doctor has his choice of ente the profession in three ways: He may pass the allopa examination, he may pass the homeopathic examination, if he fails in both of these he has an unfailing hope in eclectic examination. If only those passing the eclectic e ination would practice eclecticism, whatever that may be. evil would not be so great; but, instantly, on passing examination they are turned out to prey on the defens community as allopathists, homeopathists, or any other of "ists." The same situation used to confront us lawyers in New York in connection with our ba. examinations. There are two practical suggestions which I have to make in regard to securing the passage of this proposed legislation: 1. We can not commence work too soon. 2. The bill has to pass through an all powerful and all ignorant institution known as a committee. I have frequently seen bills which I have fathered come out of the committee torture chamber so disheveled and dismembered and differently clothed that it was with great difficulty that I recognized my own offspring. In this bill, if we are able to preserve the spinal column intact, we should be more than satisfied. Let us all work together to have the divine science of healing represented by masters, not by apprentices.

Science and the Public Health

Dr. D. J. McCarthy: The methods of investigation which have been used by the medical profession and which have been subject to criticism are not the growth of a year or of ten years. They do not depend entirely on the question of animal experimentation or on any one single method, but on a variety of methods of investigation and on scientific training requiring years of study here and abroad. Antivivisectionists state that tuberculosis can be controlled by proper nutrition, but they forget that the whole basis for the knowledge of the control of this disease depends on animal experimentation. To determine whether or not any great pain is produced on the animals in experimentation any one may go into the laboratory of any large hospital and observe these investigations. The question of the necessity of this experimental work in the teaching of students is a matter which ought to be left to the medical profession. Practically all the investigation of diseases of the infectious group, affections of the cardiac system, and of the gastrointestinal tract depends on this line of experimentation. Experimentation on the brain in lower animals showed that the various parts of the brain control different parts of the body, and made it possible for the surgeon to remove the diseased area and so preserve a man's mental power. Such facts can be well used by the medical profession in enlightening the lay public on methods of scientific thought.

Experiments on Animals

Prof. Henry H. Donaldson: My conviction is that for the progress of biology and medicine experiments on animals are essential. In the discussion on the right to experiment with animals and on the alleged uselessness of this practice, investigators have been obliged to defend themselves against attacks from a small but active group in the community which claims that such experimentation is both cruel and unnecessary, and therefore should be prohibited, or against somewhat larger group who have demanded regulations in rder to prevent supposed abuses. It should be remembered hat the investigators who conduct this work form a selected roup and represent one of the three learned professions, very one of which professions has always had the responsibil-y of dealing with life and death. The members of this roup claim the privilege of judging for themselves on mat-ers touching their special work. In the end they will be udged by what they can return to the community. These re-urns consist already not only in various means of protec-on from disease or for its immediate cure, but in the pro-ongation and betterment of life and a clearer understanding f both the ethical and economic value of good health. In he arguments presented for legislation on this matter a rong emotional bias is often shown. We recognize that ex-erimental work is a serious affair and to be considered in l soberness, since in the last instance it involves the power life and death. Experiments of this sort are carried on y trained investigators, medical men and workers in biology, r definite purposes and with definite ends in view. The ass of irresponsible persons for whose actions restraint is ught has not been shown to exist in connection with our boratories. Should the evidence for deliberate cruelty ap-ear to be good I would ask those who are forming their inion to inquire whether the case is not outside of experimental work and a case for which the present laws protecting animals from cruelty are adequate. In the laboratories where experimental work is carried on, anesthetics are given to animals as they would be to human beings. Operations in which anesthetics can not be used are very rare and still more rarely are they practiced. I have never seen any. Those in charge of laboratories feel strongly the responsibility which this sort of work entails. It is only after a well-grounded public opinion has been formed that experimental medicine can be relieved from these attacks which threaten its advance, an advance which can be shown to increase the welfare and efficiency of the people as a whole.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Kansas: Topeka, Feb. 9. Sec., Dr. R. A. Light, Chanute.
Wyoming: Cheyenne, Feb. 10-12. Sec., Dr. S. B. Miller, Laramie.

Medical Education and Nostrums, Fourth Letter

The following is the fourth of a series of letters issued jointly by the Council on Medical Education and the Committee on Medical Teaching of the Council on Pharmacy and Chemistry. With it was sent a copy of the pamphlet, "The Propaganda for Reform in Proprietary Medicines:"

To Medical Teachers:—This letter treats of the immediate causes of the prescribing of nostrums.

The underlying causes of nostrum-prescribing are our own indifference, our indolence and our ignorance. The direct cause, however, is the exploitation of this indifference by the nostrum-maker and his agents; the systematic duping of physicians by every trick and device which promises success. We can not guard ourselves too strongly against these practices. The exposures published in the Pharmacology columns of The Journal of the American Medical Association furnish liberal illustrations for this text. A reprint of some of these has been mailed to you. However, there are many apparently more innocent, but none the less vicious, devices, such as the following:

(a) Laudatory notices of nostrums are obtained from well-known men and these are caused to appear in journals and even in text-books.

(b) Real, or pretended, clinical and pharmacologic researches are reported in which the results are fabricated, or twisted to suit the needs of the nostrum-maker in exploiting his preparations.

(c) Bona-fide reports of investigations are distorted into praise of that which is virtually condemned.

(d) Men of absolutely no professional standing are employed to write, or sign, laudatory reports.

(e) Favorable comments are given the widest publicity while unfavorable ones are carefully suppressed.

(f) Meaningless jumbles of words are often used to make the physician believe that the manufacturer employs scientific methods.

(g) Hypotheses and discarded theories of eminent men are often used in such a way as to make it appear that the savant approves of the nostrum-makers' methods.

(h) Every field of medical research is watched jealously and the nostrum-maker is ever alert to launch some nostrum to meet a popular demand resulting from every discovery long before the foremost investigators have advanced beyond the merest hypothesis.

These and similar distortions of the truth do an incalculable amount of harm. They not only promulgate and perpetuate what is false, but they also hinder the acceptance of what is true, in that they cast suspicion even on honest research. This can only be prevented by a universal sentiment, a sentiment so strong as to ostracise those who resort to such practices. The medical teachers have it in their power to create and foster such a sentiment.

Montana October Report

Dr. William C. Riddell, secretary of the Board of Medical Examiners of the State of Montana, reports the written examination held at Helena, Oct. 6, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 50, of whom 30 passed and 20 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of California	(1906)	78.6
George Washington University	(1906)	80.2
Jenner Medical College	(1902)	75.1
College of Physicians and Surgeons, Chicago, (1903) 78.4; (1905) 79; (1906) 76.7; (1908) 81.2.		
Northwestern Univ. Medical School..(1903) 75.2;	(1904)	82.7
American College of Medicine and Surgery	(1905)	76.8, 87.2
American Medical Missionary College	(1907)	77.6
Rush Medical College	(1906)	87
Indiana University	(1908)	77.6
Louisville and Hospital Medical College	(1908)	83.5
University of Michigan (1899) 76.6; (1906) 81.2;	(1908)	76.8
University of Minnesota.......(1907) 76.9, 81.9;	(1908)	75
Barnes Medical College	(1908)	79.2
St. Louis University..............(1905) 76.1;	(1908)	77.7, 88.4
Creighton Medical College	(1908)	75.3
Jefferson Medical College	(1908)	80.6
University of Pennsylvania	(1905)	79.4
McGill University, Quebec..........(1907) 79.3;	(1908)	81.2

FAILED

College	Year Grad.	Per Cent.
Bennett Coll. of Eclectic Medicine and Surgery	(1879)	60
Rush Medical College..............(1883) 37.3;	(1886)	62.1
Chicago Homeopathic Medical College	(1897)	67.5
Illinois Medical College	(1900)	62.8
College of Physicians and Surgeons, Kansas City	(1902)	63.5
Harvard Medical School	(1907)	72.2
University of Michigan...(1895) 58; (1907) 72.3;	(1908)	69.7
Hamline University	(1903)	52
Kansas City Medical College	(1889)	61.7
Barnes Medical College	(1896)	62.6
Marion-Sims College of Medicine	(1895)	63.9
University Medical College, Kansas City	(1905)	71.8
Creighton Medical College	(1908)	73.9
Columbia University, Coll. of P. and S., New York	(1894)	68.8
University of Pennsylvania	(1894)	67
University of Toronto, Ontario	(1908)	73.7
University of Turin, Italy	(1899)	63.3

New Jersey 1908 Reciprocity Report

College	Year Grad.	Reciprocity with
Yale Medical School	(1908)	New York
Howard University, Washington	(1904)	New York
Columbian University, Washington	(1905)	New York
Hahnemann Med. Coll., Chicago, (1902) New York;	(1906)	Illinois
Kentucky School of Med	(1906)	New York
College of P. and S., Baltimore	(1897)	New York
Johns Hopkins Med. School	(1906)	New York
Baltimore Med. Coll.....(1902) Maine; (1897)	(1908)	New York
College of P. and S., Boston	(1906)	Maine
Boston University	(1908)	Maine
Harvard Medical School........(1894) Maine;	(1907)	New York
University of Michigan	(1893)	New York
Woman's Med. Coll., Kansas City	(1897)	Ohio
Columbia Univ., Coll. of P. and S., New York, (1896((1901) 4, 1904) (2, 1905) (3, 1906)	(4, 1907)	New York
Cornell Univer. Med. Coll.....(1904) (1905)	(3, 1907)	New York
Long Island Coll. Hosp., (1897)) (1903) (1904). ....(1905) (1906) (1907)	(1908)	New York
New York Homeo. Med. Coll. and Hosp	(2, 1906)	New York
Woman's Med. Coll. of the New York Infirmary for Women and Children	(1895)	New York
Syracuse University	((1908)	New York
Eclectic Med. Coll. of New York	(1906)	New York
Bellevue Hosp. Med. Coll.......(1894) (1898)	(1899)	New York
New York Med. Coll. and Hosp. for Women.... ....(1897) (1901)	(1908)	New York
University and Bellevue Hosp. Med. Coll....... ....(3, 1907)	(3, 1908)	New York
New York University Med. Coll	(2, 1897)	New York
Albany Med. Coll..........(1902)	(1905)	New York
Woman's Med. Coll. of Pennsylvania	(1907)	New York
University of Pennsylvania..........(1899)	(1903)	New York
Hahnemann Med. Coll. and Hosp., Philadelphia, (1895) Colorado; (1896) Delaware	(1907)	Maine
Jefferson Med. Coll	(1902)	Illinois
University of Vermont......(1893) New York;	(1906)	Vermont
McGill University, Quebec, Canada.....(1904)	(1905)	New York
Queen's University, Ontario	(1903)	New York
Royal Hungarian University, Budapest	(1894)	New York
University of Berlin, Germany	(1904)	New York
University of Naples, Italy....(1898) (1903)	(1906)	New York
University of Turin, Italy	(1900)	New York
University of Moscow, Russia	(1897)	New York

Oklahoma November Report

Dr. Frank P. Davis, secretary of the State Board of Medical Examiners, reports the written examination held at Muskogee, November 10-13, 1908. The number of subjects examined in was 14; total number of questions asked, 140; percentage required to pass, 70. The total number of candidates examined was 44, of whom 34 passed and 10 failed. One candidate took an incomplete examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Atlanta Coll. of P. and S	(1901)	87
Illinois Med. Coll	(1908)	87
Northwestern Univ. Med. School	(1907)	87
Chicago Coll. of Med. and Surg	(1908)	84
College of P. and S., Chicago	(1908)	90, 91
Hahnemann Med. Coll. and Hosp., Chicago, (1897) 79;	(1908)	84
Eclectic Med. University, Kansas City	(1905)	73
Kansas Med. Coll	(1874)	79
Kentucky School of Med..........(1907) 82;	(1908)	92
University of Louisville	(1907)	81
Louisville Med. Coll	(1907)	90
Louisville and Hospital Med. Coll	(1908)	78, 84
Hospital Coll. of Med., Louisville	(1900)	87
Washington University of St. Louis	(1907)	81
University Med. Coll., Kansas City	(1908)	91
Barnes Med. Coll	(1905)	82
Albany Med. Coll	(1907)	87
Cleveland Homeopathic Med. Coll	(1907)	85
Jefferson Med. Coll	(1907)	83
University of Nashville	(1908)	90
Vanderbilt University	(1908)	83, 91
Meharry Med. Coll..............(1907) 78;	(1908)	81, 81, 82
University of West Tennessee	(1908)	71
University of Vermont	(1905)	89
Medical Coll. of Virginia..........(1902) 82;	(1906)	90

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1908)	72*
Atlanta Coll. of P. and S	(1902)	81*
Chicago Coll. of Med. and Surg	(1908)	78*
Dearborn Med. Coll	(1904)	78*
University of Louisville..........(1897) 74;*	(1908)	67*
Barnes Med. Coll	(1904)	74*
Cleveland Homeopathic Med. Coll	(1906)	80*
Memphis Hospital Med. Coll	(1908)	65
Tennessee Med. Coll	(1900)	58

* Fell below the minimum of 50 per cent. on one or more branches.

Delaware December Report

Dr. Henry W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, Delaware, December 8-10, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. One candidate was admitted by reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Maryland	(1907)	76.6
Jefferson Med. Coll	(1900)	93.1
University of the South	(1899)	83.5
University of Toronto, Ontario	(1908)	84.1

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
University of Pennsylvania	(1898)	New Jersey

Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held by the several boards at Philadelphia and Harrisburg, Dec. 1-4, 1908. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Board, the total number of candidates examined was 80, of whom 6 passed and 11 failed. The following colleges were represented

PASSED

College	Year. Grad.	Total No Examined
Denver and Gross Coll. of Med	(1907)	1
Howard University, Washington......(1907)	(4, 1908)	5
Rush Med. Coll	(1905)	1
University of Louisville	(1908)	5
Louisville Med. Coll	(1907)	1
University of Maryland	(1908)	2
Johns Hopkins Med. School...........(1906)	(1908)	2
College of P. and S., Baltimore.......(1906)	(3, 1908)	4
Baltimore Med. Coll...................(1903)	(1908)	2
Detroit Coll. of Med	(1906)	1
St. Louis Coll. of P. and S	(1904)	1
Leonard Med. School....................(1907)	(1908)	2
University and Bellevue Hosp. Med. Coll	(1907)	1
College of P. and S., New York	(1894)	1
Woman's Med. Coll. of Pennsylvania...(1904)	(2.1907)	3
University of Pennsylvania, (1886) (1902) (3, 1906) (3, 1908)		
Western Pennsylvania Med. Coll., (1899) (1907) (3, 1908)		
Medico-Chirurgical Coll., Philadelphia, (1899) (1904) (190 (1906) (2, 1908) 5.		
Temple Coll. of Med	(1907)	1
Jefferson Med. Coll...............(2, 1906)	(8, 1908)	10
University of the South	(1901)	1
University of Toronto, Ontario.........(1901)	(1908)	2
McGill University, Canada	(1906)	1
Queen's University, Kingston, Ontario	(1908)	1
University of Rome, Italy	(1904)	1
University of Naples, Italy	(1906)	1
University of Vienna, Austria	(1903)	1

FAILED

College	Year. Grad.	Total No Examined
Howard University, Washington	(1907)	1
National Med. Univ., Chicago	(1906)	1
Louisville Med. Coll	(1908)	1
University of Maryland.................(1903)	(1905)	1
Western Pennsylvania Med. Coll., ..(2, 1907)	(2, 1908)	4
University of the South	(1903)	1
University of Naples, Italy	(1905)	1

At the examination held by the Homeopathic Medical S ciety, the total number of candidates examined was 4, all whom passed. The following colleges were represented:

At the examination held by the Eclectic Medical Society, the total number of candidates examined was 7, all of whom passed. The following colleges were represented:

PASSED

College	Year. Grad.	Total No. Examined
New York Homeo. Med. Coll.	(1897)	1
Cleveland Homeopathic Med. Coll.	(1908)	1
Hahnemann Med. Coll., Philadelphia.....(1907)	(1908)	2

PASSED

College	Year. Grad.	Total No. Examined
University of Louisville	(1907)	1
Maryland Med. Coll.	(1907)	1
Baltimore University	(1904)	2
Western Pennsylvania Med. Coll.	(1908)	1
University of the South	(1904)	1
University of Naples, Italy	(1899)	1

Texas November Report

Dr. M. E. Daniel, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Dallas, November 10-12, 1908. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 60, of whom 59 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas............(1898) 92.7;	(1901)	83
George Washington Univ.	(1908)	93.5
Howard University, Washington	(1908)	87.2
Medical Coll. of Georgia	(1907)	83.1
Atlanta Coll. of P. and S.	(1901)	81
Georgia Coll. of Ecl. Med. and Surg.	(1905)	84.2
University of Iowa	(1895)	90.2
Eclectic Med. University, Kansas City	(1905)	75
Louisville and Hosp. Med. Coll.	(1908)	78.2
Louisville Med. Coll..............(1889) 85.2;	(1893)	84.3, 90.1
Kentucky School of Med..............(1894) 75;	(1908)	78.2
University of Louisville	(1908)	85.3, 93.8
Tulane University of Louisiana......(1891) 86.3;	(1899)	92.7
Maryland Med. Coll., (1901) 80.8; (1905) 80.7; (1907) 79.2; (1908) 84.4.		
College of P. and S., Baltimore	(1897)	95.2
University of Maryland	(1892)	89
University of Michigan	(1904)	87.4
University of Minnesota	(1908)	85.5
Barnes Med. Coll.................(1896) 83.5;	(1904)	82.1
Marion Sims Coll. of Med.	(1896)	95
Eclectic Med. Institute, Cincinnati	(1872)	99.6
Pulte Med. Coll.	(1877)	75.7
Med. Coll. of Ohio	(1889)	82
Starling Med. Coll.	(1898)	95.7
Cleveland Homeo. Med. Coll.	(1895)	90.4
Memphis Hosp. Med. Coll., (1889) 75; (1891) 75; (1898) 91; (1900) 86.5; (1906) 75.		
University of Nashville, (1868) 91.6; (1896) 75; (1897) 89.5; (1907) 76.5.		
hattanooga Med. Coll.	(1905)	75.1
University of the South, (1900) 76.4; (1901) 95.2; (1904) 84.3; (1907) 83.2; (1908) 81.4.		
anderbilt University...(1889) 91.5; (1894) 92;	(1900)	85.6
eharry Med. Coll.	(1908)	81.3
niversity of Tennessee	(1898)	90.5
aylor University.....(1905) 76.5; (1906) 92.5;	(1907)	84.2
ational Med. School, Mexico City	(1905)	86.5

FAILED

College	Year Grad.	Per Cent.
ansas City Med. Coll.	(1903)	73.8

TEXAS RECIPROCITY REPORT

Dr. M. E. Daniel, secretary of the Texas State Board of edical Examiners, sends the following report of reciprocal censes issued by that board since September 1, 1908:

College.	Year Grad.	Reciprocity with
edical College of Alabama	(1902)	Virginia
olumbian University, Washington, D. C.	(1900)	Dist. Colum.
ush Med. Coll.	(1907)	Missouri
orthwestern Univ. Med. School	(1902)	Illinois
ahnemann Med. Coll. and Hosp., Chicago	(1906)	Illinois
niversity of Iowa	(1901)	Iowa
ouisville and Hosp. Med. Coll.	(1906)	Kentucky
niversity of Louisville	(1906)	Kentucky
ollege of P. and S., Baltimore	(1896)	Illinois
etroit College of Med.	(1905)	Michigan
niversity of Michigan	(1908)	Michigan
ashington University, St. Louis	(1907)	Illinois
. Louis University..............(1906)	(1908)	Missouri
issouri Med. Coll.........(1886) Illinois;	(1888)	Missouri
. Louis Coll. of P. and S.	(1908)	Missouri
arnes Med. Coll.	(1908)	Illinois
eighton Med. Coll.	(1896)	Illinois
eveland Coll. of P. and S.	(1903)	Ohio
ahnemann Med. Coll. of Philadelphia	(1906)	Maryland
anderbilt University	(1882)	Kentucky
niversity of the South	(1903)	Virginia
niversity of Nashville	(1860)	Illinois
niversity of Tennessee	(1905)	Kentucky
niversity of Virginia	(1900)	Virginia
edical Coll. of Virginia	(1904)	Virginia
isconsin Coll. of P. and S.	(1897)	Wisconsin

Book Notices

The Influence of Alcohol and Other Drugs on Fatigue. By W. H. R. Rivers, M.D., F.R.C.P., Fellow of St. John's College, Cambridge. Pp. 136. Cloth. Price, $1.70. London: Edward Arnold, 1908. New York: Longmans, Green & Co., 1908.

While much work has been done to determine the influence of drugs, and especially of alcohol, on muscular and mental fatigue, the psychic element in the tests has been allowed to play an unduly large part in the results. This factor Dr. Rivers attempted to eliminate in the series of experiments which form the subject of his book. In determining the capacity for muscular work the ergograph was used and a set of six ergograms taken, the interval between successive series being equal—usually an hour. The subject was not permitted to see either the weight raised or the tracing recorded. In giving the drugs, control mixtures were administered so that the subject did not know on what days the drug was taken—a precaution which, while evidently of great importance, has been taken by no other workers in this field unless by Sobieranski and Schumberg. The fatigue of attention was studied by the McDougal method, which consists in having the subject hit a succession of dots which pass before him through a slit, accuracy of aim determining the degree of mental alertness. The multiplication and typewriting tests for mental fatigue were also used. The results of these studies are interesting and instructive; the most striking being the conclusions reached concerning the effect of alcohol on fatigue. In general, it may be said that Rivers' experiments seem to prove that alcohol in very moderate quantities has no appreciable effect on the capacity for muscular work, while it lessens the capacity for mental work, the different results obtained by other workers being, he believes, "due to defects of experimental method." In other words "the natural conclusion is that the results of previous workers have been due, not to the physiologic effects of the alcohol, but to the presence of certain factors, and especially interest and sensory stimulation, the influence of which can only be excluded by the use of a control." Incidentally it would seem that Dr. Rivers' method in his alcohol experiments, while admirable from the standpoint of pure science, has practically a very limited applicability. The psychic elements of "interest" and "sensory stimulation" are always present when ordinary alcoholic beverages are taken in the ordinary way. The work done by Dr. Rivers, however, is none the less valuable—it is in fact more valuable. By it he demonstrates the actual part played by the psychic element in the administration of a drug about which there is so great a difference of opinion.

The Functional Inertia of Living Matter. By David Fraser Harris, M.B., C.M., M.D., B.Sc. (Lond.), F.R.S.E., Lecturer on Physiology and Normal Histology in the University of St. Andrews. Cloth. Pp. 136. Price $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

That living matter possesses the fundamental property of irritability has long been generally known; that this property is in itself sufficient to explain all vital processes is not so universally believed. It is probable that the physiologic counterpart of irritability, or affectability, as it has been called—that is, non-affectability—plays as important a part on the biologic stage as does irritability itself. This, at least—in fact, more than this—is Dr. Harris' thesis, for to his mind non-affectability is not a mere negation; it is as much a positive, fundamental property of protoplasm as is affectability itself. For this reason Dr. Harris prefers the term "functional inertia" to the less comprehensive terms, "insusceptibility" or "non-affectability."

To apply a physical analogy to a biologic fact: Inertia in physics is, according to Newton's postulate, that property of matter by virtue of which a body at rest remains at rest and a body in motion continues moving in a straight line unless acted on by external forces. It is because of its "inertia of rest" that the heavy wagon, when pushed, responds at first but slowly to the impulse given; when once started, however, its "inertia of motion"—momentum—keeps it moving even after the application of the impelling force has ceased. So, according to Dr. Harris, does living protoplasm, by virtue of its "functional inertia," offer, as it were, resistance to external stimuli and, having finally responded to such stimuli it, by its "inertia of motion," continues to exhibit functional activity after the stimuli *per se* have ceased to exist. The converse is equally true; for, as the wagon, once set in motion, requires an arresting force to stop it—even though the impelling force has ceased—so also may the poststimulant activity of protoplasm be an expression of its functional inertia. In other words, the activity of protoplasm which is not the result of applied stimuli and which is, in fact, exhibited even under conditions which tend to suppress it, is inertial. This, briefly, is Dr. Harris' biologic philosophy; logically pursued it leads him far. In biochemistry the overproduction of receptors as antitoxin by which, according to Ehrlich's side-chain theory, "acquired immunity" is possible, is explained by Harris as katabolic inertia—"a response which has outlived the stimulus." The postmortem vitality of the tissues is another example of katabolic inertia. But if this property is fundamental to the cell it must needs be exhibited in the living unit which those cells compose—the individual; and, a step further, in the race. So, according to Harris, this property of functional inertia is "responsible for racial characteristics and national destinies." Reversion to type is thus but another manifestation of the tendency of the individual to retain his racial *status quo*—a hereditary functional inertia. As related to consciousness "habit" becomes the "expression of the functional inertia of psychic activity"; if the habit is one of long existence the more nearly will it approach protoplasmic, rather than psychic, inertia.

That Dr. Harris' theory is new can hardly be claimed; in fact, he does not claim it himself. That he has expressed it more clearly and elaborated it more convincingly than has any previous writer is perhaps not too much to say. As a working hypothesis to explain much that is at present obscure the theory of "functional inertia" is valuable; but that it is distinctly a theory and lacks much in way of confirmation should not be forgotten. To those who enjoy biology in its philosophic aspects and derive pleasure from the mere perusal of virile and not too technical English this little book can be commended.

Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, A.B., M.D., Professor of Dermatology and Infectious Eruptive Diseases in Philadelphia Polyclinic and College for Graduates in Medicine. Cloth. Pp. 534, with illustrations. Price, $3.00. Philadelphia: W. B. Saunders Co., 1908.

Once in a while some genius succeeds in summarizing satisfactorily a complex and detailed subject. When we try, however, to give an illustration of such a successful summary in medical literature we are at a loss. Such masterpieces in epitome are rare in any department of literature, and when one does exist, as, for example, Darwin's "Origin of Species," it is usually dry reading. So, if we are critical in our estimate of the book under consideration, we believe that our position is due to the fact that Dr. Schamberg—a thoroughly competent dermatologist—has undertaken an almost impossible task. He has written a book of 518 pages and, in emphasizing the eruptive fevers, to which he gives 138 pages, he has left himself 380 octavo pages in which he undertakes to consider all of the remainder of dermatology. Now, it may well be argued that dermatology is over-refined and that some day, after our knowledge has increased, some great mind will simplify it by a number of broad generalizations, as Duhring did in one field with his dermatitis herpetiformis; but the fact remains that at present there are about 200 distinct dermatoses that have to be described if one is undertaking to cover dermatology, and an average for each condition of less than two pages octavo, including illustrations and with good readable print, is not enough to permit anything but wholly unsatisfactory consideration.

Dr. Schamberg's style is readable and clear, with the important exception that he is apt so to err on the side of caution as to be uncertain even about well-established facts. For example, impetigo "appears to be caused by inoculation with the germs of contagious pus." There hardly seems to be any reason for hanging the student up in the air by an "appears" with such a well-established fact as the production of impetigo by infection with pus organisms. Another illustration might be offered in the discussion of the etiology of ecthyma—between which and impetigo, by the way, is inserted impetigo herpetiformis, a systemic disease of uncertain pathology. Blastomycosis is described twice, on pages 188 and 293. The illustrations are numerous and good.

Instinct and Health. By Woods Hutchinson, A.M., M.D., Lecturer on Clinical Medicine, New York Polyclinic. Cloth. Pp. 334. Price, $1.20. New York: Dodd, Mead & Co., 1908.

Dr. Hutchinson has given the public a book that is as delightful reading as it is blankly heretical. We do not, of course, approve of all the views therein put forward, but we do realize that it is by outspokenness such as this, on what may be deemed popular and professional superstitions, that healthy investigation is courted and the wholesale acceptance of the "science" of proverbs is deprecated. Among the subjects dealt with are diet delusions, "poison foods," exercise, sleep, sunshine and fresh air, baths and bathers, clothes and the woman, complexion, sins of the shoemaker, child-life, and the health of the middle-aged man. Hutchinson champions common sense against the fiddle-faddle of much so-called "scientific" dietetics, which persists in treating the living organism as on the same basis with a test-tube. He castigates the breakfast-food, vegetarian and other dietary fads, protests against the "deification of the disagreeable" in life, and against those attempts to reduce living to a machine-like process, robbing it of all individuality, which would make all men live on the same food, practice the same social habits, require the same maximum or minimum of sleep, rise at the same time, bathe and heat their rooms at the same temperature, etc. He ridicules the gigantic *non sequiturs* whereby men who have attained to long life, robust health, or huge muscular development, instruct us how to arrive at the same result by doing as they did, forgetful of the fact that if each one of us were to attempt to put in practice all the various methods we should have to attempt the impossible feat of sucking and blowing at the same time. "As well," he says, "might the elephant endeavor to explain the secret of how to weigh three tons, or the boa constrictor write a pamphlet on how to grow forty feet long." He rehabilitates spices as valuable intestinal antiseptics and scores the oatmeal diet craze as based on a syllogism of this kind: "The Scots are a great people; oatmeal is their principal food; therefore oatmeal is a great food." He regards the fact as the most convincing proof of the greatness of the Scots, though hardly of the oatmeal. "The secret," he says, "of their wonderful success, both mental and physical, lies in the fact that any nation trained to survive a diet of oatmeal and the shorter catechism could survive anything and flourish anywhere." The book is not altogether free from dogmatism, due possibly to Dr. Hutchinson's epigrammatic style, but it abounds in humor and common sense and in a wholesome and cheery optimistic iconoclasm.

Sleeping Sickness Bureau. Bulletin No. 1, October, 1908. Paper. Pp. 51. London: Sleeping Sickness Bureau, 1908.

No introductory statement accompanies this bulletin, but i is to be inferred that the Sleeping Sickness Bureau proposes t publish a series of bulletins covering various phases of thi most interesting disease. It is "issued under the direction o the honorary managing committee," of which the chairman i Sir J. West Ridgeway. Other members are Sir Patrick Man son, Sir Robert Bruce, Dr. J. Rose Bradford, Colonel Si David Bruce, Mr. E. A. Walrond Clarke, Mr. H. J. Read, an Mr. A. Berriedale Kieth. The director of the bureau is A. (Bagshawe of the Uganda medical staff, who is also the edito of this bulletin. Bulletin No. 1 treats of the chemotherap of sleeping sickness under the headings of: Treatment (trypanosomiasis in man; biologic accommodation of trypanc somes to chemotherapeutic agents; treatment of experiment animals; conclusions; bibliography.

It is a most excellent and timely recital of the experien with the use of the more or less specific drugs in the treatme of sleeping sickness in man and animals, such as atoxyl ar other forms of arsenic, antimony, mercury, and such dyes as rypan-red, trypan-blue and parafuchsin.

The important practical outcome of past experience is xpressed in two principles which are set forth by the author in his conclusions. First, combined therapy is demanded. "The employment of atoxyl or any other trypanocide by itself has ceased to be justifiable." The combined attack of two rypanocidal drugs seems to be more effective than any one sed alone, even in very large doses.

The second principle is that of "alternation of trypanocidal gents." This is made necessary by the phenomenon of the esistance which a race of trypanosomes readily acquires gainst any one of the agents used, a resistance which they etain through many generations of passage in experiment nimals.

LEHRBUCH UND ATLAS DER ZAHNHEILKUNDE MIT EINSCHLUSS ER MUNDKRANKHEITEN. (Lehmann's Medizinische Handatlanten Band XXX.) Von Gustav Preiswerk, Lektor an der Universität Basel. Edition 2. Cloth. Pp. 398, with illustrations. Price, 14 marks. München: J. F. Lehmann's Verlag, 1908.

This work of 30 chapters with 44 colored and 140 other illustrations, shows the anatomy of the mouth, jaws and eeth, as well as the pathology, histology, bacteriology, etc., f diseased conditions of the mouth. The pathology of the ooth pulp has been well worked out and beautifully illustrated. This work is by far the best contributed from a tomatologic point of view and demonstrates, conclusively, he stomatologic trend at the present time. The arrangement f subjects and simplicity of treatment make it a desirable ork for the student as well as the practitioner. It should be f special value to dentists.

REPORT OF COMMITTEE ON BUILDING OF MODERN HOUSES. By General George M. Sternberg, M.D., LL.D., Chairman of Committee. aper. Pp.111, with illustrations. Washington, D. C.: The President's Homes Commission, 1908.

This report of a committee appointed by President Roosevelt consider the housing of the poor in Washington, describes e deplorable condition of the houses of the poor in that city nd tells what has been done to better this condition. Much ace is devoted to the same problems in other cities and to e solution offered in them; and numerous plans and specifications for cheap and healthy homes for the poor are furnished. There is great need in Washington as well as in her cities, of sanitary homes for unskilled laborers and their milies. The committee urges that such homes should be supplied as a philanthropic enterprise by those interested in the elfare of the community, for a profit can not be earned on uses for which only $5 to $10 a month is paid, provided they e kept in a sanitary condition.

CONSUMPTION. By N. S Davis, A.M., M.D., Professor of Principles d Practice of Medicine, Northwestern University Medical School. oth. Pp. 171. Second Edition. Price, $1.00. Philadelphia: A. Davis Co., 1908.

The first edition of this work was one of the earlier treatises consumption, designed for popular use, and laid down rules d principles of management which are now generally recognized as sound. Advances in methods of application and pecially the results of sanatorium management made revision desirable, and in this edition Dr. Davis has rewritten rtions of chapters and added one on the advantages of institutional treatment. More careful revision and more accurate proofreading would have prevented some minor errors, t, as a whole, the work deserves commendation as an interesting and safe guide for both professional and lay readers.

JAHRESBERICHT ÜBER DIE FORTSCHRITTE IN DER LEHRE VON DEN THOGENEN MIKROORGANISMEN umfassend Bakterien, Pilze und otozoën. Von P. Von Baumgarten o.ö. Professor der Pathologie der Universität Tübingen, and F. Tangl, o.ö. Professor der gemeinen und experimentellen Pathologie an der Universität dapest. Twenty-second Year, 1906. Paper. Pp. 964. Leipsic: rlag von S. Hirzel.

The present volume represents a review of the literature pathogenic micro-organisms for the year 1906. The amount literature is somewhat less than in previous years, which to the advantage of medical science. On a cursory examination the volume appears to sustain the reputation already ned by the numbers of previous years.

Medicolegal

Osteopaths and Death Certificates

The Court of Appeals of New York holds, in the case of Bandel vs. Department of Health of City of New York, that the statute of that state makes doctors of osteopathy physicians, while the Sanitary Code requires every physician in the City of New York to register his name with the department of health.

The court says that the only ground on which the health department refused to register this party, and the only reason advanced for opposing the motion to compel his registration, was, as specifically stated by the sanitary superintendent in his affidavit, that "a doctor of osteopathy by reason of his limited training and the express prohibition against his use of drugs and medicines and the use of surgical instruments, is not a physician and is not competent to diagnose and treat disease as a physician, not to give a certificate of death showing the cause thereof." The effect of the denial of registration as a physician to the party by the health department was that the body of a person who died while he was the medical attendant could not be buried on his certificate and not until a coroner had taken charge of the case and had held an investigation.

The court also expresses the view that when a person employs one licensed to practice, his family, in case of his death, should not be subjected to the intense annoyance of a coroner's investigation where the law does not require it. But it adds that, while, doubtless, the department of health can make stringent regulations as to the persons whose certificates of death it will accept for the purpose of a burial permit, it was sufficient to say that, so far as appeared, when this proceeding was commenced it had not made any regulation which excluded licensed osteopaths from the right to give such certificates.

But Chief Justice Cullen, with whom Justice Haight concurs, declares that the function of a coroner's inquest is to investigate the cause of death where there are reasonable grounds for suspicion that it has been occasioned by crime or violence. One purpose and a chief purpose of accepting a physician's certificate as evidence of the cause of death is doubtless to exclude suspicion of crime. Where death is caused by criminal means, it usually occurs through external violence or from poison. The osteopath is precluded by the law from practicing surgery or administering drugs, presumably for the reason that his education does not qualify him to practice where either drugs or surgery may be necessary. "I am, therefore," the Chief Justice continues, "not prepared to say that the board of health might not properly require that a certificate of death, which would exclude from the cause thereof either wounds or poison, be made by a physician who is competent to judge of such matters. It is sufficient for the disposition of this case to say that the Sanitary Code now in force draws no distinction between the two classes of physicians, but I think we should not intimate that the Sanitary Code may not properly be amended in this respect."

No Right to Practice Medicine Without a License

The Supreme Court of Iowa says that the defendant in the case of State vs. Taylor, commenced the practice of medicine in 1884, and continued in the practice thereof without a license until indicted in this case. He claimed that, having practiced in the state for five consecutive years, three years of which time was in one locality, he was within the exception of section 2579 of the Iowa Code, which provided that the provisions of the chapter shall not be construed to prohibit practice of physicians, as defined therein, "who have been in practice in this state for five consecutive years, three years of which time shall have been in one locality."

The first act regulating the practice of medicine in Iowa was passed in 1886, and the law as then enacted is substantially the law now as found in sections 2576-2583 of the Code. In the original act an exception was made as follows: "If not a graduate, the person practicing medicine or surgery within this state, unless he or she shall have been in continuous practice in this state for a period of not less than five years, of which he or she shall present to the state board of examiners satisfactory evidence in the form of affidavits, shall appear before the state board of examiners and submit to such examinations as said board may require." In section 2579 the requirement of satisfactory evidence of practice was omitted, and the defendant claimed that because of such change the Legislature intended to say, and did say, that whoever had been in the practice of medicine in Iowa, whether rightfully or wrongfully, for a period of five years before that time, had the right to go ahead and practice without a certificate or license. The contention was manifestly unsound.

The original act was in force all of the time until the Code became the law, and the dropping therefrom the requirement of evidence cannot be construed into a legalizing act intended to shield one who had confessedly violated the law. Section 9 of the act of 1886 made it a misdemeanor for any person to practice without having complied with the provisions of the act, but that no penalties for a violation thereof should be enforced prior to the 1st day of January, 1887. It is very clear that after January 1, 1887, no one could legally practice medicine without complying with the act, or without bringing himself within the exceptions therein provided, and this the defendant did not do. He had never qualified under the exception of the statute but was daily violating the law, and, if his contention that the change referred to gave him the right to continue practice without a certificate or license be sustained, the court should have to hold that he had acquired such right by practice in violation of law. Such a holding would not only destroy the public protection intended by the statute, but it would offer a direct premium for a practice wholly in violation of such statute. The Legislature had no such intention, and the defendant was clearly not within any exception to the statute.

Death From Disease in Case of Lowered Vitality After Injury

The Supreme Court of Nebraska holds, in the case of Ward vs. Aetna Life Insurance Co., that in an action brought to recover on an accident insurance policy, where the question is whether death resulted from an accidental injury for which the insurer is admitted to have been liable, the bodily condition of the insured between the date of receiving such injury and his death is a relevant fact; and all things done or said by the insured which expressed or showed his bodily condition in reference to the injury are relevant.

Where his opinion as to the cause of death is asked of a physician called as a witness, it is neither necessary nor proper to include in the hypothesis the fact that the attending physician had pronounced the patient cured of an injury from which it was claimed his death resulted. An expert witness should give his own judgment uninfluenced by the opinion of other experts.

Whether the death of a person whose life was insured against death by accident was caused by an admitted accident, or resulted from some other cause, is a question for the jury, unless the proofs as to such cause of death are so convincing that from them all reasonable men in the fair exercise of their judgment would adopt the same conclusion.

Where a person accidentally injured is insured against accident under a policy which provides for the payment of a sum named in case death results solely from such injury within 90 days, all morbid changes in the exercise of vital functions or the texture of bodily organs which result from or are induced by such injury should be regarded as the effect thereof, and not as independent causes; and, when death results from such morbid changes, it is caused by such accident within the meaning of such policy. Beginning with a primary cause, conditions induced by such cause are affects thereof; and every condition so induced must be considered in relation thereto as an effect, and not as a cause.

Where a person, after recovery from an accidental injury, succumbs to a disease which would not have been fatal but for the lowered vitality following such injury, the disease, and not the lowered vitality, is the cause of death. The explanation given of this is that the power of the healthy body to resist disease varies greatly in different individuals, and in the same individual at different times. Undoubtedly a lower state of this power follows convalescence from a serious injury for a considerable period; and an attack of disease is more likely to prove fatal when the patient is found in such lowered state. When an attack of disease is followed by death, which would not have occurred but for the lowered vitality of the patient, such lowered state may be considered as a condition that opens the way for the production of the effect, but not as its cause. In other words, it is not the cause of death, but the occasion, in that sense of the latter word in which it is understood to mean that which furnishes an opportunity for the event to occur, without being itself the efficient cause or sufficient reason thereof.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 23

1 Treatment of Acute Gonococcus Urethritis in the Male. J Pedersen, New York.
2 *Repair of Lacerations of the Cervix During Puerperal Convalescence. J. C. Hirst, Philadelphia.
3 Two Instances of Simultaneous Occurrence of Hypernephrom and Carcinoma. G. B. Foster and C. H. Gerhard, Philadelphia.
4 *Vesicovaginal Fistula Following Abortion in Operation fo Incomplete Congenital Transverse Septum of Vagina. S. M Brickner, New York.
5 *Roentgen-Ray Examination of the Esophagus. S. Lang Cincinnati.
6 *Incipient Tuberculosis of Lungs and Its Diagnosis. G. Wi son, Baltimore.
7 Clinical Gonorrhea in the Male. (Continued.) M. Huhne New York.

2. **Lacerations of the Cervix.**—Hirst considers that there i no valid reason why injuries to the cervix or anterior wa resulting from labor should not be corrected at once, as i done with injuries to the perineum. The frequency of in juries to the cervix is, compared to those of the perineum about 33 per cent. Of every hundred women with perine tears at least one-third will have cervical tears in additio The diagnosis of cervical tears is best made through a bival speculum and not by the sense of touch, which is most unr liable. The best time to make this examination is about th fourth day after delivery. The best time to repair the inju is, like all other injuries to the genital tract, on the sevent day after labor. For the past three years Hirst has appli to these cervical tears the principle of the double tier co tinuous suture of No. 1 catgut, chromicized to last about for days, in the fascia. He describes the technic of the operatio

4. **Vesicovaginal Fistula.**—Brickner describes a case vesicovaginal fistula which followed abortion in an operati for incomplete congenital transverse, septum of the vagir The features of interest in this case lie: (1) In the pre nancy folowing the operation for the relief of the septur (2) in the difficulty of delivering even a four and one-h months' old fetus; (3) in the complete subsequent scarifi tion of the vagina; and (4) in the origin of the septum. discusses the origin of congenital transverse septa.

5. **Roentgen-Ray Examination of the Esophagus.**—Lan calls attention to the fact that the Roentgen ray may be great value in the recognition and study of esophageal d orders. Further observations are necessary to confirm interpretation of the motile phenomena seen on the fluoresc screen. He outlines a method of diagnosis based on the amination of many normal cases and on sixteen cases esophageal obstruction.

6. **Incipient Tuberculosis.**—Wilson says that to justify in making a definite diagnosis in an adult we must hav "history" that is at least suggestive, and either find ba in the sputum or persistent physical signs in the lu especially at the apices, which can not be accounted for

syphilis, a clearing up of a pneumonia or an undoubted attack of influenza, bearing in mind that the tuberculous invasion may simulate influenza; and it is in this latter group when there is no sputum, or frequent examinations are negative that tuberculin is of greatest value and fortunately, most exact. Hemoptysis in a person under 35, even though accompanied by slight symptoms and no physical signs on frequent examinations, should lead the physician to suspect tuberculosis so strongly that he should advise the use of tuberculin. Finally, in that group of patients in whom the physician is not justified in making a diagnosis, but in whom there is history of exposure to infection and symptoms, though slight, yet are suspicious, he should be frank and make them realize the necessity of fresh air, especially in their sleeping rooms, the building up of the body by extra feeding in the form of milk and eggs, the avoidance of over fatigue and the need of remaining under medical care until .he suspicions have been justified or removed.

Medical Record, New York

January 23

8 *Common and Uncommon Localization of Otitic Brain Abscess, as Illustrated by Two Cases, with Recovery. B. Sachs and A. A. Berg, New York.
9 Adequate Drainage the Essential Step in the Successful Surgery of Brain Abscess. F. Whiting, New York.
10 Clinical and Anatomic Manifestations of Otitic Brain Abscess. A. Wiener, New York.
11 Pyloric Stenosis. J. S. Brown, Montclair, N. J.
12 *Symptomatology of Tuberculosis of the Larynx. G. Fetterolf, Philadelphia.

8. **Otitic Brain Abscess.**—Sachs and Berg discuss in this rticle the difficulties of localization and those of the sur-ical treatment of brain abscess, with special reference to rainage. Localization is most common in the temporosphe-oidal lobes or in the cerebellum. If the former, there will e in addition to general symptoms—headache, somnolence, ausea, vomiting and slight optic neuritis, some hemiparesis nd impairment of speech perception. Sensory aphasia is a ommon accompaniment of otitic brain abscess in the temporo-phenoidal lobes. Right temporosphenoidal abscess is some-imes associated with dysarthria, not with sensory aphasia. bscess in the cerebellum, in addition to general abscess symp-oms, may show cerebellar ataxia, diminution or increase of eep reflexes, abducens paresis, acoustic nerve symptoms, and ossibly cerebellar seizures. The motor area is rarely the at of otitic brain abscess, wherefore the author's second case ported in this article is important, because it proves that an ndoubted otitic abscess may involve the motor area. The rec main considerations from a surgical viewpoint are: 1. wide exposure of the area of the brain in which the ab-cess is supposed to lie. This is best done by raising an osteo-astic flap. 2. A most important consideration is the pro-ction of the meninges against infection by the purulent con-nts of the abscess cavity. If this lies near to the cortex of e brain, or on it, it is more than likely that the meninges ill be protected from infection by a barrier of natural ad-sions that have formed before the operation is done. These e the most favorable cases for surgical interference. 3. oper drainage of the abscess cavity. Here we must remem-r that there are two entirely different kinds of abscess vities in the brain—one, with soft walls that readily col-pse when the contained pus is evacuated; and the other ith rigid walls that show no tendency to fall together, and at must be obliterated by the slow process of granulation. the former, all that is required is the establishment of ainage by a thin slip of rubber tissue at the most dependent int of the cavity. In the latter the drainage must be by a be of some kind, whether rubber, decalcified bone, or other terial, according to the choice of the operator. This tube st be inserted at the lowest point of the abscess cavity, herwise there is bound to be retention of pus.

12. **Tuberculosis of the Larynx.**—Fetterolf urges examina-n of the larynx in every case of actual or suspected pul-nary tuberculosis. This would save much suffering and ay lives. Discussing changes in the voice, he remarks on symptom noted by him in a few cases during conversation, ich consists of a slight rotation and twisting of the head ward the position found in torticollis. This is usually associated with a cicatrized and arrested tuberculous lesion of the voice-producing apparatus. It must not be forgotten, however, that while the patient is tuberculous the laryngeal lesion may be due to syphilis, hysteria, general asthenia, or may result from mechanical interference with the inferior and external laryngeal nerves. Cough need not necessarily be present with laryngeal tuberculosis. As a practical working basis it can be assumed that if the cough is harsh, "throaty" in quality, and unproductive or out of proportion to the amount of sputum, there is present more or less laryngeal irritation at the door of which can be laid some of the responsibility. Should there be present large infiltrations of the arytenoids the patient will have a characteristic tubular, indescribable quality to the voice which is almost pathognomonic. Not much that is significant can be gathered from the sputum, but attention should at once be directed to the larynx on the following history: The patient awakes with a feeling of fulness and dryness in the throat, associated with huskiness or some degree of aphonia. On arising, coughing begins, and is frequently associated with retching, or even vomiting, continuing until there is ejected a discoidal mass of inspissated mucopus, dark, hard, and dry on one side, and yellow, green, sometimes moist on the other. The presence of blood in the sputum can but rarely be attributed to the larynx. Pain is the most serious symptom, and it is probably due to this that the laity regard "throat consumption" as such a terrible disease. When it occurs during deglutition advanced disease of the epiglottis is probably present. Dysphagia is rarely present, unless associated with pain in swallowing. Dyspnea may occur early or late. The symptoms enumerated are considered by the author only in their relation to the larynx, but the tonsils, pharynx, etc., should receive proper consideration. Moreover, the symptoms are elicited from the patient, not from the disease, so that his personal equation must form part of their valuation.

Boston Medical and Surgical Journal

January 21

13 *Surgical Treatment of Cancer of the Bladder. A. T. Cabot, Boston.
14 Some Aspects of Cystitis. A. L. Chute, Boston.
15 Tumors of the Bladder and Cystitis. E. Garceau, Boston.
16 *Value of Hemolysis in Diagnosis of Carcinoma. W. Whittemore, Boston.

13. **Cancer of the Bladder.**—Cabot emphasizes the value of the cystoscope in diagnosis of bladder conditions, and says that when the slightest doubt exists a second cystoscopic examination should be made before accepting or refusing operation. It is important that the early symptoms of bladder tumors should be widely known among general practitioners, for patients are often transferred to a surgeon at too late a stage because they had been long treated for cystitis or renal hemorrhage. Hemorrhage may appear either as a constant slight flow, in litle clots intermittently, or in considerable amount. Pain does not usually show itself until the growth is far advanced, but the expulsion of blood clots causes painful tenesmus. Bladder irritation does not usually appear till late in the course of the growth. Microscopic examination of the urine may show bits of characteristic villi, but villi of imperfect type are sometimes found in connection with inflammatory bladder conditions when there is no tumor. Clumps of atypical epithelium, if abundant, are almost as characteristic of tumor as are villi. Even in the hands of skilled surgeons cases of bladder tumor often go long unrecognized. The way to avoid this is to look into every bladder over which the slightest shadow of doubt hangs. Cabot discusses the clinical pathology of these tumors and, from personal experience, thinks it would not be far from the truth to say that all papillomas in the bladder become cancerous unless thoroughly removed early. He holds that operation in papilloma through an operating cystoscope must necessarily be incomplete, and therefore can not be efficient. These growths, even when quite insignificant, should be removed by open incision; their early removal will cure the condition, and the operation on an early papilloma is comparatively simple. Cancer of the bladder is usually slow to invade the lymphatic system. The bladder may be divided roughly into two parts, the free and

the attached. A cancer on the free portion may be cut out with a good margin of healthy bladder wall about it; but when the growth is in the base of the bladder, the possibility of a removal which shall be followed by cure is problematical, and the operation is very severe and has a high mortality rate. A palliative, rather than a radical, operation should therefore usually be chosen in these cases. The question of approach is an open one. Cabot's feeling is that when we expect to do a radical operation we should open through the peritoneal cavity, and get all the added room that method affords. A small carcinoma should be excised with a liberal margin and the bladder wall sutured before removing the growth, by transfixing it with a shoemaker's stitch, crossing to and fro well below the base of the tumor. After the stitch is firmly drawn, the growth is cut off. When the ureter has to be severed, reimplantation in an uninjured portion of the bladder wall is the best course. The author does not agree with those who consider palliative operations useless. The comparative comfort resulting is often well worth the pain and confinement of operation. Since most of the pain is associated with urination, Cabot commends Watson's plan of diverting the urine from the bladder by double nephrostomy, as a cancerous rectum is relieved by colostomy.

16. **Hemolysis in the Diagnosis of Carcinoma.**—Whittemore summarizes his paper as follows: In this series of 109 cases, 39 normal individuals were tested, in whom hemolysis occurred 7 times (17 per cent.); 22 cases of carcinoma, in which hemolysis occurred 8 times (36 per cent.). It occurred in 50 per cent. of the cases of tuberculosis; also it occurred in Hodgkin's disease, chronic empyema, tabes, paraplegia, general paresis, in one case of malaria and in one of sarcoma. From these results he concludes that at present hemolysis is of no value in the diagnosis of carcinoma.

Lancet-Clinic, Cincinnati

January 16

17 *Experiences with Autogenous Bacterial Vaccines. O. Berghausen, Cincinnati.
18 *The Obstetrical Forceps. R. W. Stewart, Cincinnati.
19 Six Cases of Epidemic Cerebrospinal Meningitis. R. W. E. Irwin, Manchester, Ohio.

January 23

20 Expert Testimony and the Medical Witness. L. M. Craffts, Minneapolis.
21 *Hysterical and Neurasthenic Conditions Following Accidents. B. F. Turner, Memphis Tenn.
22 *Question of Legal Responsibility. A. E. Sterne, Indianapolis, Ind.
23 Mental Responsibility. C. W. Hitchcock, Detroit, Mich.

17. Abstracted in The Journal, Nov. 21, 1908, p. 1806.

18. **Obstetrical Forceps.**—Stewart holds that the forceps is the best friend the obstetrician can have, and one whose help he will need far oftener than he will that of the knife. The four cardinal principles that underlie every application of forceps are, (1) never to use them as dilators, but only (2), to expedite labor; (3) to bring to normal a badly placed fetal head; (4) to overcome obstruction in the mother's pelvis and soft parts. Stewart discusses each of these cardinal principles fully and dilates on the following general principles for their application: (1) the need and methods of absolute sterilization for both instruments and parts; (2) the choice of instruments for various applications; (3) the anesthetic and degree of anesthesia, (4) the advantages of substituting a firm strong table for the yielding bed in the application of the forceps.

21, 22. Abstracted in The Journal, Nov. 21, 1908, pp. 1806, 1807.

Northwestern Lancet, Minneapolis

January 15

24 *Medical Education Number.

24. This issue is taken up with a consideration of the unification of medical teaching in the State of Minnesota, including its history, accounts of the various medical colleges, etc.

Surgery, Gynecology and Obstetrics, Chicago.

December

25 *Surgical Treatment of Pancreatitis. W. J. Mayo, Rochester, Minn.
26 *Etiology and Pathogenesis of Pancreatitis. W. D. Haggard, Nashville, Tenn.
27 *Physiology and Chemical Pathology of the Pancreas in Pancreatitis. J. H. Schroeder, Cincinnati, Ohio.
28 *Diagnosis of Pancreatitis. A. J. Ochsner, Chicago.
29 *Pancreatic Diabetes and Its Relation to Gallstones. A. C. Croftan, Chicago.
30 *Comparative Irritative Properties of Some Mercury Combinations Used as Antiseptics. G. B. Lawson, Roanoke, Va.
31 *Clinical Conclusions as to the Value of Vaccine Therapy in Surgical Infections. J. C. Hollister, Chicago.
32 *Operative Treatment of Unilateral Lung Tuberculosis by Total Mobilization of Chest Wall by Means of Thoracoplastic Pleuropneumolysis. P. L. Friedrich, Marburg, Germany.
33 *Visceral Prolapse. F. H. Martin, Chicago.
34 Comparison of the Total Urea Excreted by Each Kidney in Surgical Diseases of These Organs. B. S. Barringer, New York.
35 Total Avulsion of the Scalp. E. F. Robinson, Kansas City, Mo.
36 Case of Tuberculous Disease of the Cecum and Appendix. J. C. H. Leicester, Calcutta, India.
37 *Malignant Tumors of Ovaries. W. S. Gardner and S. McCleary, Baltimore.
38 Surgical Treatment of Tuberculous Adenitis, with Special Reference to the Cervical Lymphatics. J. A. Attridge, Detroit, Mich.
39 *Exstrophy of the Urinary Bladder. O. P. J. Diakonow, Moscow, Russia.

25, 26, 28, 29. Abstracted in Society Proceeedings, The Journal, Nov. 14, 1908, p. 1724, and published in the *Lancet-Clinic*, Dec. 5, 1908.

27. This article is essentially the same as one published by the same author in The Journal, Sept. 5, 1908, p. 837, and in the *Lancet-Clinic*, Dec. 5, 1908.

30. **Mercuric Chlorid.**—Lawson publishes a comparison (with clinical reports) of the irritant properties of various mercuria preparations and draws the following conclusions:

1. Mercuric chlorid is more irritant to the skin when combine in solution with acids.
2. Mercuric bromid and iodid are more irritant to the skin tha mercuric chlorid.
3. Mercuric chlorid is slightly less irritant to the skin whe in solution in normal saline solution than when in distilled water

31. Abstracted in Society Proceedings, The Journal, Oct 31, 1908, p. 1535, and published in the *Lancet-Clinic*, Nov. 21 1908.

32. Published in *Archiv f. klinische Chirurgie*, vol. lxxxvii Abstracted in The Journal, Nov. 28, 1908, p. 1909.

33. **Visceral Prolapse.**—Martin, after a study of embryo logic development, concludes that:

1. Defects in the growth of the human body arising as a resul of an arrest at some point in the development from embryo (con genital) or as a result of reversion to a lower type (evolutional are strong factors in the etiology of visceral prolapse.
2. The most conspicious defects are observed in; (a) developmen of the skeleton; (b) the development of the peritoneum; (c) th development of the muscles of the trunk; (d) the development o the fascial layers of the trunk; (e) the development of the e ficiency of the nervous apparatus controlling the viscera an their relation to the trunk; (f) the development of fat layers an deposits.
3. The conspicuous signs of these defects are exhibited in; (a a straight spinal column showing little or no forward curve in th lumbar region, a perpendicular sacrum, a forward bend in th cervical region; (b) a flat chest, a small waist, perpendicula pelvis, protruding of the lower zone of the abdomen; (c) slightl forward bend of the trunk, stooping shoulders and long arms.

37. **Ovarian Tumors.**—A study of tumors of the ovary wit particular reference to malignancy leads Gardner and M Cleary to the following conclusions:

1. All ovarian tumors should be removed early, because prima carcinoma of the ovary usually begins in a benign growth and a early operation removes a prolific source of malignancy. Eve when the malignant process has made considerable progress the is an excellent opportunity to effect a complete cure.
2. Ovarian tumors should be removed through an abdominal i cision long enough to allow the tumor to escape without breaki the cyst wall. We must come back to what Washington Atl called the "major incision"—the incision most strenuously adv cated by J. Bland-Sutton.

39. **Exstrophy of the Urinary Bladder.**—Diakonow discuss Maydl's and Subbotin's operations and publishes his own mo ification of the latter as follows: Dissection of the longest po sible quadrangular flap of bladder mucous membrane whose ba is directly at the openings of the ureters is the first step. T flap may be in the middle line, or it may be oblique in ord to gain length, or if necessary, it may be extended over t border of the mucous membrane into the skin. Through 2 cm. long, transverse incision in front of the anus, t mucous membrane of the rectum, together with the subm cosa, is separated from the external sphincter, the dissecti being made with a scalpel to a depth of about 1.5 cm. a continued with closed blunt shears through the tissues the bladder, the shears being controlled by a finger in t

bladder. On puncture of the bladder by the shears a rubber catheter is passed from below and on the end of the catheter the end of the flap of mucous membrane is made fast by means of a silk ligature. By withdrawal of the catheter, the flap of mucous membrane is drawn down through and sutured to the skin of the anal border. The result is a newly built urethra having epithelial walls, which at the will of the patient can be opened or closed by the action of the external sphincter. Then follows the closure of the anterior abdominal cleft either by direct suture of the edges or by utilization of one or another plastic operation according to the requirement of the case in hand.

Journal Experimental Medicine, New York

January

40 *Pathogenesis of Waxy Degeneration of Striated Muscles (Zenker's Degeneration). H. G. Wells, Chicago.
41 Postmortem Rigor of the Mammalian Heart and the Influence of an Antemortem Stimulation of the Pneumogastric Nerves on Its Development. D. R. Joseph and S. J. Meltzer, New York.
42 Relation of the Weight of the Contents of Stomach and Cecum to the Body Weight in Rabbits. D. R. Joseph, New York.
43 *The Bordet-Gengou Bacillus of Pertussis. M. Wollstein, New York.
44 Effect of Conditions on the Latent Period and Rate of Aseptic Postmortem Autolysis During the First Ten Hours. H. C. Jackson, Albany, N. Y.
45 Relation of Protein, Lipoids and Salts to the Wassermann Reaction. H. Noguchi, New York.
46 Phagocytic Immunity. J. C. Meakins, New York.
47 *Relation of Tetany to the Parathyroid Glands and to Calcium Metabolism. W. G. MacCallum and C. Voegtlin, Baltimore.
48 Fatal Septicemia in *Macacus rhesus* Caused by a Streptococcus Decolorized by Gram's Method. R. V. Lamar, New York.
49 Autotransplantation and Isotransplantation, in Dogs, of the Parathyroid Glandules. W. S. Halsted, Baltimore.
50 Catalytic Activity of the Blood in Relation to (I) the Functional Sufficiency of the Kidneys; (II) Peritonitis. M. C. Winternitz, Baltimore.

40. **Waxy Degeneration of Striated Muscles.**—Wells summarizes his article as follows: In view of the theoretical deductions and the positive results obtained in the experiments, t would seem probable that the production of waxy degeneration depends on the action of lactic acid, which is formed y the living muscle under the stimulation of infecting bac- eria or their toxins, the formation of large amounts of lac- ic acid and its accumulation being perhaps favored by de- ective circulation through the injured muscle. The hyaline ransformation of muscle acted on by lactic acid is analogous o the swelling of fibrin placed in dilute acids. This view s supported by both negative and positive experimental evi- ence—the negative being that simple anemic necrosis, aseptic r antiseptic autolysis whether *in vivo* or *in vitro*, or the ction of bacteria of various sorts on muscle *in vitro*, are all ncapable of causing changes in muscle cells resembling those haracteristic of waxy or hyaline degeneration of striated uscle. The positive evidence consists in the demonstration hat lactic acid, even in dilutions comparable to the amounts hat can be formed in living muscle, can produce a similar r identical waxy transformation of the striated muscle bers, both *in vitro* and *in vivo;* and also the observation that uscles stimulated to exhaustion, under which condition lac- c acid is known to accumulate in the muscle, show micro- opically changes identical with those of Zenker's waxy de- eneration.

43. **Pertussis.**—Wollstein discusses the bacteriology, animal oculation, and serum reaction of pertussis, and finds in eir study support to the view that the Bordet-Gengou bacil- s is the possible cause of pertussis, but her studies have ot produced any distinctively new evidence of this relation- ip beyond the proof of the wide dissemination of the pe- liar bacillus in Nature and its occurrence in pertussis.

47. Discussed editorially in THE JOURNAL, January 30, 388.

American Medicine, New York

December

1 *Some Unusual Features and Complications Occurring in Typhoid. J. Walter, New York.
2 Relation of Headaches to Errors of Refraction: A Study of Three Thousand Consecutive Cases from Private and Hospital Practice. A. Brav, Philadelphia, Pa.
3 Causes and Treatment of Nasal Hemorrhage. I. W. Voorhees, New York.
54 Advantages and Disadvantages of the Intramuscular Injection Method of Treating Syphilis. W. B. Trimble, New York.
55 Acidemia and Autointoxication. H. R. Harrower, Chicago.
56 Early Diagnosis of Cancer of the Stomach. L. Kast, New York.

51. **Typhoid.**—Walter cites cases illustrating the complication of typhoid by influenza, malaria, pregnancy, localized edema of the abdomen, ulcer of the pharynx, and erythema; also cases simulating typhoid or remarkable from the advanced age of the patient, as well as some atypical varieties of this disease. In many cases he feels justified in pointing to intestinal autointoxication as a probable cause of chills and rise of temperature in typhoid.

Kentucky Medical Journal, Bowling Green

December

57 *Suggestive Therapeutics. W. E. Senour, Bellevue.
58 *Organic Serum Therapy. R. H. Cowley, Berea.
59 *Use of Drugs in Treatment of Disease. W. S. Anderson, Newport.
60 Present Status of Therapeutics and Some of Its Agents. W. L. Heizer, New Haven.
61 Work on the Jefferson County Milk Commission. B. C. Frazier, Louisville.
62 *Considerations in the Diagnosis and Treatment of Diseases in the Accessory Sinuses of the Nose. G. C. Hall, Louisville.
63 *Symptoms, Diagnosis, and Medical Treatment of Inflammation of Kidney. B. F. Zimmerman, Louisville.
64 *Surgical Treatment of Inflammatory Diseases of the Kidneys. D. Barrow, Lexington.
65 *Symptoms, Diagnosis and Treatment of Neoplasms of Kidney. G. A. Hendon, Louisville.
66 Medical Management of Gallstones. F. W. Fleischaker, Louisville.
67 Surgical Management of Biliary Disease. L. Frank, Louisville.
68 Gonorrheal Conjunctivitis. L. S. Givens, Cynthiana.
69 Depressed Fracture of Skull—History of Case. C. L. Nichols, Louisville.
70 Pathology of Typhoid Fever, with Remarks on the Laboratory Method of Diagnosis. L. M. Moody, Madisonville.

57, 58, 59, 62, 63, 64, 65. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1546.

Ohio State Medical Journal, Columbus

December

71 Vaginal Cesarean Section. F. S. Clark, Cleveland.
72 Ptosis of the Gall Bladder. E. Ricketts, Cincinnati.
73 *Diagnosis of Tumors of the Spinal Cord. W. B. Laffer, Cleveland.
74 Ulcerative and Purulent Cystitis. C. M. Harpster, Toledo.
75 Essentials in Treatment of Diseases of the Skin, with Special Reference to the Teachings of Lassar. L. Reich, Cleveland.
76 Trachoma in Its Sociologic Aspect. C. C. Stuart, Cleveland.
77 Obstetrics and Pediatrics—Their Growing Relation. P. L. Myer, Toledo.
78 Present Status of the Medical and Surgical Treatment of Exophthalmic Goiter. (Continued.) F. Warner, Columbus.

73. Abstracted in THE JOURNAL, May 23, 1908, p. 1721.

Military Surgeon, Carlisle, Pa.

December

79 *Origin and Condition of the Peoples Who Make up the Bulk of Our Immigrants at the Present Time and the Probable Effect of Their Absorption on Our Population. M. H. Simons, U. S. Navy.
80 Diagram of the Medical Organization, United States Army, for Service with a Division. G. H. Richardson, U. S. Army.
81 Retrospect of Cooperative Work of the Medical Services of the Government. H. W. Austin, United States Public Health and Marine-Hospital Service.
82 *Tropical Diseases in the Philippines. J. M. Phalen and H. J. Nichols, U. S. Army.
83 Laceration of the Brain and Subdural Hemorrhage—Report of a Case Successfully Treated by Bilateral Intermusculo-Temporal Decompression. A. McGlaunan, U. S. Army.

79. **American Immigration.**—Simons discusses the evolution of man and his gradual distribution over the face of the earth, with the formation of races, and applies to the question of immigration the deductions he draws therefrom as to the effect of crossing. A cross between the black and white, white and yellow, yellow and black, and black and red, usually inherits the bad qualities of both, but few of the good. It is not favorable to longevity or to desirable mental qualities. A mixture of varieties of a race, not of races, is necessary for the preservation and stimulation of the mental and physical qualities which insure the steady advancement of a people. To develop the best American type, we should insure not only that those coming in are desirable physically and mentally, but that their habits, methods of thought, and state of civilization are such that they will readily assimilate with us. Simons considers it a pity that the legal assumptions and responsibilities of manhood are not now marked by some ceremonial, such as was formerly

practiced by candidates for knighthood, or for admission to the warrior class among American Indians; the preparation therefor tended to foster the moral forces, self-restraint, tenacity of purpose, devotion to a high ideal of conduct, etc. He advocates restriction of marriage for the mentally, morally or physically defective or perverted. The admission of immigrants to the overcrowded tenement district is a danger to themselves and to others. They should be diverted to the country or to districts sanitarily fitted for them. It is particularly difficult to find men fitted for the Navy. The sailor formerly lived healthily in the open. To-day he lives in a steel fortress, artificially lighted and ventilated and much overheated. No wonder tuberculosis and infectious diseases are common in the Navy. The frequency of desertion Simons ascribes to defective moral development.

82. **Philippine Tropical Diseases.**—Phalen and Nichols report on the study of filariasis, bilharziosis, paragonomiasis, amebic diseases, cutaneous blastomycosis, tinea imbricata and yaws.

Iowa Medical Journal, Des Moines

December

84 Venereal Diseases and Blindness. L. W. Dean, Iowa City.
85 *Neurasthenia in Connection with Eye Disease. R. M. Lapsley, Keokuk.
86 Value of the Ophthalmometer in the Estimation of Refractive Error. F. E. Franchere, Sioux City.
87 *Ophthalmia Neonatorum and the Accoucheur. C. P. Franz, Burlington.
88 The Squinting Child. G. F. Harkness, Davenport.
89 *Treatment of Frontal Sinus Suppuration. H. Bailey, Waterloo.
90 Rupture of Bladder Due to Phimosis. J. H. Talboy, Sioux City.
91 Puerperal Eclampsia. N. M. Whitehall, Boone.

85. **Neurasthenia and Eye Disease.**—Lapsley emphasizes the frequency of the nervous element in ophthalmic patients, and the great importance of bad habits as a contributing cause.

87. **Ophthalmia Neonatorum.**—Franz advocates a law to oblige all physicians and midwives in every case of childbirth, no matter what the race. mental, moral, or social standing of the parent, to take prophylactic measures for the sake of the child.

89. **Frontal Sinus Suppuration.**—Bailey summarizes his article as follows:

> There are no reliable external signs to indicate the size or shape of the frontal sinus.
>
> X-ray photographs should be taken of all frontal sinuses as a preliminary to operation.
>
> It is impossible to tell before operation whether or not bone necrosis has occurred in the sinus wall.
>
> On account of the almost universal involvement of the anterior ethmoidal cells in chronic frontal sinusitis, no surgical procedure for the relief of frontal sinus suppuration should be considered complete that does not include also these cells.
>
> For anatomic reasons, the intranasal operation for radical cure of chronic suppuration of the frontal sinus is a method which is dangerous to practice, and still more dangerous to recommend.
>
> We have as yet, no ideal operation for the cure of chronic suppuration of the frontal sinus.

Maryland Medical Journal, Baltimore

January

92 Public and Private Water Supplies in Maryland. M. L. Price, Baltimore.
93 The Country Doctor. B. W. Goldsborough, Ocean City, Md.

American Journal of Surgery, New York

December

94 Treatment of General Peritonitis Complicating Appendicitis. D. N. Eisendrath, Chicago.
95 *Rational Spinal Support. H. W. Frauenthal, New York.
96 Clinical Types of Acute Dilatation of the Stomach with Experimental Researches. R. C. Kemp, New York.
97 Acute Perforating Gastric and Duodenal Ulcer. (Continued.) E. Eliot, New York.

95. **Rational Spinal Support.**—Frauenthal, in a well-illustrated article, calls attention to defects in conventional mechanical treatment now in use, due to the failure to apply scientific principles of mechanics in the fitting of braces. He draws the following conclusions:

> Unless a brace rests on the pelvis, by collar across the crest of the ilium, it is ineffectual and harmful.
>
> When disease occurs above the seventh dorsal vertebra, either the patient should be treated in the recumbent position for months or years, or a brace or jacket applied, with jury mast attached, that will take off the superimposed weight above the point of disease.
>
> Children under three years of age with tuberculosis of the vertebra should be treated in the recumbent position in bed or on a portable cuirass.
>
> In orthopedic work, we should use all that is accepted as beneficial in tuberculosis of the soft tissues.

Southern California Practitioner, Los Angeles

December

98 The Sixth International Tuberculosis Congress. C. E. Yount. Prescott, Ariz.
99 Why Applicants for Medical License Fail. F. C. E. Mattison, Pasadena.
100 Opsonic Index—Eastern Opinions Concerning Its Value. R. L. Cunningham, Los Angeles.
101 Joint Affections in Nervous Diseases. T. J. Orbison, Los Angeles.

Journal Indiana State Medical Association, Fort Wayne

December

102 First Aid to the Injured. I. W. Short, Elkhart.
103 Cystitis in the Female. E. E. Padgett, Indianapolis.
104 Myocardial Failure from Causes Other than Valve Lesions. A. C. Kimberlin, Indianapolis.
105 A Few Important Points in Regard to Nervous and Mental Diseases. C. F. Neu, Indianapolis.

Chicago Medical Recorder

December

106 Diagnosis and Treatment of Tuberculous and Pathogenic Bone Lesions. J. P. Webster, Chicago.
107 Dependence of Intraocular Diseases on Affections of the Nasal Accessory Sinuses. F. Brawley, Chicago.
108 *Lumbar Puncture and Blood Analysis in Diagnosis and Treatment of Meningococcus and of Tuberculous Meningitis. J. F. Hultgen, Chicago.
109 Antigonococcus Serum and Vaccine Therapy in Relation to Medical and Instrumental Treatment. F. Baumann, Chicago.
110 Ectopic Gestation with Early Recovery. R. Zentsch, Chicago.
111. The Medical Fee. A. C. Heffenger, Portsmouth, N. H.

108. **Tuberculous and Meningococcus Meningitis.**—Hultgen concludes that the blood changes in either of these two forms of meningitis, while not pathognomonic, are very valuable data in the early differential diagnosis. The relation between the total and the differential count is what we need to know and to interpret. Blood counts made at random, and without reference to clinical findings, are useless and even misleading. Our present-day knowledge of tuberculous meningitis is only fragmentary, and calls for energetic work in hematology and bacteriology. The eosinophilic leucocytes play an important rôle in the defense of the organism by liberating antibodies, the gathering and storing of which seems to be the special function of these white blood cells. They return in increased numbers after the recovery from any infectious, or even toxic disease. They return earlier if assisted by bactericidal sera, such as the Simon-Flexner preparation. The author's tables from the two cases of meningococcus meningitis show the close relation between the blood picture and its causative agency, and the still closer bond between the various leucocytes and the immunity or the systematic residue.

Journal of Ophthalmology and Otolaryngology, Chicago

December

112 Ocular Manifestations of Hysteria. R. J. Tivnen, Chicago.
113 Dependence of Intraocular Disease on Affections of the Nasal Sinuses. F. Brawley, Chicago.

St. Louis Medical Review

December

114 Some Uses of Carbon Dioxid in Dermatology. R. H. Boggs, Pittsburg.
115 Tuberculous Adenitis of the Mesenteric Lymph Nodes. L. Rassieur, St. Louis.
116 Metastatic Dacryoadenitis in Gonorrhea. M. Wiener, St. Louis.
117 Treatment of Cancer of the Rectum. R. H. Barnes, St. Louis.

Colorado Medicine, Denver

December

118 Plea for Free Distribution of Diphtheria Antitoxin in Colorado. F. E. Waxham, Denver, Colo.
119 *Blood Conditions of Childhood. T. R. Love, Denver, Colo.
120 Needed Legislation to Regulate Milk Supply. L. O. Rodes. Boulder, Colo.
121 Avenues of Tuberculous Infection in Children. C. G. Hickey, Denver, Colo.

119. **Blood Conditions of Childhood.**—Love concludes from his observations that in children a leucocytosis is common, and arises from the most trivial causes, more rapidly, and to a greater degree, and is, therefore, of somewhat less significance. In many cases it is the polymorphonuclears which are increased, but the inclination of the blood to revert to the infantile type appears to cause a disproportionate increase of lymphocytes. This is especially true of pathologic conditions. During an initial rise of a marked leucocytosis many immature leucocyte forms are found, including myelocytes.

Montreal Medical Journal

December

122 Heart Disease and Pregnancy. J. C. Cameron, Montreal.
123 Cultivation of the Meningococcus from Eye Conditions Complicating Epidemic Cerebrospinal Meningitis. H. McKee, Ottawa.
124 Congenital Hypertrophic Stenosis of the Pylorus. F. J. Shepherd, Montreal.
125 Portal Infection Originating in Appendicitis. J. Bell, Montreal.
126 Treatment of Pott's Disease of the Lumbar Vertebræ. A. M. Forbes, Montreal.

Atlanta Journal-Record of Medicine

December

127 Surgical Conscience. R. M. Harbin, Rome, Ga.
128 Active Exercise in Locomotor Ataxia. T. Toepel, Atlanta, Ga.
129 Malaria. D. H. Du Pree, Athens, Ga.
130 Tracheobronchoscopy and Esophagoscopy. O. H. Johnson, Athens, Ga.
131 Etiology, Infection and Treatment of Typhoid Fever. B. W. Hall, Bowman, Ga.

Illinois Medical Journal, Springfield

December

132 *Diagnosis in Acute Infections of the Hand. A. B. Kanavel, Chicago.
133 *Psychopathology of Hysteria. S. T. Robinson, Edwardsville.
134 *Serodiagnosis of Syphilis. W. J. Butler, Chicago.
135 Responsibility of the General Practitioner in Cases of Strabismus in Children. E. J. Gardiner, Chicago.
136 Multiple Sclerosis Complicated by Many Hysterical Phenomena. P. Bassoe, Chicago.
37 London's Eye Work Compared with that of Vienna. D. A. Vanderhoof, Rockford.
38 Urgently Needed Medical Legislation in Illinois. G. W. Webster, Chicago.
39 Fused (Horseshoe) Kidney. B. Robinson, Chicago.
40 *Nostrum Advertising in the Medical Press. R. M. Parker, Chicago.

132. **Acute Infections of the Hands.**—Kanavel continues the onsideration of this subject previously dealt with by him in *urgery, Gynecology and Obstetrics*, October, 1905, and Noember, 1907 (abstracted in THE JOURNAL, Jan. 4, 1908, . 75). With reference to operative incision he says that ie thenar space is best opened by an incision on the dorsum etween the metacarpals of the index finger and thumb; the iddle palmar space, by an incision along the lumbrical aces extending into the palm; the ulnar bursa, by splitting throughout its length, cutting the anterior annular ligaent: the radial bursa by incision up to within a thumb's eadth of the anterior annular ligament; the fingers by teral incisions into the sheaths; the forearm by lateral insions above the wrist joint and an ulnar incision at the iddle of the forearm. The after-treatment to preserve funcon is of as great importance as the proper operative produre. Either without the other is sure to end in disappointent and failure.

133. Abstracted in THE JOURNAL, June 6, 1908, p. 1931.

134. **Syphilis.**—Butler discusses at length the serodiagnosis syphilis, which he finds to be specific, and positive in from to 98 per cent. of patients with syphilitic manifestations, from 50 to 60 per cent. of latent cases, and in from 70 80 per cent. of patients with metasyphilitic and paraphilitic disease. It is probably influenced by treatment. positive reaction indicates activity of specific virus and ls for antisyphilitic treatment; but a negative reaction is not an equal negative value. It is diagnostic of a sysnic infection, acquired or inherited, but not an organ diagstic measure. It is useful in differential diagnosis and as index for treatment.

40. **Nostrum Advertising.**—Parker considers the various tors in nostrum advertising, and insists that the party on om we must rely to prevent nostrum advertising is he o contributes to our journals scientific articles. He is the l creator of the publication. He furnishes the life, the od, the bone and the marrow of the medical journal. Who he? He is the original research worker in the laboratory, profound clinical student in the hospital ward, the ext surgeon and pathologist of the operating room. He is fessor in our medical schools, the official and ex-official our state and local society, the president and ex-president the American Medical Association. He is even numerous ong the ardent workers for this reform. He it is who sets high standard of the publication which he favors with the invaluable reports of his tireless scientific investigations, creating for it a demand which calls it to the tables of thousands of physicians in spite of the burdensome handicap carried in the advertising columns. Parker feels confident that he suggests an absolute preventive of nostrum advertising in the medical press when, he says, to the contributor: "Refuse your manuscript to every medical journal advertising disreputable preparations. Deprived of your contributions, what will the publisher have left to attract the readers to his nostrum-laden pages?"

Alabama Medical Journal, Birmingham

December

141 Surgery of the Gall Bladder and Bile Ducts. C. H. Peck, New York.
142 External Use of Adrenalin in Neuralgia, Neuritis and Reflex or Referred Pain. J. M. Lowery, Birmingham.
143 Fate of Young Lydgate. J. S. McLester, Birmingham.
144 Normal Lactation. H. Swedlaw, Birmingham.
145 Tuberculosis in Perspective. R. C. Bankston, Birmingham.

Journal South Carolina Medical Association, Greenville

December

146 Medical and Surgical Aspects of Prostatic Obstruction. A. B. Knowlton, Columbia, S. C.
147 Puerperal Eclampsia, with Report of Cases. H. L. Shaw, Fountain Inn, S. C.
148 Have the Recently Reported Deaths from Diphtheria Antitoxin Been Satisfactorily Explained? L. C. Stephens, Greenville, S. C.
149 True Catarrh—Its Proper Etiology and Treatment. W. P. Porcher, Charleston.

Medical Herald, St. Joseph, Mo.

December

150 Dystocia in Apparently Normal Conditions. A. B. Somers, Omaha, Neb.
151 Appendicitis Accompanied by Local Suppurative Adenitis. G. G. Cottam, Rock Rapids, Iowa.
152 Influence of Nasal and Postnasal Obstruction in Children. L. W. Dean, Iowa City.
153 Diagnosis of Coxa Vara. D. T. Quigley, North Platte, Neb.
154 Arteriosclerosis. W. F. Waugh, Chicago.
155 Soil of Carcinoma, with the Treatment of the Same, so as to Overcome the Disease. C. F. de Francis, Brooklyn, N. Y.
156 An Effective Formula in the Treatment of Hepatic Insufficiency and Its Congeners. R. W. Morris, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

January 9

1 *Cardiac Motion as Revealed by the Vivisection of Disease. A. Morison.
2 Naso-Antral Polypus. A. B. Kelly.
3 Five Years' Experience with Dubois' Apparatus for Administering Chloroform. P. M. Chapman.
4 An Unusual Case of German Measles. G. C. Garratt.
5 *Two Cases of Obscure Rectal Pain and Their Treatment. F. C. Wallis.
6 Examination of the Fat in the Liver in Health and Disease. E. L. Kennaway and J. B. Leathes.
7 Case of Excision of the Scapula. H. B. Mylvaganam.

1. **Cardiac Motion.**—Morison studies an instructive case of sarcoma of the heart, and refers briefly to a few others that have come under his personal observation. He considers that the study of these cases suggests that man lives on his ventricles, and chiefly on his left ventricle, not on his veins or auricles, and that the normal action of the ventricles is dependent on the healthy action and interaction of the three fundamental factors in organic life—blood, cell, and nerves—a trinity in which the blood supplies the force necessary to the production and continuance of vital action; in which the cell is the specific agency or mechanism for a given organic act; and in which the nerves regulate alike the production of the motive force and the degrees and regularity of its manifestation in the specific cell. A corollary to this conclusion is, that as man lives on his ventricle, not on his auricle, the examination and registration of ventricular action are of greater practical importance than a similar investigation of the action of his veins and auricles, although as a detail these points have a scientific interest.

5. **Obscure Rectal Pain.**—Wallis describes two cases of socalled obscure rectal pain, neuralgic in character, which proved to be examples of what he holds to be a fairly common rectal trouble in young people, namely, submucous

tracks leading up to the bowel from the anorectal junction. Excision of the whole ring of mucous membrane containing the tracks, and suture of the upper cut edge to the anal skin, produced a cure in both cases; both of which had failed of relief by all the usual methods of treatment for so-called rectal neuralgia.

British Medical Journal, London

January 9

9 *Abdominal Emergencies. S. White.
10 *Appendicostomy in Diffuse Septic Peritonitis. W. Billington.
11 *Appendicostomy and Surgical Aspect of Colitis. J. L. Dawson.
12 Leucocytosis in Appendicitis. G. Mitchell.
13 *Syphilitic Leukoderma and the Pigmentary Syphilide. Sir J. Hutchinson.
14 Vincent's Angina. J. T. C. Nash.

9. **Abdominal Emergencies.**—White says that the majority of acute abdominal cases may be referred to one of the following groups: (1) acute intestinal obstruction, strangulated external hernia, internal strangulation, postoperative obstruction, acute intussusception, volvulus, or gallstones; (2) gastric and intestinal ulcers that have perforated; (3) acute inflammatory lesions of septic origin, (a) cholecystitis, salpingitis, and appendicitis. He considers separately ruptured tubal gestation, twisted ovarian pedicle, and traumatic lesions of the abdominal viscera. He discusses the differential diagnosis and treatment. In regard to appendicitis, he holds that it would be better if operation were performed in every case within a few hours of the onset of symptoms. If the case has not been seen early or the question of interference has not arisen until after the lapse of twenty-four hours, it is probably better to postpone operation, unless the symptoms are both acute and progressive. Immediate operation is called for during any stage of the disease by (1) a rapidly increasing pulse rate, particularly if unaccompanied by a corresponding rise in the temperature; (2) the recrudescence of acute pain in the appendicular region after it had subsided, or a sudden increase in the severity of the pain; (3) extension of the pain, tenderness, and muscular rigidity to other parts of the abdomen; (4) commencing abdominal distention, with or without vomiting; (5) rigors; (6) an increase in the size of the appendicular swelling after the third day; and (7) a change for the worse in the patient's expression. White then describes the operative details in abscess cases and those grave and hitherto fatal cases in which septic infection has spread from the appendix to the general peritoneum. He describes the modern method of treating the last class of cases by removal of the primary cause of infection, the provision of free abdominal drainage, posture (the shoulders higher than the pelvis) and the use of large quantities of saline solution by the bowels.

10. **Appendicostomy.**—Billington lauds the advantages of appendicostomy in diffuse septic peritonitis, describes the method of flushing the bowel thereby, and reports illustrative cases.

11. **Id.**—Dawson describes the operation of appendicostomy and discusses its use on colitis, in preference to right inguinal colostomy and cecostomy.

13. **Syphilitic Leukoderma.**—Hutchinson discusses the dappled skin of syphilitic leukoderma, studying it comparatively with the skins of animals, and notes the fact that the young of many animals show in extreme youth a speckling, spotting or streaking of their skins, which they lose when adolescent. Hutchinson's theory as to syphilitic leukoderma is that the human skin is in many persons latently dappled, and that the condition becomes obvious under certain states of disturbed pigment function, of some of which the spirillum of syphilis may be the cause. He says that we may safely assume that the peculiar patterns evolved in cases of this affection are physiologic, and due to original organization, not to disease. He further suggests that in secondary syphilis, disordered function of the suprarenal and other organs favors the accumulation of melanin in the cells and that finally, exposure to light brings about its deposition in unprotected parts. He explains thus the preference of the malady for the female sex and for the neck and bust, as well as its tendency to persist. He conjectures that it is a far more common affection in non-syphilitic subjects than has yet been suspected, and suggests a series of control experiments on healthy individuals, brunettes for choice, but not excluding males.

Medical Press and Circular, London.

January 6

15 Hemoptysis and Emphysema. L. Williams.
16 *The Question of Dementia Præcox. R. Jones.
17 Intermenstrual Pain. R. D. Purefoy.
18 *Stitches [Pain]. Prof. H. Barth.

16. **Dementia Præcox.**—Jones summarizes his conclusions as follows:

1. There is no definite disease, "dementia præcox." The descriptions applied cover almost every possible variety of insanity.
2. The term "dementia" is inapplicable, because it connotes permanent and irrecoverable loss of mental function.
3. The application of "dementia" is unsatisfactory to patients in whom the loss of memory is not a prominent early symptom.
4. The term does not state whether it is the terminal stage or the stuporous condition which is of primary importance.
5. The qualifying adjective "præcox" is equivocal in so far as it leaves it doubtful whether the diseased condition evolves precociously, or whether it is stated to occur in early life or youth. It is therefore a vague and indefinite term, as these symptoms are also known at maturity and even at the menopause, and therefore they should find no place in a scientific or logical classification.
6. A term which implies a definite entity, and which is with some becoming more accepted as such, should be distinguished by definite pathologic findings, which is not the case.
7. Finally, it is more in harmony with practice and of greater help to diagnosis and treatment to use, in place of "dementia præcox," the term "adolescent insanity," suitably subdivided as at present.

18. **Stitches.**—Barth discusses the special kind of pain that occurs as a symptom of acute pleuro-pulmonary affections, and constitutes an important factor in the production of dyspnea. This pain is due to irritation of subpleural nerve fibers, from inflammation of the serous membrane. He discusses its relation to acute pneumonia, bronchitis, pneumothorax, serofibrinous, diaphragmatic and purulent pleurisy, and mentions its occurrence in a tuberculous subject as indicating the formation of another focus of disease. He also discusses the "epigastric spot," described by DeBrun as occurring in pulmonary emphysema consequent on dilatation of the right heart and mitral affections at the stage of threatening asystole, as well as false stiches and intercostal neuralgia.

Clinical Journal, London

January 6

19 Achylia. R. Hutchinson.
20 *Cancer Affecting the Alimentary Canal. J. Bland-Sutton.
21 Surgery of Rectal Stenoses. L. McGavin.

20. **Cancer of the Alimentary Canal.**—Bland-Sutton emphasizes, as an extremely interesting and important fact, that more than half the total number of cases of cancer which attack the body arise in connection with the alimentary canal. The distribution of cancer in the alimentary canal is important. It is common in the esophagus, extremely frequent in the stomach, rare in the small intestine, and extremely common in the large bowel, particularly the terminal two feet thereof. This point Bland-Sutton considers to favor thos who believe cancer to be due to a microparasite, probabl taken in with either food or water. He himself feels s strongly on this point that for years he has avoided eatin all sorts of uncooked vegetables, even the salads, temptin as they are. He cites the remark of a Frenchman to th effect that while the English live well and are fond o vegetables, they are the only people in the world who trus the scullery maid to prepare them. Years ago when he mad large numbers of autopsies on the bodies of animals dyin in the Zoölogical Gardens, he was struck by the extreme fre quency with which uncountable numbers of intestinal para sites were found, due to the eating of uncooked food. Bland Sutton cites an observation of Behla, concerning the town o Luckau in Germany, in which most of the 5,000 people wer engaged in agriculture. Between 1875 and 1898 the deat rate from cancer amounted to 1 out of every 25 or 30. Th cancer incidence, however, was not generally distributed, bu was confined to the eastern suburb, which was damp, low lying, and encircled by a large ditch. The cancer closely fo lowed the course of the ditch, which contained foul and stag nant water, in which the people washed and watered the vegetables, which were largely eaten raw. Not a single deat

from cancer occurred during the period investigated in the sandy, dry, elevated western suburb remote from the ditch. Bland-Sutton considers the characteristics of cancer respectively in the esophagus, stomach, small and large intestines, and rectum. He suggests that those parts of the digestive tube are most prone to become cancerous in which food makes the longest sojourn. The stomach is a churn, and in this hollow viscus there is much mixing and motion of the ingested material, and therefore prolonged and close contact. The digested mass is hurried through the small bowel into he cecum, where it is retained for many hours and is ordinarily deprived of the main part of its fluid. That the undigested mass known as feces is retained for many hours, and n some ill-conditioned individuals for days, in the descending olon and sigmoid is an undeniable fact. This retention would e favorable for the invasion of the epithelial covering of the ut by an infective agent.

British Journal of Children's Diseases, London

December

22 Carcinoma of the Stomach in a Boy Aged Fourteen Years and Nine Months. R. B. Ness and J. H. Teacher.

Indian Medical Gazette, Calcutta

December

23 *Endemic Cretinism in the Chitral and Gilgit Valleys, India. R. McCarrison.
24 Roentgen Rays as an Aid to Diagnosis in Some Common Surgical Conditions. E. P. Connor.
25 *Cancer in Travancore, India. W. C. Bentall.

23. Published in *The Lancet*, Oct. 31, 1908, and abstracted n The Journal, Nov. 28, 1908, p. 1906.

25. Published in the *British Medical Journal*, Nov. 7, 1908, nd abstracted in The Journal, Dec. 5, 1908, p. 2005.

Annales de Dermatologie et de Syphiligraphie, Paris

December, IX, No. 12, pp. 673-763

26 Cutaneous Symptoms of Human Trypanosomiasis. H. Darré.
27 Histologic Structure of the Skin in Monkeys. (La peau chez les singes.) W.-J. Terebinsky.
28 The Balance Sheet of Mercurial Injections. (Le passif des injections mercurielles.) Lassere. Commenced in No. 11.

Archives des Maladies du Cœur, Paris

November, I, No. 11, pp. 609-672

9 Pathologic Anatomy of Hemolytic Icterus. H. Vaquez and C. Aubertin.
0 *Action of Strophanthin in Intravenous Injection in Heart Disease. (Action de la strophantine en injection intra veineuse dans les affections du cœur.) D. Danielopolu.

30. **Strophanthin in Heart Disease.**—Danielopolu has given travenous injections of strophanthin in 23 cases of heart sease, including 6 with chronic myocarditis with or without systole, 8 with mitral affections, including some with myocarditis, 3 with aortic lesions, chronic nephritis and asystole, nd 3 cases of asystole with emphysema. The results encourage him to affirm that strophanthin deserves to rank as e of the best heart tonics not only for the rapidity and ergy with which it acts on the heart but also by its influence in remedying the disturbances due to impairment of he heart action, the accurate dosage and its action exclusively on the heart. He advocates the intravenous route, ing 0.001 gm. (1/64 grain) of the strophanthin in a single se, repeated if necessary for several days in succession, allowing always an interval of at least twenty-four hours. or two injections generally accomplish the desired results thout need for more. It acts more rapidly than any other art tonic, he says, strengthening the contractions, slowing pulse, raising the arterial tension and making the heart t more regular while the amount of urine is notably increased and edema soon subsides as also the passive congesn in the viscera. These effects are especially marked in rt affections without advanced kidney lesions. With advanced kidney disease the strophanthin is useless, or at most rely prepares the way for administration of diuretics. In ew rare cases fine results may be obtained by administer the strophanthin in intravenous injection at the same e as theobromin by the mouth. The strophanthin has no ect on the kidney trouble except in so far as the latter is ctly dependent on the cardiac defect. For this reason, the injection of strophanthin may serve to differentiate whether the trouble is in reality heart disease with complications on the part of the kidneys. In his experience there were no chills or fever after the intravenous injection of the strophanthin, such as others have mentioned, and he is convinced that they can be avoided by strict asepsis.

Lyon Chirurgical

November, I, No. 1, pp. 1-92

31 *Tuberculous Abscess in the Fallopian Tubes. (Abcès froids tubaires.) H. Albertin.
32 Direct Transfusion of Blood According to Crile. (Transfusion directe du sang.) A. Carrel.
33 *Subserous Cholecystectomy. G. Cotte.

December, No. 2, pp. 92-204

34 *Treatment of Artificial Anus. (Traitement de l'anus contre nature.) X. Delore and Thévenet.
35 *Chloroform Lesions of the Liver. (Rôle de l'intoxication par le chloroforme dans la genèse de certains accidents attribués "au foie appendiculaire.") E. Weill, P. Vignard and G. Mouriquand.

January, No. 3, pp. 205-332

36 *Perineal and Suprapubic Prostatectomy. V. Rochet and G. Salinier.
37 *Hypertrophic Tuberculosis of the Appendix. G. Gayet.
38 *Resection of Joints Followed by Mosetig-Moorhof Filling. (Plombage des articulations.) P. Vignard and G. Gruber. Commenced in No. 2.

31. **Tuberculous Abscess in Fallopian Tubes.**—Albertin reports three cases of a chronic tuberculous process in the Fallopian tubes entailing very large abscesses. The evolution is slow and insidious, some trivial trauma or a little vague pain in the region first calling attention to the lesion. In one of the cases related more frequent micturition was the only sign of the bilateral tubal lesion. The pain was never acute, merely a sensation of pressure, of dragging down behind the pubis with the dull ache radiating at times into the lumbar region and the legs. There was no evidence of an acute painful process at any time. Menstruation was not much disturbed. The absence of general disturbances is a special feature of this form of tubal abscess, although the patients may display a slight tendency to grow thin and weak. The tubal abscess of this kind is longer and flatter than the usual ovarian cyst, and it is bilateral, movable and not tender. The patients are generally young women free from any previous genital disturbances, but with antecedents suspicious of tuberculosis.

33. **Subserous Cholecystectomy.**—Cotte gives seven illustrations of the details of the technic of this operation and discusses its indications and contraindications, advantages and inconveniences.

34. **Treatment of Artificial Anus.**—Delore and Thévenet review their experience with six cases and conclude from this material and from study of the literature that the extraperitoneal technic should be discarded except for very small fistulas without spur formation; enterectomy is the preferable operation. This does away entirely with the lesion without leaving a chance for adhesions to develop. Side-to-side enterorrhaphy is useful when the fistula is in the large intestine, especially when the cecum is involved. For the small intestine it should be used only when the fistula is very small and there is no spur, or when enterectomy is impracticable.

35. **Chloroform Lesions of the Liver.**—Weill and Vignard have encountered a series of fatalities after operations for appendicitis which they ascribe to the injurious action of the chloroform on the liver. The disturbances did not develop until the first or second day after the operation, but then the patients showed signs of extreme and progressive weakness, sometimes accompanied by jaundice and blackish vomiting. The patients all succumbed in two or three days and extremely severe lesions were discovered in the liver in every instance. The lesions of peritonitis could never cause such fulminating toxic accidents, and there were no signs of inflammation of the liver, merely a total cellular necrosis with the aspect observed in pernicious jaundice. Recent research has confirmed the extreme sensitiveness of the liver to the action of chloroform; Guréel has recently demonstrated that chloroform anesthesia is capable of inducing in man the syndrome of pernicious jaundice. A large proportion of the

fatalities occurring two or three days after an operation are probably due to this cause, particularly in cases in which the trauma of the operation and the loss of blood were too slight to explain the fatal outcome. The fatalities have generally hitherto been ascribed to the extreme toxicity of the appendicitis. The authors ask in conclusion whether such fatalities have been observed when ether was used or in the absence of surgical intervention, believing that the answer will be negative in both cases.

36. **Perineal and Suprapubic Prostatectomy.**—Rochet and Salinier have been collecting statistics for comparative estimation of the advantages of the high and low route. The mortality was 71, that is, 8.7 per cent. in 819 cases in which perineal prostatectomy was done, while it was 10.9 per cent. in 748 cases of transvesical prostatectomy. On the whole, they conclude, the perineal operation seems to be less serious than the suprapubic; there is less shock and the facilities for drainage are better. On the other hand, if the conditions are not very grave and the general health is good and there are no signs of infection, the transvesical operation is no more serious than the perineal technic while it has the advantage of being shorter; the wound can be kept clean better, and there is no danger of injuring the rectum. The transvesical technic in the hands of most surgeons has profited by the experiences obtained with the perineal.

37. **Hypertrophic Tuberculosis of the Appendix.**—Gayet has found on record fifteen cases of a tuberculous process in the appendix causing hypertrophy. The process is identical with that which develops in other parts of the bowel. The symptoms form a combination of those of appendicitis, tuberculous peritonitis and enteritis. There are generally tuberculous antecedents, chronic diarrhea and emaciation. Prompt appendicectomy may prevent generalization of the process and be followed by a complete cure. A case is illustrated and fourteen articles on the subject are reviewed.

38. **Resection of Joints Supplemented by Mosetig Filling.**—Vignard and Gruber give an illustrated description of thirteen cases and analyze the various indications and technic for the shoulders, knee, elbow, etc. Their experience has been most encouraging with the Mosetig-Moorhof method of filling up the cavity left after resection of a tuberculous joint. They regard it as a most important improvement in the technic of resection. By doing away with the necessity for drainage, and thus the danger of secondary infection, it hastens the healing after operations on tuberculous joints. The filling method is particularly useful with resection of the shoulder, wrist, hip and ankle, and is also valuable with resection of the knee or smaller joints by filling up the small cavities resulting from the curetting of the focus. The filling acts like a dressing and a local medication, while preventing too abundant discharge. It effectually takes the place of the older method of wicks. The authors followed the Mosetig technic strictly except that they had the filling semifluid and found it wiser to fill up the cavities at two sittings. By this method the dressings are reduced to a minimum and thus do not present a constant danger of infection. The long interval between renewals of the dressings allows the patients to have the benefit of country air in the interim and they can be sent into the country in a few days after the operation. Healing proceeds much more rapidly than under other conditions.

Presse Médicale, Paris

December 26, XVI, No. 104, pp. 841-848

39 Expulsion of Empty Membranous Sac a Sign of Extrauterine Pregnancy. (Expulsion d'une caduque toujours signe d'une grossesse ectopique.) S. Remy.
40 Hydrotherapy for Arteriosclerosis. A. Martinet.

December 30, No. 105, pp. 849-856

41 *Abdominal Myomectomy. S. Pozzi.
42 Paraguay Tea. (Le maté.) J. Lesage.

41. **Abdominal Myomectomy.**—Pozzi describes a few typical cases showing the advantages of myomectomy, rather than hysterectomy, for young women if the tumor is not larger than the fist and does not project into the cavity of the uterus and if the tubes and ovaries are sound. It is also advisable if there are even two or three tumors if they can be readily enucleated. Myomectomy is also advisable for elder women if the growth is single and the genital apparatus is otherwise sound. He advises myomectomy as a preventive measure whenever the abdomen is opened for any cause, even if the nodules are still symptomless. The indications are about the same whether the woman is pregnant or not. In one case related a subperitoneal sessile growth was removed by an abdominal operation from the uterus over two months pregnant. The patient complained of intense pain but concealed the fact of the pregnancy and evidently exaggerated the pains. He was careful to avoid traction or manipulation of the gravid uterus, cutting out the myoma, and the pregnancy continued undisturbed. He says that he would not have operated in this case if he had suspected the pregnancy, but that the successful outcome is all the more interesting. The woman aborted at the sixth month but this was more or less voluntary, and he does not think that the operation was in any way responsible. In another case a large fibromyoma outside of the uterus, in the region of the promontory, interfering with the development of the uterus three and a half months' pregnant, was successfully removed without influencing the gestation.

Semaine Médicale, Paris

January 6, XXIX, No. 1, pp. 1-12

43 *Dismemberment of the Traditional Hysteria. (Démembrement de l'hystérie traditionelle: Pithiatisme.) J. Babinski.

43. This subject was discussed in The Journal, Aug. 8, 1908, p. 537, and Sept. 12, 1908, p. 929.

Berliner klinische Wochenschrift

December 21, XLV, No. 51, pp. 2257-2292

44 Classification of Symptomatic Psychoses. K. Bonhoeffer.
45 The Cachexia Reaction, Especially in Cancer Patients. L. Brieger and J. Trebing.
46 Diagnosis of Carcinomatous Meningitis. E. Stadelmann.
47 Experimental Treatment of Trypanosomiasis in Rats with New Arsenic Compound; Resulting Blindness. H. Wendelstadt.
48 Scarlet Fever and Serodiagnosis of Syphilis. (Scharlach und Serumreaktion auf Syphilis.) C. Bruck and L. Cohn.
49 Pleuritic Adhesions and Their Treatment with Thiosinamin. (Pleuritische Schwarten und ihre Behandlung mit Fribrolysin.) Schnetgen.
50 *Results of Treatment of Tuberculosis with Kuhn's Lung Suction Mask. (Ergebnisse der Behandlung der Lungentuberkulose mit Kuhn'schen Lungensaugmaske.) A. Vehling.

December 28, No. 52, pp. 2293-2320

51 Treatment of Pernicious Anemia. G. Klemperer.
52 Relations of Spirochetes with Mouse Cancer. (Die Beziehung von Spirochaeten zum Krebs der Mäuse.) H. R. Gaylord (Buffalo).
53 Functional Cure of Postoperative Serratus Paralysis. M Katzenstein.
54 Agglutination of Paratyphoid Bacilli in True Typhoid. J Thies.
55 Blood Findings in Children at the Seaside. (Blutbefunde a der Nordsee.) Häberlin.

50. **Experiences with the Lung Suction Mask in Pulmonar Tuberculosis.**—Vehling reports a number of cases treated wit Kuhn's mask at the Edmundsthal sanatorium. The result encourage its further use, although it did not display an marked curative action, especially in the cases rebellious t other measures. The mask has an encouraging effect on th patients, while it aids in teaching better methods of respiration, with other advantages. He advises its use for a yea for anemic patients suspected of tuberculosis, as an adjuvan to iron. Also as a prophylactic measure for the narrow chested predisposed, and for patients requiring sanatori treatment but unable to obtain it. The mask impedes i spiration somewhat while allowing free expiration. Kuhn attention was attracted to the hyperemia constant in t lungs during suffocation, and he devised the mask to produ this same result. The predisposition of the apices to tube culosis is partly the result of the defective circulation a ventilation in this region, and he aims to combat this by t mask, which imposes the necessity for more vigorous mu cular action, while at the same time the lungs are not call on for such extensive excursions. The heart benefits by t increased aspiration of blood into the lungs, thus promoti the venous circulation. The fifteen patients who used t mask said that it gave them great subjective relief, and t neutrophile blood picture showed distinct improvement.

Correspondenz-Blatt für Schweizer Aerzte, Basle

December 1, XXXVIII, No. 23, pp. 745-784

56 *Primary Operative and Ultimate Results in 80 Cases of Abdominal Total Hysterectomy for Myoma. M. Walthard.
57 *Venesection. (Aderlass.) K. Kottmann. Commenced in No. 22.

December 15, No. 24, pp. 785-816

58 *General Anesthesia by the Rectum. (Die Rektalnarkose.) F. Dumont.
59 *Pubiotomy and Artificial Premature Delivery. (Hebosteotomie und künstliche Frühgeburt.) A. Schläfli.
60 Typical Dislocation of the Fragments in Torsion Fracture of the Leg. (Typische nachträgliche Dislokation der Fragmente bei den Torsionsfrakturen des Unterschenkels.) E. D. Schumacher.

56. **Remote Effects of Hysterectomy for Myoma.**—Walthard ports the results of recent examination of 80 women after longer or shorter interval since abdominal hysterectomy r myoma in the uterus. The favorable findings in this ider experience confirm the conclusions of his previous com- unication on the same subject, summarized in THE JOURNAL, ay 30, 1908, page 1872.

57. **Venesection.**—Kottmann extols the advantages of ven- ction in uremia, eclampsia and other intoxications, d in anemia and chlorosis. In uremia the venesec- n removes part of the toxins and relieves the brain of almost invariable local edema while also withdrawing ne of the toxins there accumulated. The brain cells in mia are liable to retain waste products and salt and these y in turn attract water, this effect promoted by nephritic ury of the blood vessels, including those in the brain. is explains the marked and almost instantaneous relief erienced from venesection in uremia, even when the ma in the brain is still clinically latent. It also explains y it is wrong to follow the venesection with infusion of siologic salt solution which in its turn may induce new ury of the brain. Venesection is especially useful in ampsia when it accompanies delivery. If the delivery ceeds without loss of blood it should be supplemented by esection, but as a rule enough blood escapes to answer desired purpose. Venesection is also useful in carbon noxid and other accidental poisonings. It is rarely re- red in chlorosis but in the obstinate cases it may prove ful to whip up the torpid blood-producing apparatus. In nicious anemia he has found the total amount of blood re- ed to one-nineteenth or one-twenty-third of the total ght, while the normal figure is one-twelfth. Even under se conditions he would not shrink from venesection as a resort, thinking that possibly saline infusion might prove ally useful as a stimulant for new blood production. As a , 450 c.c. of blood is a large amount to be withdrawn by esection, 250 c.c. a moderate and 100 c.c. a very small unt. He prefers to use an infusion needle connected by a ber tube with a graduated receptacle. Baccelli thinks ; in nephritis better results are obtained by opening a in the foot, but the elbow is generally the preferred site.

. **General Anesthesia by the Rectum.**—Dumont reports en- aging results from administration of the anesthetic by rectum for operations on the head and throat. This es the field of operation entirely clear for the surgeon the rectal route is not advisable when it is a question of ations elsewhere. The main points in this rectal technic to prepare the bowel for the anesthetic and to ensure that the fumes—not a droplet of fluid—find their way into rectum. He used ether, an interposed glass sphere in connecting tube collecting the condensing droplets as the s of the ether rise from the graduated jar, set inside uter jar filled with warm water. The simple apparatus ustrated and described. He advises giving the anesthetic sual and, when the operation commences, to continue the thetization by inserting the olive-tipped glass tube in the m and allowing the ether fumes to enter as the patient s signs of rousing. To avoid reaction on the part of the tines, fifteen drops of tincture of opium are given just e the operation. The pulse and respiration were even tranquil in his experience with four cases, and no symp- were observed on the part of the bowels except in the case before the present technic had been adopted. Those have tried to popularize the rectal method have failed by attempting to use it for all kinds of operations. Its true field is for operations on the head and throat, as a supplement to the ordinary technic.

59. **Pubiotomy Versus Artificial Premature Delivery.**—This article presents the balance-sheet of 664 pubiotomies done by various surgeons; the list of mishaps is a long one. Two of the women succumbed to hemorrhage from the wound, and the total mortality was ..95 per cent. for mothers and 9.6 for children. Complete incontinence of urine is the present fate of 4.17 per cent. of 120 of the women recently examined.

Deutsche medizinische Wochenschrift, Berlin

December 31, XXXIV, No. 53, pp. 2297-2328

61 *Treatment of Bronchial Asthma. G. Treupel.
62 *Objective Determination of Subjective Peripheral Nervous Disturbances. Cornelius.
63 Treatment of Severe Spastic Paralysis. (Behandlung schwerer Kinder-Lahmungen.) E. Mayer.
64 Determination of Traces of Blood with the Benzidin Test in Criminal Cases. (Nachweis von Blutspuren mittels der Benzidinprobe in forensischer Beziehung.) A. Ascarelli.
65 Alimentary Value and Utilization of Raw and Soft-Boiled Eggs. (Nährwert und Ausnützung roher und weichgekochter Hühnereier.) S. Aufrecht and F. Simon.
66 Treatment of Nevus with Carbon Dioxid Snow. (Behandlung der Naevi mit Kohlensäureschnee.) A. Strauss.
67 Safe Arrangement for Roentgen-Ray Examination in Daylight. (Röntgendurchleuchtungen bei Tageslicht unter vollkommenem Strahlenschütz für Arzt und Patienten.) F. Davidsohn.

61. **Treatment of Asthma.**—Treupel regards asthma as a special form of neurasthenia, and believes that it can be effectually cured by impressing the fact of its curability on the patient and obtaining his cooperation. The main point is to influence and control the dread of suffocation and to regulate the breathing. The latter is accomplished by various exercises training the patient to breathe deep with a slow inspiration, at the same time raising the arms over the head and then, during expiration, applying the hands to the front and sides of the chest, squeezing the walls together to aid in expelling the last traces of air. These exercises or their equivalents should be repeated once or twice a day for fifteen minutes. Electric light sweat baths and potassium or sodium iodid have proved very useful in his experience when applied during the intervals between attacks. Sedatives may be useful in the acute attack but should be used only in emergencies. Exercises and hydrotherapy with a transient change to a more favorable climate, the seashore or mountains, are important adjuvants. He adds that the treatment of bronchial asthma is a grateful but by no means an easy task; success requires much skill, a determined will and perseverance.

62. **Objective Evidence of Subjective Nervous Disturbances.**—Cornelius describes a method with which it is possible to obtain objective evidence of peripheral subjective disturbances. He places his hand on the part of the body alleged to be the seat of pain, and works his second or third finger down into the tissues. When it reaches the seat of true pain this "nerve point massage" elicits a response in the form of a muscular reaction. The muscle becomes taut, generally a small round, hard contraction of the muscle. Passing on beyond the seat of the pain the muscles are normally soft. This spontaneous response is never missed in case of actual pain. When this form of massage is applied to the brow, skull or back of the neck, the muscles in the back of the neck stiffen perceptibly. Goose flesh may also be observed and a pungent odor from the body. These measures require considerable skill on the part of the examiner, a year's practice being usually necessary to render him certain in his estimate. This "nerve point massage" may also be useful in treatment.

Medizinische Klinik, Berlin

December 20, IV, No. 51, pp. 1937-1972

68 Acute Affections of Upper Air Passages. (Die akuten Erkrankungen der oberen Luftwege.) Frese.
69 Trichophyton Fungi. (Die Trichophytien.) B. Bloch.
70 Brown Pigmentation of Cornea by Chromin. (Braunfärbung der Hornhaut durch Chrom.) F. Bayer.
71 *Diagnosis of Duodenal Ulcer. (Zur Diagnose des Duodenalgeschwüres.) v. Sohlern.
72 Massage and Treatment with Superheated Air. (Massage und Heissluftbehandlung.) F. Kirchberg.
73 Hereditary Familial Affection of Central Nervous System. (Weitere Mitteilungen über eine eigenartige hereditär-familiäre Erkrankung des Zentralnervensystems.) Merzbacher.
74 Traumatic Neuroses and Accident Insurance. W. Ewald.

December 27, No. 52, pp. 1973-1992

75 Malformation as Cause of Uncontrollable Hemorrhage in the New-Born. (Missbildung als Ursache unstillbarer Blutnug beim Nengeborenen.) A. Würtz.
76 *Nervous Pains and Treatment by Hypnotic Suggestion. (Nervöse Schmerzen.) H. Delius.
77 Occlusion of Superior Mesenteric Artery. (Zur Diagnose der Infarzierung des Darmes infolge Verschlusses der Arteria mesenterica superior.) K. Radonicic.
78 *Spastic Constipation and "Fragmented Stools." (Zur Diagnose der spastischen Obstipation und über das Wesen der fragmentären Stuhlentleerung.) J. Kretschmer.

71. **Glycosuria in Diagnosis of Duodenal Ulcer.**—Sohlern comments on the fact which seems to be established that about one-fifth of the cases of duodenal ulcer develop without symptoms although investigation for "occult" blood will sometimes reveal it in dubious cases. Duodenal ulcer has been observed in infants and in children, but in the majority of cases the patients are between 30 and 40 and generally males. There seems to be some promise in the recent suggestion by Fuld and Katzenstein that as injury of the epithelium reduces the production of antiferments, thus depriving the epithelium of their neutralizing protection, it might be possible to supply from without antipepsin and antitrypsin as a substitute for the lacking ferment production. As an aid for early differentiation of duodenal ulcer Sohlern calls attention to the glycosuria observed in a case which he reports in detail. The glycosuria ranged between 0.2 and 0.4 per cent. during the three or four weeks the ulcer was at its height, and then subsided. There was nothing to suggest diabetes in the past history of the case and there has been no glycosuria since the healing of the ulcer under treatment as for a gastric ulcer. The diagnosis was anacid gastritis and duodenal ulcer; there was nothing to suggest tuberculosis. In conclusion Sohlern reviews recent experimental research in which glycosuria was observed as a result of irritation of the duodenum. Eichler has reported unusually intense glycosuria in dogs after irritation of the duodenum, especially irritation of the duodenum with caustic soda. Gaultier has also reported glycosuria persisting till death in a dog with duodenal ulcer. The duodenum seems to be particularly liable to react to irritation by inducing glycosuria. Zak has reported two cases in man after irritation of the duodenum, but as other parts were involved these findings are not so conclusive as the personal case reported in which the glycosuria appeared and disappeared with the duodenal ulcer.

76. **Nervous Pains and Their Treatment by Hypnotic Suggestion.**—Delius assumes that pain from a long-continued organic affection finally induces hyperexcitability in the connected neurons which in turn leads to more intense perception of the pain than is justified by the affection responsible for it. In certain overexcitable individuals the pain may persist from this cause even after the causal organic affection has subsided. He believes that this is especially liable to be the case after a trauma; the pain persists although the traumatic injury has healed. Over-anxious self-observation is also liable to induce pain when under other conditions no pain would be perceived from the sensations in the various organs. In hysteria the neurons are supersensitive to begin with. In all these conditions the trouble is more an illusion of pain than actual pain, and in such cases psychic treatment is peculiarly effectual. The bilateral symmetric or alternating character of the pain speaks for a psychic origin, but the pain may occur on one side only. Pain restricted to a certain section of the body is also suspicious, especially what he calls psychalgia of the arm. He has been successful in treating these conditions with suggestion or hypnosis, as also sciatica, cardialgia, migraine, headache, etc., and dysmenorrhea. He says that in hundreds of cases he has abolished the pains of menstruation by hypnotic suggestion, and states that it is thus possible to insure normal menses and to cure a tendency to painful periods, with excessive or insufficient, too frequent or too tardy menses, excessive climacteric hemorrhages, and also amenorrhea. He has found it possible by suggestion to prevent the development of pain in minor operations and at childbirths. The aim is to reduce the sensitiveness of the neuron complex involved so that in future neither irritation from the periphery nor associations connected with it are able to elicit the response of pain in the neuron complex. At first he tries to attenuate or inhibit the pain completely, but only transiently; he succeeds in proportion to the suggestibility of the patient and the depth of the hypnosis. Success in this wins the patient's confidence, that is, powerful associations in the right direction are thus forged. As the supersensitive neuron is thus left more and more at peace from the former crowding emotional associations, it gradually becomes tranquilized, the sensibility subsides and the illusions or hallucinations of pain disappear. The patients are taught to realize that worry over the pain is an important factor in its maintenance. If possible to realize profound hypnosis, the aim is reached easier and better as in this state the capacity for accepting foreign ideas is magnified. For this reason he advises hypnosis for all appropriate cases not reserving it for those refractory to all other measures. Even hypnosis is liable to fail in these rebellious cases.

78. **Spastic Constipation and Fragmentary Stools.**—Kretschmer reports half a dozen cases; the patients were men leading sedentary lives, all with more or less neurasthenia and inclined to worry. In some cases the fragmented stools alternated with the spastic constipation. He is inclined to ascribe the condition to excessive muscular action on the part of the bowel in response to the stimulus from the feces. The muscles contract more energetically than is the case in normal individuals, out of all proportion to the stimuli. Treatment should aim to reduce the nervous hyperexcitability of the intestine and the amount of excitation, having the food as free from cellulose and waste as possible. Hot sitz baths may also be found useful, with oil or other enemas and belladonna in suppositories.

Münchener medizinische Wochenschrift

December 22, LV, No. 51, pp. 2651-2698

79 *Antiferment and Ferment Treatment of Suppurative Proc esses. (Neue Heilbestrebungen in der Behandlung eitrige Prozesse.) H. Kolaczek.
80 *Importance of Examination of Blood for Surgical Diagnosis (Bedeutung der Blutuntersuchung für die chirurgische Di agnostik.) E. Fabian.
81 Senile Anesthesias. H. Ehret.
82 Varying Action of Arsenic During Muscular Work and Re pose. (Verschiedene Arsenwirkung bei Muskelarbeit un bei Muskelruhe.) M. Riehl.
83 Successful Treatment of Severe Infantile Spastic Paralysis (Erfolge in der Behandlung schwerer Kinderlähmungen. O. Vulpius.
84 Thorium Oxid as Adjuvant and Partial Substitute for Bismut in Roentgen-Ray Examination of Digestive Tract. (Di Thorerde, Thorium oxydatum anhydricum, in der Röntge ologie des menschlichen Magendarmkanals.) C. Kaestle.
85 Relics of Rachitis in Adult Thorax. E. Ebstein.
86 *Asthma and Stuttering, Two Closely Allied Neuroses. (Asthm und Stottern.) H. E. Knopf.
87 *Calcium Chlorid as Preventive for Serum Sickness. (Chlorka zium gegen die Serumkrankheit.) J. Gewin.
88 Frequency and Conditions of Seminal Emissions in Healt (Häufigkeit und Bedingtheit der Pollutionen beim gesund Manne.) J. K. Friedjung.
89 *Renal Decapsulation in Eclampsia. (Nierendekapsulation b Eklampsie.) Gminder.
90 Cervical Ribs. (Halsrippen.) Schäfer.
91 The Eye and Accident Insurance. (Invalidität und Auge E. Cramer.
92 Portable Operating Table. (Operationstisch für geburtsh fliche und gynäkologische Eingriffe in der Praxis.) Mang
93 Embryology and Treatment of Enterocele. (Zur Entst hungsgeschichte und Behandlung der Eingeweidebrüche W. Koch. Commenced in No. 49.

79. **Local Treatment of Suppurative Processes Along Ne Lines.**—When iodoform is injected into a tuberculous proce it attracts leucocytes to the spot and they bring with the the ferments which promote healing. The new treatme aims to supply these ferments directly from without, th doing away with the necessity for the intermediation of t iodoform or other drugs. In non-tuberculous lesions the fe ments frequently accumulate in excessive amounts, so that abscess results. The ferments accumulating in excessi amounts in the abscess destroy the tissues in a constant widening circle, the absorption of the toxins from the dec ing masses poisoning the organism with resulting sep fever and its sequels of increased destruction of album etc. By evacuating the abscess and supplying from with the lacking anti-ferment and filling the abscess cavity w it, the destructive action of the ferment is arrested as it comes neutralized by the antiferment; toxins are no lon

formed at the spot and absorbed and the path is cleared for the vital action of the phagocytes in the lesion, no longer hampered by the dead weight of the pus. The antiferment used in this new treatment has been that found naturally in human blood serum, transudates and exudates; the effusion in ascites and hydroceles has been the main supply to date, and interesting results have been reported by Jochmann, Müller and others. Kolaczek describes ten cases in which this treatment has been applied at von Bruns' clinic, at Tübingen, after extensive experimental research, and with encouraging results, although the indications for it and the technic have not yet been perfected. The blood serum of animals has comparatively little antiferment, and consequently it has been passed over and only human material used, but Kolaczek has found that animal serum can be condensed by vacuum distillation until the residue contains four times as much antiferment as natural human serum. In order to obtain it in still more concentrated form he increases the production of antiferment in the animal to be slaughtered by preliminary subcutaneous injection of a ferment solution. The new treatment therefore includes evacuation of the abscess by puncture and aspiration—no incision is required; the cavity is then rinsed out with the antiferment serum and it is then filled again with the serum which is allowed to remain. The extraneous ferment or antiferment must come into direct contact with the walls of the cavity to be effectual. This procedure is repeated from one to three times. The antiferment content of the fluid is tested with a solution of trypsin, the usual "antiproteolytic" test.

80. **Examination of the Blood for Surgical Diagnosis.**—Fabian discusses whether it is possible that affections of the blood or lymph producing apparatus are ever strictly localized at first or are general from the start. If localized, it may be possible by extirpating the primary focus to arrest the affection in its incipiency. He reports four cases to start the ball rolling. In the first a large lymphoma in the neck was accompanied by a relative 70 per cent. lymphocytosis, with 3 per cent. large lymphocytes—Rieder's cells. Three days after excision of the lymphoma the blood picture had become approximately normal, the lymphocytosis dropping to 35 per cent., showing that the lymphoma must have been the main source of their production. The blood picture remained approximately normal when examined ten days later. Another tumor became evident by the sixth week, and the blood picture showed again the high relative lymphocytosis. In three other cases the wavering diagnosis was settled by the morphologic blood picture, but the multiplicity of the lesions when first seen excluded the possibility of successful surgical intervention. Instructive information might also be derived from the morphologic blood picture in echinococcus affections.

86. **Asthma and Stuttering.**—Knopf has noticed that these two neuroses are never encountered in the same person, and thinks that this is because the patient's attention is so completely taken up with the one that there is no room in his consciousness for another neurosis of coordination. He has treated over 200 patients with asthma or the habit of stuttering, and describes how he trains the patients to detect the incorrect elements in their mode of speaking or breathing, and to correct them, substituting the correct movements of the muscles involved. They are then shown how to speak or breathe correctly, and the general neuropathic tendency is treated. As the patients note the differences and learn how to use their muscles correctly in speaking or breathing, they gain confidence in themselves and lose their nervous dread, and the neurosis is cured. It is noticeable that the asthmatic seldom speak correctly while the stutterers seldom breathe properly.

87. **Calcium Chlorid for Prevention of Serum Disturbances.**—Gewin states that every alternate patient in a series of 200 was given calcium chlorid by the mouth when diphtheria antitoxin was injected. The results confirmed the efficacy of calcium chlorid in prevention of serum sickness, or at least in attenuating it, so that the drug is now given as a routine measure in every case. The dose was 1 gm. (15 grains) for the larger dose of serum and half this with the small doses.

89. **Renal Decapsulation in Eclampsia.**—Gminder's patient was a healthy young primipara who developed eclampsia a few hours after normal childbirth. Decapsulation of both kidneys was done after failure of other measures. The kidneys were soft and were easily decapsulated, but no benefit was observed, and the patient succumbed in coma. It is possible, he thinks, that the soft kidney may be the severer stage of which the "glaucoma" kidney is the first phase, which might explain the better results with the latter.

Therapeutische Monatshefte, Berlin

January, XXIII, No. 1, pp. 1-64

94 *Diphtheria Toxin and Antitoxin. J. Morgenroth.
95 Importance of Opsonins, Especially in Diagnosis and Treatment of Tuberculosis. H. Lüthje.
96 *Antifat Diet. (Ueber Entfettungsdiät.) H. Strauss.
97 Potassium Iodid in Actinomycosis. B. Galli-Valerio and G. Rochaz.
98 Are the Strophanthins on the Market of Equal Pharmacologic Value? A. Heffter.
99 *Pharmacology and Experimental Therapy. R. Gottlieb.

94. **Diphtheria and Antitoxin.**—Morgenroth reviews recent research which throws light on the mechanism of the action of antitoxin and suggests how to get the greatest advantage from it. He says that all the German antitoxin is now tested for the presence of tetanus germs, as Madsen has recently reported that the serum of a horse five days before the outbreak of severe tetanus was found to contain so much tetanus toxin that 4 c.c. caused fatal tetanus in the guinea-pig. The presence of tetanus germs in the antitoxin, therefore, is not always due to contamination from without. Other research lately has also shown that, contrary to the previously accepted opinion, antitoxin combines with the toxin only gradually, not rapidly; the conditions are thus more favorable the larger the amount of antitoxin injected at first. It has also been established that the antitoxin is absorbed after subcutaneous injection with surprising slowness. Two or three days are required for its total absorption and even then only a fraction of the amount injected finds its way into the blood. Intravenous injection does away with all this at one stroke and should be the rule in severe cases. The desiccated antitoxin does not contain any antiseptic, and it might be dissolved and used for the purpose, he says, if carefully filtered. The intravenous route is not popular in Germany for any drugs, but Fraenkel's recent reports of his success with strophanthin injected into a vein may turn the tide in its favor. Intramuscular injections are absorbed much earlier and more perfectly than the subcutaneous. Morgenroth's researches have confirmed this and Neisser states that he has obtained much better results from the antitoxin when it was injected into the gluteal or other muscle. Morgenroth asserts further that when the blood contains much salt, the toxin does not combine with the antitoxin, which is also the case when the blood or other vehicle gives an acid reaction. In the test tube, the toxin separated again from the antitoxin when the solution was made acid. This separation of the toxin from the antitoxin may be the explanation of the post-diphtheria paralysis. It also suggests that it may be possible to promote the curative process by administering some other substances, not specific in themselves, but which may loosen up the toxin bound by the protoplasm and allow its extraction and neutralization by the antitoxin. His experiments so far have resulted only in an aggravation of the toxicity; for example, the addition of a solution of pyocyanase to the solution of diphtheria toxin materially enhanced its toxicity for the guinea-pig. It may be possible, however, to discover some substances that will have an opposite effect.

96. **The Diet in Obesity.**—Strauss devotes over two pages to a table of the different articles of food in respect to their calories per 100 gm. and the number of grams of the substance necessary to contain 100 calories. It is possible to select from his long list articles of food which will give a diversified menu while the patient loses weight without feeling the restrictions, as appetite is satisfied. He insists that the stomach should never be left long empty; frequent small meals should be the rule and alcohol avoided entirely. Vegetables, eggs (without the yolks), milk and cheese will

satisfy and prove useful when the obesity is complicated with nephritis, gout, stones in the urinary system or arteriosclerosis. The Karell "milk cure" is such pronounced underfeeding that it can not be kept up long, but it has given good service in his hands. In a recent case of contracted kidney with cardiac insufficiency and obesity but no dropsy, the patient lost 14 of his 206 pounds in one week. But merely by selecting such foods as contain few calories, he has found the weight decline evenly by about 4 pounds a week in ordinary obesity.

99. **Pharmacology and Experimental Therapy.**—Gottlieb defines pharmacology as the study of the changes which the vital processes undergo in the healthy and diseased organism under the influence of chemical substances. He expatiates on the intimate relations between pharmacology, experimental therapy, and the research on immunity, and states that every medical school should have a chair of pharmacology in which the lectures should be delivered in turn by specialists in these three branches. The training of physicians to think physiologically should be the chief aim. Pharmacology, he adds, has always suffered from lack of adequate means and equipment for its work, but even with these drawbacks it has accomplished much. He cites a number of instances to show the way in which the cooperation of the various branches has led to therapeutic discoveries, such as the warding off of diabetic coma by an alkali.

Therapie der Gegenwart, Berlin

January, L, No. 1, pp. 1-72

100 Fifty Years of Internal Medicine. (Fünfzig Jahre innerer Therapie.) E. von Leyden.
101 Fifty Years of Neurology. (Fünfzig Jahre Nervenheilkunde.) W. Erb.
102 Fifty Years of Surgical Work. (Fünfzig Jahre chirurgischer Arbeit.) F. König.
103 Fifty Years of Gynecology. W. A. Freund.
104 Fifty Years of Obstetrics. (Fünfzig Jahre Geburtshülfe.) A. Hegar.
105 Importance and Treatment of Affections of Ovaries and Fallopian Tubes. E. Bumm.
106 Efficacy of Roentgen-Ray Treatment of Venereal Ulcers. A. Buschke.

Virchow's Archiv, Berlin

December, CXCIV, No. 3, pp. 369-567

107 Phenomena Occurring when Air and Gas Get into Bone Tissue. (Ueber die bei der Luft- und Gasfüllung des Knochengewebes auftretenden Phänomene und ihre Deutung, insbesondere über die sogenannten "Gitterfiguren.") G. Axhausen.
108 Occurrence of Glycogen in Nuclei of Liver Cells. (Vorkommen von Glykogen in den Kernen von Leberzellen.) J. Karamitsas.
109 Sarcomatous Tumors of the Esophagus. (Sarkomatöse Geschwülste der Speiseröhre.) K. Donath.
110 Angioma of the Spleen. (Untersuchungen eines Angiomes der Milz.) E. v. Benckendorff.
111 *Research on Secretion of Mucus in the Intestine. (Schleimbildung im Darm.) A. Kaabak and A. Rosenschein.
112 Lipoid Degeneration. F. Munk.

111. **Excessive Production of Mucus in the Intestines.**—Kaabak and Rosenschein describe the results of research which demonstrate that mucus is produced in excessive amounts only at the point where there is local irritation. They found it impossible to induce production of excessive amounts of mucus by applying irritation at other points. Their findings confirm those of others in this line, and emphasize the necessity for assuming circumscribed local irritation as the cause of increased production of mucus in any stretch of the intestines or in the stomach. This points the way toward effectual prophylactic or therapeutic measures.

Wiener klinische Wochenschrift

December 17, XXI, No. 51, pp. 1765-1802

113 Clinical Importance of Serodiagnosis of Syphilis. (Die Wassermannsche Reaktion.) R. Bauer and G. Meier.
114 Isolation of Immune Body from Normal Serum. (Isolierung des Immunkörpers aus normalem Serum.) O. Bail and K. Tsuda.
115 Typical Findings in Sigmoidoscopy. (Ueber einen typischen romanoskopischen Befund.) G. Singer.
116 Cutaneous Affection in Relation to Acute Appendicitis. (Zur Aetiologie der akuten Appendizitis.) J. Boese.

December 24, No. 52, pp. 1803-1836

117 *New Mode of Access to Tumors in the Throat. (Neue Methode zur Freilegung der Tumoren im Rachen.) A. R. v. Rydygier, Jr.
118 Primary Sarcoma of the Pancreas. (Primäres Sarkom der Bauchspeicheldrüse.) A. v. Halasz.
119 Vaginal Amputation of Uterus. L. Wechsberg.
120 Treatment of Epispadias in Women. L. v. Mayersbach.
121 Tar Baths. (Neue Formel zur Bereitung von Teerbädern.) E. Spiegler.
122 Vaginal Douches with Carbonated Mineral Water. (Vaginalduschen mit kohlensäurereichem Mineralwasser.) M. Wickhoff.

117. **Improved Technic for Removing Tumors in the Throat.**—Rydygier reviews the details of twenty different methods and then describes another for which he claims superior advantages. An incision is made along the anterior margin of the sternocleidomastoid muscle, from the mastoid process to the sternum. Working from below upward, the vessels are exposed and the loose fat removed with the lymphatics. This enables the operator to work without fear of injuring the vessels. A second incision is then made from the center of the greater cornu of the hyoid bone on the sound side horizontally across to the first incision. This allows two large triangular flaps to be turned back, above and below, permitting remarkable access and oversight. He describes two difficult cases in which this technic was successfully applied for removal of malignant tumors.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 15, XXIX, No. 150, pp. 1613-1620

123 *Hemorrhagic Pancreatitis. A. Baduel.

December 17, No. 151, pp. 1621-1628

124 Recurring Aneurism of the Aorta. G. Radice.
125 *Alcoholism and Helminthiasis. G. Marchese de'Luna.

December 20, No. 152, pp. 1629-1644

126 New Forms of Grave Anemia. A. Rossi.

123. **Hemorrhagic Pancreatitis.**—The case reported shows that the pancreatitis may develop some time after an accident affecting the organ. In the case described there were no signs of trouble for eight days after the fall, but then symptoms developed suggesting perforation or ileus. The profound anemia, the intense pain and its localization, the blood in the vomit and stool, and the absence of signs of acute peritonitis are important signs of the "pancreatic drama." Expectant treatment is always dangerous.

125. **Alcoholism and Helminthiasis.**—Luna asserts from his experience at the Rome insane asylum that helminthiasis is able to induce mental and nervous symptoms similar to the action of alcohol, morphin or other poisons. He urges the importance of detecting and treating the helminthiasis as one of the first measures in all mental and nervous disturbances. Helminths were found in 50 per cent. of the 20 patients examined, and alcoholism in about equal proportions, coexisting in a few instances.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

OBSERVATIONS RELATING TO THE TRANSMISSION OF SLEEPING SICKNESS IN UGANDA; TO THE DISTRIBUTION AND BIONOMICS OF GLOSSINA PALPALIS; AND TO CLEARING MEASURES. By Aubrey D. P. Hodges, M.D., London, Principal Medical Officer, Uganda Protectorate. Paper. Pp. 28. London: Sleeping Sickness Bureau, Royal Society, Burlington House, W., 1909.

THE DIVISION OF SURGERY OF THE MEDICAL SCHOOL OF HARVARD UNIVERSITY. Report of Research Work, 1906-1908, December, 1908. Bulletin No. V. Paper. Pp. 52, with illustrations. Boston: Division of Surgery of the Medical School of Harvard University.

REPORT OF SPECIAL COMMISSION APPOINTED TO INVESTIGATE TUBERCULOSIS. State of Connecticut, Public Document. Commission Appointed by the General Assembly of 1907. H. J. Resolution No. 426. Paper. Pp. 86. Hartford: Published by the State.

MODERN HOSPITALS. By Christian R. Holmes, M.D., Advisory Commissioner to the New Cincinnati General Hospital. Paper. Pp. 22, with illustrations. Cincinnati: University of Cincinnati.

REQUIREMENTS FOR THE PRODUCTION OF CERTIFIED AND INSPECTED MILK. Paper. Pp. 12. Worcester, Mass.: Issued by the Medical Milk Commission, January, 1909.

BIENNIAL REPORT OF ST. AGNES' HOSPITAL [and St. Agnes' Hospital Training School for Nurses], PHILADELPHIA, 1906-7. Paper. Pp. 63, with illustrations. Philadelphia.

SIXTH ANNUAL REPORT OF THE SYDENHAM POSTGRADUATE COURSE AND HOSPITAL OF THE CITY OF NEW YORK. 1908. Paper. Pp. 8

TWENTY-SIXTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MISSOURI FOR 1908. Cloth. Pp. 67. Warrensburg, Mo.

SEVENTEENTH BIENNIAL REPORT OF STATE HOSPITAL NO. 2, ST JOSEPH, MO., 1907-1908. Paper. Pp. 75.

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Address

THERAPEUTIC PROGRESS *

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"The knowledge of simple druggs is a study so agreeable and so exalted in its own nature that it has been the pursuit of the finest genius's in all ages." Thus Monsieur Pomet, chief druggist to Louis XIV, opens he preface of his book, "The History of Druggs," which was published in 1694, and "done into English from he originals" in 1725. As he further assures us that ven princes have deigned to undertake such an agreeable study, I think that we may profitably spend a short ime in considering some phases of the history of ma-eria medica and therapeutics, and especially the changes hey underwent during the nineteenth century, together vith the factors which have tended to bring about the resent conditions. The term "materia medica" is very ncient, having been introduced by Pedarius Dios-orides (40-90 A. D.), the most important writer on harmacology of antiquity.

SURVEY OF THE HISTORY OF THERAPEUTICS AND MATERIA MEDICA

It is manifestly impossible in the short time at my isposal to attempt anything like a comprehensive his-ory of our materia medica; and even were it done it ould hardly be profitable, as a list of the remedies mployed by our ancestors would comprise substances ot only peculiar and even amusing in the light of ur present knowledge, but would include many dis-usting remedies as well. Their use can be understood nd appreciated only when studied in connection with he various theories of disease then prevailing; theories hich were formed under the influence of this specula-ive school of medicine or that and founded not on ob-rvation but on ignorance and superstition.

In considering the period we must clearly keep in ind the extent to which medical practice was handi-pped and the difficulties under which the early prac-tioner worked.

Let us imagine ourselves, if we can, to be suddenly eprived of the sciences which the nineteenth century ave us, such as pathology and bacteriology, and such iagnostic aids as the modern microscope, clinical ther-ometer and the stethoscope, together with all the nowledge of disease which has been gained by their id. Imagine all these gone and ourselves practicing n the last decade of the eighteenth century; who among s would dare to say that we would do better than our refathers did?

No, the physician of 1908 has no reason to be ashamed of the history of his profession. His forefathers worked with the same sincerity and with the same lofty aim in view that he does to-day, but they were hampered by a lack of that scientific knowledge which the man of to-day enjoys and which has been gained, not through his own efforts, but through the toil and thought of the men of old.

What, then, was the condition of materia medica and therapeutics at the end of the eighteenth century? This may be most clearly described by the word "overmedication." An immense variety of drugs were used and they were given in such large doses as not only to produce their physiologic effects, but, in many cases, toxic symptoms as well. The drugs which were in greatest favor, perhaps, were those which aided elimination, such as cathartics, emetics and diaphoretics. Still another method of treatment which had the same object in view was that of venesection. This was carried out to an enormous degree and in all sorts of pathologic conditions.

To illustrate the use of venesection, let me quote from a standard text-book of medicine in use at that time. Benjamin Rush, professor of institutes and practice of medicine and of clinical practice in the University of Pennsylvania, in 1809, published a volume of the works of Thomas Sydenham, the great English physician who lived in the seventeenth century. Dr. Rush revised this work so as to make it suitable for use in the medical schools of his own day. In discussing the treatment of pleurisy, Sydenham advised bleeding, ten ounces being taken on four successive days, adding that in grown persons he seldom found that it is necessary to take less than forty ounces of blood. Rush, in commenting, says that in the United States it is often necessary to take more than double the amount that Sydenham mentions. Other examples might be quoted from Sydenham's chapter on the treatment of quinsy and also of pneumonia.

This was, indeed, the age of heroic medicine. Small wonder that thinking persons were led to question whether the treatment did not kill more often than the disease, and that Addison wrote: "We may lay it down as an axiom that when a nation abounds in physicians it grows thin in people." And again he says: "I must confess for the good of my native country, I could wish there might be a suspension of physics for some years that our kingdom which has been so much exhausted by the wars might have leave to recruit itself."

What a change had taken place during those centuries which had transpired since the time that Pluto complained to Jupiter that Æsculapius was depopulating the world of shades by his wonderful success in the healing art!

When, however, we examine the materia medica of that period we are at once struck by the comparatively

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* Address delivered at the opening session of the Department of edicine and Surgery, Sept. 29, 1908.

small number of present-day drugs which were employed. If we attempt to sift out of the vast array of remedies only those which we to-day consider of importance, the number is not great. Most of the heavy metals are present, being represented by mercury, iron, arsenic, antimony and others and dating back to the dawn of medicine. From about the same period, and probably derived from Egyptian or Chinese medicine, we have opium and squills. Ipecac and cinchona are much more recent, dating from the seventeenth century, while digitalis, nux vomica and aconite appeared in the eighteenth. Belladonna was known mainly as a poison, being little used in medicine. Alcohol, of course, must not be forgotten, as in an impure form it was used from the earliest times, having, according to Milton, been given by the gods, as it was

> Bacchus that first from out the purple grape
> Crushed the sweet poison of misusèd wine.[1]

In 1400 a Benedictine monk obtained the alcohol almost free from water and it was sold by the apothecaries to prolong life and restore youth, under the name of "aqua vitæ." As Arnold of Villanova (1235 to 1312) said: "Mankind has grown old and has become feeble; therefore, God has given him this water of life that he may grow young again."

This short list of about a dozen drugs contains practically all of those which we to-day would consider in the first rank, but although our forefathers possessed so few of our important remedies (mixed in with the hundreds of others which we have discarded), they made the best of the few they had; cinchona was used by the pound; opium to seminarcosis; and calomel earned for itself the title "the Samson of the remedies," because, as some one pointed out, it had slain its thousands.

Largely as a result of this abuse of drugs there set in immediately after this period a reaction against this hypermedication and therapeutic interference. Among the many influences which aided in the purification of the therapeutic art may be mentioned, first of all, the universal growth in knowledge as shown by the great strides which were made along general scientific lines. But there are three factors to which I want especially to call your attention. First, in point of time came the introduction of homeopathy. There can be no doubt but that this school performed a great service to medicine in clearly demonstrating of what recuperative powers Nature is capable if she is not meddled with, and its influence went a long way toward emancipating medicine from the state of polypharmacy into which it had fallen. The second important factor was the development of pathologic histology, in that it gave us for the first time a definite idea of the nature of disease and of the morbid changes which the body undergoes. It may even be seriously questioned whether under its influence the pendulum did not swing too far in the other direction, as it tended to produce a loss of confidence in the healing power of medicines.

This nihilistic state of mind was still further accentuated under the influence of Skoda and his followers, who made diagnosis the chief aim in medicine. The whole object of the physician was diverted from therapeusis to diagnosis, so that the former became almost a subject of derision. Nevertheless, although pathology and the science of physical diagnosis induced a high degree of therapeutic nihilism, they performed a great service to therapeutics in ridding it of overmedication, in giving it a clearer idea of the changes produced by disease and, finally, in giving it a scientific basis on which to build and imparting scientific methods.

Any sketch of the therapeutics of the nineteenth century would lose one of its brightest chapters were not the triumphs of bacteriology mentioned. Its greatest gift, that of diphtheria antitoxin, by which the death rate due to that disease was lowered from 50 per cent. to less than 10 per cent., bids fair to be equaled, if not surpassed, by the new cerebrospinal fever serum, by which, according to the best reports, the mortality in that disease has been lowered from 85 per cent. to 25 per cent.

But during this time of therapeutic purification, what had become of the materia medica? The progress here was no less marked than in therapeutics. One of the most important advances was the isolation of the active principles from the crude drug—the first being that of morphin, which was isolated by Sertürner of Hanover in 1816. The separation of other active principles soon followed, the great advantage they possessed being that of accuracy of dosage and rapidity of action when administered by the hypodermic syringe, which latter method, however, was first recommended by A. Wood, of Edinburgh, in 1855.

Iodin, potassium iodid and the bromids were introduced in the first half of the century, but more important than all is the introduction of the anesthetics—ether, by Jackson and Morton in 1846, and chloroform, by Sir James Simpson in 1847. These anesthetics, together with the method of antisepsis by the use of carbolic acid, which was introduced by Lister in 1867, have completely revolutionized surgery and made possible the great advances which that branch of medicine has undergone.

Yet, even with the addition of the iodids and bromids Sir Lauder Burton has pointed out that as late as 1860 the practice of medicine was sadly hampered by the lac of reliable drugs. He says:

> We had no antiseptics; medicines for the relief of pain an sleeplessness were very few, opium (combined with tarta emetic if the fever was high), and I can remember how w watched to see if the new remedy, potassium bromid, woul have the desired effect; and we had no antipyretics.

What a change in the last forty years! Where hav all these new remedies come from and to whom are w indebted for them? In almost every case they hav come from the laboratory, and the manner in whic they have been introduced illustrates better than any thing else the advance of modern medicine.

As Cushny has pointed out, with one exception ever important drug which has been introduced into practic in the last forty years has come from the laboratori where its action was discovered by direct experiment work.

We owe our first modern soporific, "chloral," to Li breich, professor of pharmacology in Berlin, who, in th course of his experiments to determine whether a su stance is broken up into its constituent parts before it oxidized, injected trichloracetic acid and chloral in frogs and rabbits. He became interested in the slee producing action of chloral, and after further expe mental study it was introduced into therapeutics and to-day perhaps the most reliable hypnotic in use.

Baumann, professor of physiologic chemistry at Fr burg, and Kast, professor of special pathology and th apeutics at the University of Breslau, introduced s phonal as a hypnotic, and later Kast made a comparative study of trional and tetronal.

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[1] Comus, i. 47.

In 1881 Cervello, professor of pharmacology at Palermo, recommended paraldehyd as a soporific.

We had no antipyretic drugs except quinin and alcohol until 1874, when salicylic acid was discovered to possess antipyretic properties. In 1884 Filehne, who was then professor of pharmacology at Erlangen, introduced antipyrin, the first of our modern antipyretics. Acetanilid and acetphenetidinum appeared later. Coming to the local anesthetics, Von Anrep, in 1879, working in the pharmacologic laboratory at Würzburg, discovered that if cocain was injected subcutaneously the skin in its neighborhood became insensible to a pin rick. He recommended that it should be tried as a ocal anesthetic, but it was five years later that Koller, he ophthalmologist, made use of the discovery. Since hen eucain and several other bodies have been introduced as substitutes for cocain. Lauder Brunton, after demonstrating the high blood pressure which occurs during the attacks on angina pectoris, introduced in 867 as a remedy amyl nitrite, whose property of lowring pressure had been proved by the physiologist, amgee.

Brief mention is all that can be made of the two iuretics caffein and theobromin, which were introduced y Von Schroeder, professor of pharmacology in Heidelerg; also of hexamethylenamin (urotropin), physotigmin and pilocarpin, the latter being interesting as aving been introduced in 1874 from Brazil, where it as used to increase perspiration; we owe it, therefore, the clinicians. In 1894 Oliver and Shafer and Szymonowicz simultaneously discovered the action of exracts of the suprarenal gland, a discovery which has ad a tremendous influence in stimulating research ong these lines. Of special interest to us here in ichigan is acetozone, which is a product of the chemal and bacteriologic laboratories and also the drug now nown as chloretone, which was first studied in the harmacologic laboratory.

But the drug which illustrates perhaps better than ny other modern pharmacologic methods is strophanhus. Dr. Kirk, who was with the Livingstones on their ip to the Zambesi, one day placed his tooth-brush in e same pocket in which he had some poisoned arrows. hen using the tooth brush later he noticed a bitter ste, but imagined it was due to quinin which he had so had in his pocket. Very soon afterward the action poison was shown by a marked lowering in the rate the pulse. The arrows, which were brought back to ngland, were sent to T. R. Fraser, professor of materia dica in Edinburgh, who made an extended study of em, demonstrating that strophanthus contained a gluside acting in the same manner on the heart as digiis, and he introduced it into practice as a substitute r digitalis. It is very interesting to know that this ison had never been used in medicine before it was ommended by Fraser. The African natives themves had no idea of its therapeutic value, and when orts were made subsequently to get some of the drug Africans thought the Europeans wanted it to poison ir bullets.

Compare the manner of introduction of the drug just ntioned with that of some of the older therapeutic thods. Take, for example, the bromids, which were roduced about 1830. As they are closely related mically to the iodids, it was supposed that they would good in similar conditions and so they were used in syphilis, scrofula and goiter. They proved absolutely useless here, but during the time these trials were being made very large doses were given and it was noticed that they depressed the brain; it was not until about 1860 or 1865, however, that they began to be generally used either in epilepsy or as soporifics. Had they been subjected to careful examination in the laboratory, instead of mere speculative theory, before they were introduced into practice, the world would have had a good soporific drug thirty-five years earlier.

But what of the materia medica of the future? Along what lines may we expect development? It is possible that a closer scientific study of some of the older drugs which have been discarded may yield some material which will be valuable. As I have pointed out, however, synthetic chemistry has already contributed very largely and we may expect still more from the same source. We have learned from a study of allied chemical compounds the importance of the relation of chemical constitution to physiologic activity, and, further, that by altering the constitution slightly the physiologic action is also changed. By the application of this principle many important compounds have been discovered. I need only refer to one as an example: By the substitution of mandelic acid for tropic acid in the atropin molecule, we have homatropin, which possesses some great advantages over the parent substance.

A study of the fate of some of the chemical compounds in the body has yielded some brilliant results; for instance, anilin was converted into paramidophenol in the body, and this suggested that the latter might be the fever-reducing agent rather than the parent substance. A confirmation of this theory led to the introduction of compounds built up from amidophenol, and we have as a result acetanilid and acetphenetidinum.

An examination into the action of a large series of chemical substances in their relation to some pathogenic organism offers another field. Here may be mentioned the study of the arsenic compounds against the trypanosomes and also Ehrlich's study of hundreds of the color compounds against the same organisms.

As some one has pointed out, there is no reason why we should not confidently expect that some time there will be found chemical substances having the same specific action against the etiologic factors in the acute fevers that quinin possesses against the malarial organism.

A most inviting field is opened up by Starling's "hormones," the chemical substances which are formed in the body and by which the activity of associated organs is regulated. Those best known are the suprarenal extract, which has such an important relation to the sympathetic nervous system; secretin, by which the pancreas is stimulated to activity and the thyroid secretion in its effects on metabolism. There seems little doubt but that there are many other hormones existing in the body by which its various activities are regulated, and it is not at all unlikely that a further study of these will, as Starling says, "enable us to interfere at any desired phase in these functions and so acquire an absolute control over the workings of the human body."

THE COMPLEX CHARACTER OF THE PRESENT THERAPEUTIC SITUATION

These results, however, are to be attained by the most careful and patient study along the lines of physiologic and pathologic chemistry and only in that way. To illustrate the way by which scientific therapeutics is not to be advanced, let me cite a case which came under my notice about a month ago.

A prominent physician, in meditating over the subject of Bright's disease, decided that animals which eat their placentas do not suffer from the disease—which, by the way, is an incorrect observation. He, therefore, evolved the theory that the reason the human race is afflicted with the disease is that it loses certain ferments which are contained in the placenta. The remedy was immediately clear, and now all his nephritic patients are being treated with extract of human placenta. Under its influence he expects to get the urine so dilute that it will be nothing but water containing a small amount of phosphate, and then the kidney, being freed from irritating substances, can recover. I might add that patients are not told the nature of the remedy which is administered to them, so that any psychical effect it might have is excluded.

What advance is illustrated by such therapeutics over the time when sweat, bats, spiders and the moss from executed criminals' heads were employed as remedial agents! The case illustrates exactly the point at hand by showing the entire absence of those scientific studies which, as I have just pointed out, are absolutely essential to therapeutic progress.

In regard to therapeutics, a number of factors tend to make the situation very complex. In the first place, several schools have split off from regular medicine, taking with them some little atom of truth which they have so magnified that it shuts out from their view the great ocean of truth which stretches before them.

So we see the Christian Scientists, so called, emphasizing the influence of the mind over the body (a fact which every physician takes into consideration) and not only denying the power of medicine but even the reality of disease itself.

So, too, the osteopath bows down to the god of manipulation, although every physician utilizes massage in his practice whenever it is necessary.

It can not be denied, however, that such movements as these may exert a beneficial effect on medicine by calling attention to certain therapeutic measures which might otherwise be neglected.

More recently we have seen the development of the psychotherapeutic movement. Here, as Harrington has pointed out, we are supposed to be dealing with conditions in the patient due to influences acting primarily through the senses or secondarily through the imagination. But this is a physiologic process and religion is not concerned in it at all, as physicians from the earliest time have "been fully ordained to stimulate the highest and best energy inherent in their patients." The movement, both on account of its name, "the Emmanuel movement," and also because it is supposed to be endorsed by medicine and by theology, is doubly dangerous, and unless controlled with the greatest care will bring discredit on both medicine and the church.

Into the medical fold itself have crept evils which must be rooted out if the science of therapeutics is to progress. I refer here especially to the prescribing of proprietary preparations the composition of which is unknown; but so much has been written on the subject that I shall merely touch on it. It can not possibly be overlooked, as there are many here who in less than a year will go out to engage in the practice of medicine. No physician has a right to prescribe for his patient a medicine with the composition of which he is not familiar, and yet that is being done to-day in every city and town from Maine to California. A year or so ago in some of the eastern cities over 40 per cent. of the prescriptions called for proprietary medicines. Since that time a marked improvement has taken place; in one instance recently a decrease of from 10 to 60 per cent. was shown.

All sorts of reasons have been assigned to explain why these preparations are prescribed. One we hear most commonly is that the students are not taught to write prescriptions in the medical schools. There may be some truth in the charge, but I believe that there are other reasons which are more important.

One of these is that in so many of the large city dispensaries and hospitals into which the medical graduates go for practical experience, they are never required to write out a prescription. The hospitals keep a large number of stock solutions on hand, the compositions of these mixtures with their designating numbers being frequently framed and hung on the wall of the clinic room. All the interne has to do if he wants to give his patient nux vomica and gentian is to order "Mixture 13," or if he wishes to give potassium iodid he orders "Solution 1." By such a pernicious method, devised merely to save work, a large amount of most valuable experience is lost just when it is most needed. Another important factor is pure mental laziness on the part of the physician. Which is the easier for the doctor in a case, we will say, of muscular pain of obscure origin, to think up the name of some remedy about which he studied some time ago and to write a prescription for it, or to prescribe some nostrum with a fancy name, the samples of which the detail man left him only yesterday, positively assuring him it was good for rheumatism, lumbago, gout and all other diseases flesh is heir to?

Too many physicians do not take the trouble to use the knowledge they gained in college. They took long expensive courses in medicine and spent many, no doubt happy, hours in studying the action and uses of drugs; but just as soon as they get an opportunity to make us of their knowledge they call in somebody else to help them, who, as likely as not, never saw the inside of a medical book. Such physicians would be insulted if a layman should offer to aid them in making a diagnosis, but they gladly allow him to prescribe for the case.

But we are assured that these nostrums are the product of hard study and research; that they contain drugs unknown to the ordinary physician or compounded in such a way as to enhance some mystic virtues which they possess. It is certainly true that they would have t possess supernatural powers if they did all that was claimed for them. For instance, our friend Dr. Munyon' "kidney cure" was examined by the British Medica Association and found to contain a drug which probabl has never been used in nephritis by regular physician It consisted of 100 per cent. cane sugar. His bloo purifier pills, guaranteed to expel all impurities fron the blood, were likewise found to consist of 100 per cent cane sugar. But it may be said that such remedies ar used only by the layman and not by the doctor. Wel are such cases as those just mentioned much worse tha the tasteless quinin which physicians used with suc success and which was found to be nothing but powdered gypsum?

A preparation of nuclein examined a short time ag was advertised by the maker to contain the very "essenc of life." It was endorsed by physicians, one of who in his enthusiasm wrote: "It makes the machine go On examination the solution was found to contai

1/1300 gr. of nuclein to the dose, or almost as much as a person would get from a piece of liver the size of a grain of wheat.

Numerous other illustrations might be given as demonstrating the great skill which has been employed in the manufacture of preparations such as, for instance, some of the palatable cod-liver oils into which, in their efforts to make the mixtures palatable, the manufacturers forgot to put the oil.

But I think it may be questioned whether the fact that these preparations are advertised is not largely responsible for their use. Lincoln's old adage, "You can fool part of the people all the time," is still true to-day. Glancing over the pages of our so-called reputable medical journals, we still find the names of many preparations that are far from ethical, to put it mildly. Why are these there? Simply because the physicians use them. The day the manufacturers of these nostrums find out that it does not pay to advertise to physicians, that day their advertisements will disappear from the advertising pages of our journals. The remedy lies within the profession.

While this state of affairs exists at home, how can the medical profession consistently engage in a crusade against the medical advertisements which disgrace our daily papers and forms one of the foulest blots on modern journalism? I sometimes wonder how long the American people are going to sit quietly by and allow this condition of the daily press to continue. If the suggestion is made to exhibit a nude statue or picture —perhaps a copy of some famous classic—a vigorous protest will go up from a large percentage of the population for fear of the effect the exhibition may have n the morals of the young; yet year after year they will suffer their homes to be polluted and will put into he hands of their children these papers containing advertisements referring to the vilest and most loathsome diseases that the human race suffers from. Verily, we train at a gnat and swallow a camel. But this is only parenthetical and concerns physicians as citizens, while I wish especially to point out their relation to medical rogress.

Another factor which I am going to mention briefly s offering an obstacle to the advance of therapeutics onsists in the prescribing of the ready-made mixtures which so many of the manufacturing pharmacists put ut. These are usually put up in tablet form for the octor's convenience. I can point out better what I mean by giving a few illustrations copied from a 1908 atalogue of one of the "scientific" pharmaceutical ouses:

Cough tablet. — Sanguinarin nitrate, morphin sulphate, atropin sulphate, antimony and potassium tarrate, tincture of aconite and pine tar.

Diarrhea tablet.—Opium, aromatic powder, camphor, ismuth subnitrate, sodium bicarbonate, powdered kino nd mercury with chalk.

Neuralgic tablet. — Hyoscyamus, conium fruit, ignatia, opium, aconite, cannabis indica, stramonium seed nd belladonna leaves.

These are but samples of the variety offered and put p in lots of 100, 500 or 1,000 and guaranteed to save brain fag. If the tablet on hand does not fit the atient, that's the patient's fault and he must be made fit the tablet. Truly the golden text of too many the twentieth century physicians is: "Of making new medies there is no end and much study is a weariness the soul."

How can therapeutics progress in the face of such polypharmacy? The shotgun prescription from which the nineteenth century rid us has returned, having merely changed its coat to one of chocolate or gelatin. Can we wonder that the layman prefers to save his doctor's fee and go direct to the drug store and buy Brown & Co.'s headache tablets or Jones & Co.'s diarrhea mixture No. 23?

Along the same line it may be said that the physician has demanded the pharmaceutically impossible and the pharmacist has supplied it (?). I need only refer to the tablets of bismuth, chalk and carbolic acid which were examined at the laboratory of the American Medical Association a short time ago and found to contain only from 12 to 70 per cent. of the carbolic acid they were supposed to contain, simply because the substance had disappeared on account of being volatile. Anything like exact observations on the action of drugs is impossible under such conditions. But we are assured that therapeutics is an art and not a science. This may be true, but the art will not suffer by a careful admixture of science.

Also in their anxiety to instruct the physician and make things easier for him, the manufacturing houses have published books on materia medica in which we find the diseases all nicely arranged in alphabetical order, and under each disease a list of all the drugs that have been suggested for it. These books, from the very nature of things, can not be expected to represent the best views of the day, as their use would naturally tend to an exaggerated idea of the importance of drugs in present-day therapeutics. Moreover, since their publication is not entirely due to altruistic motives, any special formula possessed by the firm is likely to receive at least its due share of attention. Also the labels on their bottles of medicine are made the vehicle by which they promulgate information which is more or less accurate as to the action and uses of the contained drug. For instance, Sharp & Dohme of Baltimore tell us that their fluidextract of digitalis "lengthens the systole or period of rest of the heart." Seeing that digitalis does not lengthen the systole nor is the systole the period of rest, the value of such information may be questioned.

So, too, the Merrill Chemical Co., in their labels, say that among the indications for their digitalis are "distended jugular veins; continuous, difficult or labored breathing; and irritative fever," and we may suppose perhaps that difficult respiration, from whatever cause, is to be treated with digitalis, and also may be led to question what "irritative fever" is. I have never met anyone who knew nor do the leading text-books define it.

It would seem that the pharmacists, in giving such information, must be meeting a need for something or other that the physician feels he lacks, or he would not allow himself to be insulted by the presentation to him of such incorrect and false statements.

The bits of pseudoinformation that I have mentioned simply show how absolutely ridiculous it is for physicians to go to the pharmacist for his instruction instead of to the proper authority, namely, some good work on materia medica. As it is at present too many physicians ask for bread and are contented when they receive a stone.

Another foe to progress of somewhat similar characteristics is the book which is said to contain 2,000 prescriptions, more or less, which have been employed by the most famous therapeutists. As a matter of fact, these books retard scientific prescribing by keeping alive a lot of shotgun prescriptions which the therapeutic leaders of to-day would never think of employing. The science of therapeutics would take a long step forward if all such props should be cast into the eternal fires of oblivion.

But the outlook is not entirely dark. The very fact that we notice such methods shows that we know better. Manufacturing houses are finding out that the medical profession is beginning to do its own thinking on therapeutic problems, that absurd claims which manufacturers were once able to make for their preparations are no longer accepted, and that the old time-worn proverb, "Honesty is the best policy," is a maxim not altogether out of date.

On the part of the physicians it may be said that there is a large and ever-increasing number who, knowing the action of drugs, prescribe them scientifically, that is, simply and with a definite object in view and in sufficient doses to produce the physiologic effects characteristic of each.

It would be of the greatest aid to therapeutics if more physicians would not only keep careful clinical records of the effects of the drugs but would also publish from time to time critical comments on them. By work of this sort the practitioner would contribute greatly to our knowledge of drug action, and it is only by such mutual cooperation of the man at the bedside with the man in the laboratory that therapeutics will make the progress that it should.

THE ESSENTIAL CHARACTERISTICS OF THE TRUE PHYSICIAN

And now, to you who to-day come for the first time seeking to be followers of Æsculapius and true disciples of the healing art, in the name and on behalf of the faculty it is my privilege to bid you welcome. You have chosen a noble profession and one which before all others will give you an opportunity to serve your fellow men.

Medicine never offered a more inviting field for work than it does to-day; and, on the other hand, the demand for the highest type of manhood was never greater. For other types medicine has no place.

If you would know the kind of men that medicine demands, then listen to this quotation from the Vedas, which describes what the ancient Hindu required of the prospective student of medicine: "He should be of a mild disposition—noble by nature—not mean in acts—possessed of intelligence — free from pride — endowed with a large understanding — with a power of memory and judgment — having a liberal mind — devoted to truth—disposed to solitude, free from haughtiness—of a thoughtful disposition—not prone to wrath—endowed with purity of behavior and compassion for all — devotedly attached to the study of medicine — free from cupidity—without sloth—seeking the good of all creatures."

Such is, indeed, a high standard, but surely medicine of 1908 can not accept lower ideals than did the Hindu thousands of years ago. No standard can be too high, for, as Cicero said: "There is nothing in which men so approach the gods as in giving health to other men."

Health and Education.—C. G. Kerley states that as a general proposition there should be no choice between health and education: only that education is effective which is founded on and which secures good health.—*Archives of Pediatrics.*

Original Articles

COMBATING TROPICAL DISEASES IN THE PHILIPPINES BY SCIENTIFIC METHODS

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TROPICAL DYSENTERY

At the time of the American occupation of the Philippine Islands tropical dysentery was the most serious and common disease which attacked both Americans and Europeans in Manila and the vicinity. Hence it was this affection which first attracted the attention of th medical scientists who came here at this period to study the prevailing diseases of the country. Some idea o the importance of this malady may be derived from a consideration of the fact that during the year 1900 i the United States Army here there occurred four time as many deaths from dysentery as from any other singl disease. Little knowledge of the cause and nature, an even of the intelligent treatment, of this affection coul be obtained from the physicians resident at that time i the Philippines, since no accurate study had previousl been made of it in these islands. It was, therefore, important that such an investigation as would result i the satisfactory control and prevention of the diseas should be undertaken as speedily as possible.

An extensive research on this subject, carried on i the laboratories which had been established in Manil by the American government, finally revealed the fac that the so-called tropical dysentery of the Philippin Islands really included three distinct diseases and tha the most satisfactory forms of treatment were widel different for these various affections; thus one for (amebic dysentery) in Manila was found to be due to species of protozoa, an ameba; a second, with an acut onset (bacillary dysentery), to a species of bacteri known as *Bacillus dysenteriæ;* and a third (catarrha dysentery), a less common and a less serious form dysentery, to the action of one of several bacteria whic produced a catarrhal condition of the large intestin The first type was found to be identical with the for usually known in certain portions of Africa under t term of "tropical dysentery," while the second was a parently the same as the prevailing form of intestin flux occurring in Japan, and the third corresponded the forms of catarrhal dysentery encountered more lesss throughout the world.

It was, moreover, demonstrated that these three for of dysentery could easily be distinguished from one a other by laboratory methods. Thus the amebic for could always be recognized by a microscopic examin tion of the dejecta and by the presence of the speci parasite, the ameba, therein; while in the bacilla form the amebas were absent from the excreta; and t blood serum of the patient, when added to the *Bacil* *dysenteriæ* (the germ giving rise to this form of t disease), caused a clumping of the bacteria into grou and their ultimate destruction, a reaction not given the blood serum of patients suffering with other for of dysentery or with other diseases.

After these discoveries in the differentiation of t varieties of the disease its treatment was soon placed an intelligent basis, and it was found that while t most effective treatment for the amebic form consis in attacking the parasite by local applications (enem the same therapy in the bacillary dysentery was not only not efficacious but very harmful, and that the best results in this variety of the disease were obtained by a general method of treatment and by the inoculation of antidysenteric serum. In the catarrhal type it was found that neither the local treatment nor the serum inoculations were to be recommended and that the disease generally yielded to much simpler therapy. It was further demonstrated that the amebic and bacillary dysenteries were usually acquired by drinking infected water and that the catarrhal form was, at least frequently, contracted in this way. Moreover, it was shown that the city water supply itself was practically always infected with amebas, and although it has not been definitely established that these same organisms are always capable of producing dysentery in man, nevertheless such water must be regarded as at least dangerous. So far it has been found quite impossible to destroy the amebas in the water supply by the introduction into the city reservoirs of chemical substances, such as copper sulphate, in safe amounts for drinking purposes, or to remove them by large filters, and for this reason, as well as for many others, the city water can not now, and probably never can be, recommended for drinking purposes unless it has been previously sterilized.

As a result of these discoveries both the mortality and he amount of dysentery among Americans and Europeans has become rapidly reduced during the past few years. The people have become educated to the necessity of avoiding the use of infected drinking water and of employing only boiled and distilled or imported erated waters for drinking purposes. To-day bacillary dysentery, which formerly was epidemic here, and which requently carried off its victims in from three to four days, is very rare in this city, and amebic dysentery is becoming less and less frequent each year among the more intelligent population. Physicians here have been aught to recognize these diseases in their very early tages, at a time when the symptoms may sometimes ppear trivial, and then to institute the proper treatment. Therefore, the disease does not so often become hronic, and for this reason the amount of invaliding to he United States for dysentery has become much reuced. A decided advance in our knowledge of the mebas has been brought about by the demonstration in Manila of the ease with which they can be cultivated on olid media, and of the fact that they can be grown in he test-tube under certain conditions with almost the ame facility as bacteria.

PLAGUE

In 1900 bubonic plague appeared in the city of Manila, the first case having been introduced from Hongong. For a time it was feared that the disease might ain a firm foothold as it had, for example, in India, nd, therefore, strenuous methods were adopted for its ontrol. Practically all vessels arriving from infected orts were fumigated at once and other means taken to revent the escape of rats from them to the land. The ost rigid isolation of the patients sick with the disease as carried out. Since rats were known to suffer from fection with the plague bacillus and to scatter this ganism about by means of their excreta, and, in fact, be the most important disseminators of the disease oth in this manner and by means of fleas which they rry about on their bodies, the wholesale exterminaon of these rodents was undertaken. Squads of ratcatchers, armed with rat traps, rat poison and every necessary implement, were assigned to the various districts of the city under the supervision of district sanitary inspectors. A bounty of 2½ cents gold was paid for each and every rat turned over to the health authorities and stations were established at convenient points throughout the city where they could be received. Each rat was tagged with the street and number of the building and lot from which it came and then dropped into a strong antiseptic solution and sent to the government laboratory, where it was subjected to a careful bacteriologic examination for plague. The premises where plague occurred, or where the rats infected with plague had been found, were subjected to a thorough disinfection and their owners compelled, under the direction of a sanitary engineer, to make necessary alterations. Cement ground floors were laid, double walls and ceilings affording refuge for rats were removed, defective plumbing was remedied, whitewash was liberally used for the destruction of fleas, and in general everything was done that could render the buildings where plague had occurred safe for human occupancy. Wherever these changes were not practicable, houses, or even districts, were frequently destroyed by fire.

The Board of Health in Manila considered, however, that by far the most effective measure in combating the epidemic of plague consisted in the immunization of the people living in the badly infected districts by means of inoculation with the prophylactic against the plague. All Chinese arriving from infected ports in China, and all those individuals living in a house where a case of plague occurred, were also inoculated with the prophylactic or with antiplague serum. To quote from the report of the director of health at this time in regard to the preventive inoculation against plague carried on in Manila: "The method has given results almost beyond expectation."

Partly for this reason and partly from the character of the disease, it seemed hopeful that a considerably greater success might be obtained against this malady by improved methods of protective inoculation; therefore particular attention was paid to the investigation of this subject in the government laboratories in Manila and a method of vaccination has been finally obtained which will probably reduce the mortality of plague among the vaccinated to under 20 per cent. usually, whereas it is well known that the usual mortality of plague is in the neighborhood of 80 per cent.

At present there is no plague in the Philippine Islands nor has a case occurred in them for over a year. It is hoped, however, that the method of vaccination against this disease will be employed in India, where the plague has raged for the past ten years in spite of all hygienic measures employed there and during which time the mortality has amounted to over 5,000,000.

CHOLERA

The first appearance of cholera in the Philippine Islands under American occupation occurred in March, 1902, and measures were at once undertaken to prevent the occurrence of an epidemic. Unfortunately, it was impossible to convince the majority of native physicians and the population in general that cholera had really invaded the islands and that a severe epidemic was imminent, notwithstanding the fact that the first cases found in the city had in the laboratory been carefully identified bacteriologically as those of cholera. For weeks, however, the presence of cholera was denied, the Filipinos refusing to believe in its existence because the daily deaths did not reach up into the thousands as they had done in the epidemic of this disease which occurred here prior to American occupation. Therefore, as was to be expected, the rigorous measures enforced by the board of health produced bitter opposition. The minds of the common people were poisoned by tales of abuses and even of murder in the cholera hospitals. The rumor was also circulated that the cholera was due to the Americans having poisoned the wells and that the quarantine measures instituted were evidences of revenge on their part. These absurd tales gained credence and proved a very serious factor in the control of the situation, since they led to the concealment of the sick, the escape of those who had been in close contact with cholera patients, and the throwing of the dead cholera bodies into the esteros (canals) throughout the city and into the Pasig River (the waters of the latter were frequently used for drinking purposes by the natives). In fact, for the first few weeks of the epidemic there was a general disposition on the part of the population to conceal every case of cholera which occurred. As a result, in spite of all measures of control, the disease spread throughout the city. The following measures for its suppression were, however, carried on and served to keep the epidemic under control:

A cholera hospital was established and, with a few exceptions, all definite and suspected cases were speedily removed to it for treatment. All cases of the disease were isolated. The city was divided into districts and each district was inspected during night and day for the purpose of detecting and diagnosing cases of the disease. All wells throughout the city were closed and distilled water was distributed for drinking purposes. A rigorous quarantine was placed around the city, and the Mariquina River, from which the city water supply was obtained, was carefully guarded by a patrol of regular troops in order to prevent it becoming infected. Certain districts, which were thoroughly infected with the germ of cholera and which could not be disinfected properly owing to the character of the dwellings, were destroyed by fire; notable among these was the so-called Farola District. The natives were reimbursed by the government for the loss of their houses and their property.

In order to aid the board of health in most of this work, measures for the early bacteriologic examination and diagnosis of the disease by means of cultures and immune sera were undertaken. An assistant was on duty day and night at the laboratory for the purpose of performing such diagnoses. The city water supply was examined from time to time throughout the epidemic for the cholera germ. This water was never found infected with this organism. Had it been so, the cases of cholera in Manila would have reached into the thousands daily. During the epidemic the highest death rate reached in Manila was ninety-one per diem.

Since it became evident early in the epidemic from bacteriologic examination that the city water supply was not infected with cholera, investigations were undertaken in the laboratory to find out by what means the disease was being spread. Visits were made from house to house in the badly infected cholera districts and cultures were taken from various foods, fruits, linen and articles of clothing and from various samples of water found in these houses. These studies were continued throughout the year and as a result of them it was determined that one of the chief means of the dissemination of the disease in Manila was through infected uncooked foods. As a result of these studies a number of uncooked foods and fruits were forbidden for sale in the markets. Flies were also shown to have played a part in the infection of certain foods where unsterilized excreta of cholera patients were exposed in the neighborhood. Certain wells and canals in the city were found to be infected with the cholera germ, and these also played a part in the spread of the disease; but, as mentioned, the general city water supply has never yet been found to be infected with the cholera organism.

Since it was recognized that individuals who had recovered from cholera might carry about with them the germ of the disease in their intestines for several week after convalescence and thus serve as disseminators o the infection, an attempt was made to keep each patien at the cholera hospital until his excreta were shown t be bacteriologically free from the cholera germ. It wa later found, however, that some individuals who ha only very mild symptoms of cholera, and who had no been taken to the hospital, also had cholera spirill in their dejecta and thus they were able to act in spreading the infection.

Partially on this account, since such individuals mus frequently escape quarantine, and partially as a genera measure in the prevention of the disease, the subject o immunization in human beings against cholera wa studied in the Manila government laboratories, an after extensive investigations a method of protectiv inoculation against cholera was devised which is perfectly harmless and which is not objected to by th natives. This method has been given an extensive tria in some of the smaller towns of the Philippines whe cholera has been epidemic, and in Manila, and in all o these places large numbers of men, women and childre volunteered for inoculation.

Although cholera has on several occasions since 190 been banished from Manila and, indeed, supposedl from the entire Philippine Islands, it has always reappeared therein and has probably become, for the pres at least, endemic in the islands. While the prese hygienic measures are enforced, however, there is litt danger of a large epidemic. It seems not unlikely tha by means of protective inoculation we have a valuab adjunct in ridding a community of this disease, and may be that we shall here finally come to resort to th method more generally for the extermination of th malady. In certain provinces of the islands statist already show that the number of cases of cholera whi have developed in the inoculated is only one-sixth that which has occurred among the uninoculated.

MALARIA

In regard to malaria, it has been shown that near 50 per cent. of the native children in certain portio of the islands suffer from a latent form of this diseas that is, while many of them may not appear very ill the casual observer, they are carrying about with the malarial parasites in their blood and furnish a consta source for the transmission of the disease to other in viduals through the medium of certain species of t anopheles mosquito. Presenting few or only very ind inite symptoms, these children frequently remain u treated for the malarial infection. It is a well-recogniz fact that the greatest source of danger to the white m in a malarial locality lies in these latent infections in the native, and particularly in the native children. Studies in the Philippines have demonstrated the importance of discovering these cases by means of a routine microscopic examination of the blood, and of the treatment of the patient and destruction of the parasites by means of quinin. Such measures play an important rôle in the suppression of malaria in certain portions of the islands.

The amount of anemia and general debility produced by malaria in the native population of the Philippines has been greatly underestimated. In some districts over 50 per cent. of the adults show either active or latent infection. Malaria is uncommon among white people in the islands, however, particularly in the large cities.

DENGUE FEVER

Studies in dengue fever have been recently made here which seem to show that this disease is perhaps conveyed by means of the bite of the mosquito *Culex fatigans*, which also transmits the parasite (a blood filaria) which gives rise to the affection known as elephantiasis. These investigations have also shown that the organism causing dengue fever is probably too small to be observed by the microscope (that is, it is ultramicroscopic), and that it is present in the circulating blood of the patient suffering with the disease.

INFECTION WITH INTESTINAL WORMS

An investigation has recently been undertaken in regard to the prevalence of animal parasites in the native population and their possible influence on the public health. In this study the dejecta of 4,106 prisoners were investigated, in all 15,000 microscopic examinations being made. It was found that 84 per cent. of these prisoners were infected with one or more animal parasites.

The most usual infection was with the common whipworm (trichuris), which was present in 59 per ent. Fifty-two per cent. were infected with hookworms (uncinaria), though very rarely were these infecions severe ones. Indeed, in the Philippines this paraite does not play the important rôle that it does in Porto Rico, Egypt and several other countries in the roduction of a grave anemia. The great majority of hose infected here show only mild infections, practially having no symptoms of disease and no visible nemia. The dejecta of 23 per cent. of the prisoners ontained amebas and those of 26 per cent. round worms ascarides). The numerous other parasites encountered ere found only in a comparatively small percentage of hose examined.

The question has arisen as to what rôle these infecons play in regard to public health. Attention has en called to the fact that if these percentages of infecon obtained from the examination of the 4,106 prisons were applied to the total native population of the lands is would appear that no less than five million the inhabitants of the Philippine Islands were incted with intestinal worms.

It has been argued that since the systematic treatent of the prisoners for intestinal worms was begun nd vigorously carried out the death rate of the prison here these examinations were performed fell from 75 r 1,000 to 13 per 1,000 per annum. It appears, hower, that this decrease in the death rate was very rgely due to the gradual improvement in the general sanitary conditions in the prison, which lead to a very great reduction in the number of cases of beriberi present, many of which had been formerly unrecognized, and to the fact that the new prisoners arriving at the prison were at once surrounded by better hygienic conditions than the older prisoners had formerly been. While there is practically no evidence to show that the moderate infections with whipworms and round worms exercise a deleterious effect on the health of the individual, the infections with hookworms and with amebas must be regarded in a different light. Both of these parasites are pathogenic or may come to have decided pathologic importance in the individual infected. There can be but little doubt that the patients in a number of the cases in which there were amebas in the dejecta would sooner or later develop amebic dysentery, and it is very probable that a certain percentage of these would succumb to the infection if not treated. In this way, by the detection of these cases of amebic dysentery, and by instituting proper treatment, the mortality among the number infected would be reduced. As has been pointed out, the cases of hookworm infection were so mild that the hookworms themselves probably had but little influence on the death rate. However, in the more severe infections, both with hookworms and amebas, these parasites undoubtedly weakened the individual and rendered him more susceptible to the attack of other infectious diseases.

Since the source of all these intestinal worms is the dejecta of some individual infected, the most important factor in the extermination of this infection lies in the proper disposition of human excreta. The most satisfactory means for such disposal are now being investigated.

To obtain a working system, practical, economical and adapted to the conditions throughout the islands, is a special problem which will require considerable further study. When such a system is perfected, however, it will remove one of the most dangerous channels, not only for the dissemination of animal parasites, but for the spread of other intestinal infectious diseases of bacterial origin.

SMALLPOX

In relation to smallpox, attention must be called to the fact that since the beginning of systematic vaccinations in the islands over 3,515,000 people have been vaccinated against this disease with virus prepared in the government laboratory at Manila. A cessation of deaths from smallpox has followed in the provinces in which the people have been thoroughly vaccinated. In provinces where there were formerly 6,000 cases of the disease annually not one death has been reported from this disease for the past year. No case of loss of life on account of vaccination has occurred, nor have any limbs been sacrificed, nor has there been a case of very severe infection resulting from vaccination reported. The disease has been thoroughly kept under control by vaccination alone.

GENERAL HEALTH OF MANILA

After nearly ten years' residence in the Philippines I think that I am justified in saying that Manila to-day can certainly be regarded as a very healthy city for those who exercise proper hygienic precautions in regard to their mode of living. The death rate here for the past year among American residents has been only 5.59 and among Spaniards but 15.84 per 1,000.

MEDICAL LIBRARIES *

"CRITO, I OWE A COCK TO ÆSCULAPIUS; WILL YOU REMEMBER TO PAY THE DEBT?"—*Socrates*

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One of the serious problems which confronts the management of every library is the proper and equable apportioning of the book fund to the several departments. The problem is, of necessity, a flexible one and varies with the environment, the resources and the policy of the individual library. To-day I propose to discuss only one phase of the question, and that a narrow one.

Is it expedient to establish a medical department in a free library? By this I mean not the sporadic buying of a book on hygiene or domestic medicine, but the regular and methodical acquiring of standard works as liberally as the budget and the demand will justify.

In the larger cities or in medical centers, where doctors are many and medical societies are numerically and financially strong, experience has fully demonstrated that the needs of the profession will be better met by separate libraries. The correctness of this contention is fully shown in the experiences of Cleveland and Cincinnati, the only cities in the state which belong to this class. Both have splendid independent medical libraries, managed exclusively by medical men, and in both the departmental plan was tried and abandoned.

In the smaller cities and the larger towns where the library book fund is correspondingly small, it would be ill-advised to attempt the building up of a formal department; here the end would be better reached by purchasing medical books, like other specialties, on the request of those wishing to use them.

This narrows the inquiry to libraries of medium size, or, speaking generally, those located in cities from 35,000 to 125,000 inhabitants, which presumably have a fairly liberal income.

I know full well that there is a diversity of opinion among intelligent librarians as to the propriety of the public library providing books for special or professional readers. From our viewpoint the negative sentiment smacks too strongly of a cloistered past. Is there a librarian here to-day who does not take pride, and justly, in what his institution is doing for the special student, the technical worker and the craftsman of every kind?

There is a general agreement among progressive librarians that the modern library should not only meet, as far as possible, every reasonable demand for wholesale reading, but that it should be boldly aggressive and meet the needs of all sorts and conditions of readers.

If I correctly interpret the contention of those who would build a Chinese wall of small dimensions around the library, it practically amounts to a discrimination against the three older professions—law, medicine and theology. But the conditions are so different that these professions can not be justly measured by the same standard.

As to the clergy, we will probably all agree that there is little call for a special department. A successful ministry must seldom, if ever, depend on the access to doctrinal works, which, as a rule, find their way to the shelves in rich abundance.

To compare the doctor with the lawyer is manifestly unfair. In altruistic concept and practice the two professions are as wide apart as the poles. I hold no brief for medicine, but its marvelous achievements within the past few decades alone are without a parallel in history, and in proof I need only to cite the Promethean gifts of anesthesia, sanitation and asepsis, a trinity which has let such a flood of sunshine into the life of the world. In no other branch of human endeavor do men give so freely of their time and labor for the good of their fellowmen, and there is no other profession whose constant effort in disease prevention tends inevitably to its own destruction.

The public so confidently associates charitable deeds with the calling of the doctor that it little notes the fact that he may be carrying more than a fair share of the burden which rests on society. Without special thought one can not appreciate the money value of the work done gratuitously and continuously by the rank and file of the profession.

The money value, very conservatively estimated, of the services rendered annually to the hospitals of my home city by their respective staffs is not less than $65.000. This estimate, made by a better statistician than I am, does not include the extramural charity work of these men or of their colleagues. Nor does the experience which such service gives constitute a just recompense, for those who render the service received their appointments on account of their recognized ability and skill. It is high-class medical labor rendered by high-class medical men, and as such should have recognition. If the opportunity to acquire experience is so valuable how does it happen that the court never orders th veriest novice in the law to defend the pauper crimina without adequate compensation in the coin of th country?

A recent discussion before a prominent library association is my justification, if any be needed, for writin this screed. The consensus of opinion was strongl adverse to the development of the medical departmen in the public library and the full range of objection was skillfully run. It was held that medical books wer high-priced, short-lived in usefulness, unfit for genera circulation, technical in character, and required specia knowledge on the part of the librarian. Various speakers reiterated, with the monotony of parrots and th zeal of covenanters, the slogan, "Let the doctors do a the lawyers do, and furnish their own libraries."

Let us briefly consider this indictment against th medical department, taking the last and most speciou count first. Confining the inquiry to our own stat there are in Ohio about sixty special law libraries o ganized under the legislative act of 1872. This statut which has been favorably amended at various time authorizes the commissioners of any county to contra with a library association to furnish book facilities f the judges and county officials. Under this law th commissioners of my own county, out of the gener tax levy, have not only furnished and equipped elega and commodious rooms in which to house the books, h provide heat, light and the salary of the libraria amounting to over $2,500 per annum. The library a sociation in addition receives certain fees accruing fro state cases in the police court. The membership f go to the book fund.

Let us look at the other side of the shield. There not a public library in the state which has a live, gro ing medical department, unless by a stretch of the imagination the effort in Dayton can be so designated; nor is there in the state an independent medical library supported wholly or in part out of the general tax fund. One medical to sixty law libraries is the record. Gladly would the doctors fare like the lawyers. We have no quarrel with our friends the lawyers, nor would we lessen the number of their libraries, but we would build at least an equal number for the doctors. This is not asked as a charity; it is demanded as a right.

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*Read before the Ohio Library Association, November, 1908.

A further study of the condition in Ohio shows that a few libraries, rather than anger the friends of the dead, keep under key and cobwebs—mostly cobwebs—some long-neglected bequests. Some house the books of the local medical society, and others, constituting the majority, collect only the medical flotsam and jetsam which drift to their doors, and except in the rarest instances, these are not catalogued or properly shelved. Perhaps they are not worthy of better treatment, for a miscellaneous collection of old medical books is about the deadest thing known. Total annihilation is the proper remedy.

This is a sufficient answer to the taunt so often flung in the face of the profession, that doctors do not use the medical books now in the public libraries. Can they feed on husks? Would you employ a doctor who did use such books? Physicians do use the up-to-date independent medical libraries, and the accusation that hey do not use the public library collections will cease o be true if the latter are kept fresh and serviceable.

There is no limit to the money that could be usefully xpended in the founding and maintaining a medical lepartment, but it is the minimum amount, not the naximum, that concerns us now.

Roughly estimated, the initial expenditure ought not o be less than $500 to $800 and largely invested in oundation books, like encyclopedias, atlases, the larger vorks of reference, transactions of the leading special nd national associations and bound serials which, hough costly, do not need early replacement. When the ollection is once installed a yearly outlay of from $200 o $400 will provide a goodly number of the really aluable new books and several of the best foreign and omestic periodicals. Private contributions may be onfidently relied on. Every physician subscribes for ne or more medical journals and would rather place em where they would be cared for and be accessible r reference than to store them at home—possibly in e garret.

Since the formal opening of the medical department n the Dayton library, two years ago, there have been ceived from donations considerably over eight hundred lumes, most of which are obsolete and worthless, some e last editions, and not a few are rare and valuable assics. The permanent accessions have been carefully lled, for in no other department of literature should fts be so closely scrutinized. It is the glory of modern edicine that a text-book ten years old has only the hisrical value of the fossil. This rapid superannuation of edical books is accepted as an excuse by certain libraans for refusing to buy them, but to my mind it has st the opposite meaning. If no further discoveries or ogress were possible in the science of medicine there uld be little need of books or libraries. A small coltion would serve, by inheritance, many generations of ctors.

It goes without saying that there are medical books whose use by the patrons of the library should be restricted, but the number is not so large as one might assume without investigation. The same rules that safeguard the proscribed books in general literature, no small number in some libraries, will amply suffice. Young people and grown-up children prompted by curiosity or pruriency should be barred from the medical alcoves, but there is no valid reason why the collection should be closed to any adult of pure motives and ordinary intelligence. Never before were laymen so deeply interested in or so conversant with medical problems, especially of sanitation and disease prevention, and never before did medical literature so strongly challenge the attention of the world's ablest thinkers.

It was a layman's reading of Osler's "Practice of Medicine" which led to the founding of the Rockefeller Institute for Medical Research, one of the great institutions of the country, which has already rendered signal service to mankind in the discovery of a curative serum for one of the most dreaded of brain diseases.

Medicine is as old as the human race, its appeal is universal and to the best instincts of humanity, and the time has come when its teachings ought not to be a sealed book to the intelligent citizen of any community.

Unquestionably the best use of medical books requires the services of a specialist; and this arrangement will rarely be practicable in libraries of the size under consideration. The ideal way of offsetting the librarian's lack of technical knowledge would be to have a progressive doctor on the board of trustees to whom matters connected with the medical department could be referred. Another method of meeting the difficulty, and one which commands favorable consideration, is to elicit the cooperation of the medical society which now exists in every county in the state. An auxiliary committee thus secured can give valuable aid, apart from technical assistance to the librarian, in securing donations, in stimulating the zeal of the profession and by acting in a general advisory capacity.

The cooperative plan has worked well in Dayton. The medical society donates annually $100 to the book fund. It appoints a committee to act with a representative of the library board, to which the general supervision of the medical department is given, subject to the approval of the trustees, which is the court of last appeal.

The output of medical literature is so immense that no library can obtain more than a fragment of the whole. But, by cooperation with neighboring libraries, and especially with the Surgeon-General's Library at Washington, the greatest collection of medical books in the world, a library may, without cost, save for transportation, greatly extend its resources and give fairly good service to its patrons.

To conclude, if I am right in my contention, the public, like Socrates, owes a cock to Æsculapius, and above other institutions the free, tax-supported library should be the Crito to see that the debt is settled: first, because the library pays in coin which will be most acceptable and most profitable to the doctor, for as Osler puts it, "to study the phenomena of disease without books is to sail an uncharted sea"; second, because in this way the public gets a speedy return on its investment, for the physician who accepts the payment will be the more competent to discharge the burden which society has placed on him.

17 First Street, East.

IMMUNITY AGAINST TUBERCULOSIS IN GENERAL PARESIS

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In our knowledge of immunity against infectious diseases no fact is more firmly established than that different individuals of the same species are apt to show different degrees of susceptibility to a given specific infection. In the case of tuberculosis this fact is commonly recognized even by the laity.

The valuable results which have been obtained through experimental studies of immunity have stimulated interest in work in that direction; at the same time investigation of the nature of immunity of spontaneous occurrence has been somewhat neglected. And yet it may be that such investigation might throw light on some problems which experimental studies have failed to elucidate.

In other words, it seems to me that a great deal might be gained if we should be enabled, by a study of cases, to arrive at a complete answer to the question: What circumstances have produced immunity against a given infection in certain individuals?

A number of curious observations pertaining to this subject have already been made. The degree of skin pigmentation seems to be to a large extent an index of the degree of immunity against yellow fever. Prolonged residence in a malarial district apparently confers comparative immunity against malarial infection. Immunity as well as susceptibility to tuberculosis seems to be transmissible by heredity. Chronic alcoholism predisposes to pneumonia. The Japanese possess a high degree of immunity against scarlet fever.

The spontaneous occurrence of immunity against tuberculosis has been but little investigated. The object of this paper is to record the observation that a high degree of immunity against tuberculosis exists in cases of general paresis, although in this disease, owing to the well-known trophic and nutritive disturbances, susceptibility to other infections is distinctly increased.

Some years ago I noticed that although the rate of mortality from tuberculosis at this hospital was high, as shown by findings at autopsies, yet general paresis patients that came to autopsy were remarkably free from tuberculous lesions.

This observation was almost constant, and I was finally led to go over carefully all the autopsy records at our pathologic laboratory with a view to determining whether or not this observation was correct.

For that purpose I tabulated the records in such a manner as to show the frequency of active, quiescent and healed tuberculous lesions in cases of general paresis and in cases of all other psychoses. In this way I found striking corroboration of the observation which I had made.

As the total number of cases at this hospital was small, however, I availed myself, in addition, of the autopsy records from the state hospitals at Ward's Island, New York; at Flatbush, Brooklyn; at Middletown, N. Y., and at Buffalo, N. Y.[1] Thus I had the opportunity of examining the records of 1,056 cases, of which 214 were cases of general paresis. Table 1 shows the resulting statistical findings.

These figures show that tuberculosis is very prevalent among inmates of insane asylums, active lesions having been found in 23.2 per cent. of the cases of all psychoses other than general paresis; yet of the cases of general paresis only 2.3 per cent. showed the presence of active tuberculous lesions.

TABLE 1.—TUBERCULOUS LESIONS FOUND IN CASES OF GENERAL PARESIS AND IN CASES OF OTHER PSYCHOSES

Psychoses.	Number of Cases.	Active Tuberculosis. No.	Per Cent.	Quiescent Tuberculosis. No.	Per Cent.	Healed Tuberculosis. No.	Per Cent.	Tuberculosis Absent. No.	Per Cent.
General paresis.............	214	6	2.3	8	3.7	33	15.4	167	78.6
Other psychoses............	842	195	23.2	21	2.5	153	18.1	473	56.2

TABLE 2.—TUBERCULOUS LESIONS FOUND IN CASES OF GENERAL PARESIS AND IN CASES OF OTHER PSYCHOSES AT DIVERS AGES

Age in Years.	Psychoses.	Number of Cases.	Active Tuberculosis. No.	Per Cent.	Quiescent Tuberculosis. No.	Per Cent.	Healed Tuberculosis. No.	Per Cent.	Tuberculosis Absent. No.	Per Cent.
1—29	General paresis	10	0	0	0	0	1	10.0	9	90.0
	Other psychoses	67	31	46.3	0	0	6	8.9	30	44.8
30—39	General paresis	73	2	2.7	0	0	7	9.6	64	87.7
	Other psychoses	112	44	39.3	3	2.	10	8.9	55	49.1
40—49	General paresis	70	3	4.3	3	4.3	10	14.3	54	77.1
	Other psychoses	122	37	30.3	3	2.5	15	12.3	67	54.9
50—59	General paresis	35	1	2.9	3	8.6	6	17.1	25	71.4
	Other psychoses	139	23	17.1	5	3.6	21	15.1	90	64.2
60 +	General paresis	9	0	0	0	0	6	66.7	3	33.3
	Other psychoses	363	44	12.1	9	2.5	99	27.3	211	58.1
Ages unascertained	General paresis	17	0	0	2	11.8	3	17.6	12	70.6
	Other psychoses	39	16	41.0	1	2.6	2	5.1	20	51.3

These statistics, however, would hardly be acceptabl as proof of the existence in cases of paresis of immunit against tuberculous infection, for the reason that paresi occurs chiefly between the ages of 35 and 55 years, tha is to say, practically past the age of greatest susceptibility to tuberculosis. Therefore in Table 2 I have retabulated my data in such a manner as to show th frequency of tuberculosis in cases of paresis as well a in cases of other psychoses at different ages.

The figures in this table require no comment or interpretation, as their significance is self-evident.

In this study I have made no use of the many thousands of clinical records of this and other state hosp tals, fearing that such records might render my stati tics unreliable. Non-tuberculous pulmonary complications are extremely common in general paresis, an clinically these complications can not always be di tinguished from pulmonary tuberculosis. On the othe hand, tuberculosis among the insane is often overlook owing to absence of subjective complaints, to lack of cooperation on the part of patients in physical examinations, and to the difficulty of obtaining from such patients specimens of sputum for examination.

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[1] I wish to acknowledge my indebtedness to Drs. Joseph Betts of Buffalo, Roy E. Mitchell of Middletown, Glanville Y. Ru of Ward's Island, and Joseph Smith of Brooklyn, for kindly allowi me to make use of their autopsy records.

It seems to me, however, that the number of pathologic records on which the above statistics are based is sufficiently large, and that in view of the remarkable showing of the figures the existence of a distinctly heightened immunity against tuberculosis in cases of general paresis is hardly to be questioned.

To what is this immunity due?

It has been shown by experimental inoculations that paretics are immune against syphilitic infection.[2] This immunity is attributed to previous syphilitic infection, which is now generally regarded as the one essential factor in the etiology of general paresis. The question that naturally suggests itself is: May not the immunity against tuberculosis be due to the same cause? Syphilitic infection, as is well known, gives rise in the human organism to an inflammatory reaction which is almost identical in its nature with that which results from tuberculous infection. This fact, it seems to me, adds probability to the above assumption.

In this connection also other questions of practical interest suggest themselves: If syphilis does confer immunity against tuberculosis, at what clinical stage of syphilis does this immunity develop? How would the course of a case of tuberculosis be affected by a superadded syphilitic infection.

I found among all the pathologic records which I examined five cases of insanity due to syphilitic brain disease. All of the patients were entirely free from tuberculous lesions. I found also records of eight cases of cerebral hemorrhage with histories of syphilis; in two of these a few small scars were found at the apices of both lungs—probably healed tuberculous lesions; the rest showed no evidences of tuberculosis. The number of these cases is too small, of course, to justify any conclusion, and further investigation, both clinical and anatomic, would be required to answer the above questions.

HISTORY OF IRIDOTOMY

KNIFE-NEEDLE VS. SCISSORS—DESCRIPTION OF AUTHOR'S V-SHAPED METHOD *

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To Cheselden has been conceded the honor of being he father and originator of iridotomy. Nearly two enturies have elapsed since he first published the report f his procedure in the Philosophical Transactions for 728. Ever since that time, his signal success has been cknowledged by all except those who either failed to qual his dexterity, or who were prejudiced by their mbition to originate a new method.

A careful review of the medical literature of the cenury and a half following Cheselden's announcement n not fail to impress the reader with the great interest ached to operations for the formation of an artificial pil, which subject was considered second only in importance to that of cataract itself. Not only were a large number of monographs devoted wholly to this subject, but every work on general surgical topics set aside one or more chapters for the discussion of artificial pupil. This is in great contrast to the limited space which modern works on ophthalmology grudgingly yield to this still important subject.

It is difficult for us to appreciate the conditions which brought about so large a percentage of cases of pupillary occlusion. Crude surgical procedures, poor operative technic and the utter lack of asepsis often resulted in iridocyclitis or iridochorioiditis. The couching of the lens, the free discission of both hard and soft cataracts, the frequent introduction of the knife-needle through the dangerous ciliary zone, and the bungling efforts at extraction all increased the tendency to inflammatory reaction, while inadequate therapeutics and lack of antiphlogistic measures frequently permitted the deposit of plastic exudate in the pupillary area, thus resulting in membranous occlusion of the pupil.

OPERATIONS FOR ARTIFICIAL PUPIL

For the sake of historical completeness, and in order to better emphasize the special domain of iridotomy, I will mention briefly the various methods that have been employed in making an artificial pupil. These are:

(1) *Division* of the thickened iris-membrane by an incision made either through the sclerotica or through the cornea. This is true *iridotomy.*

(2) *Excision* of a portion of the iris through a previously made corneal opening. This is now known as *iridectomy.*

(3) *Separation* of the iris from its ciliary attachment. This was generally known as *iridodialysis,* but sometimes called *iridorrhexis.*

(4) Simple *incision* of the pupillary margin, and of the free iris tissue. This has been designated *sphincterotomy* by some, and *coretomy* or *iritomy* by others. Either one of the latter terms is to be preferred, because it is more clearly descriptive.

(5) *Detachment* of the synechiæ at the pupillary margin, either anterior or posterior, thus allowing the pupil to retract. This was known as *corelysis.*

(6) *Strangulation* of the prolapsed iris in the corneal incision was called *iridencleisis.* The prolapse was sometimes tied with a ligature.

(7) *Trephining* of the iris-membrane, by passing a small trephine or punch through a corneal incision.

(8) *Section* and removal of a portion of the sclerotica and chorioid by knife or trephine, with replacement of the conjunctiva over this opening, the conjunctiva thus acting as a substitute for the cornea in transmitting light. This was called *sclerectomy.*

(9) *Transplantation* of the cornea for total leucoma. This was usually preceded by partial or complete trephining of this membrane.

In addition to these nine distinct methods certain combinations of these have been described and successfully practiced:

(10) *Division* and *excision* have frequently been performed together.

(11) *Separation* and *excision* have likewise had some vogue.

(12) *Separation* and *strangulation* have occasionally been practiced.

(13) *Detachment* of the synechiæ and *excision* have also been performed.

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[2] Krafft-Ebing: Die Aetiologie der progressiven Paralyse, beiten, 1897, ii, 12.

* Read in the Section on Ophthalmology of the American Medical sociation, at the Fifty-ninth Annual Session, held at Chicago, ne, 1908.

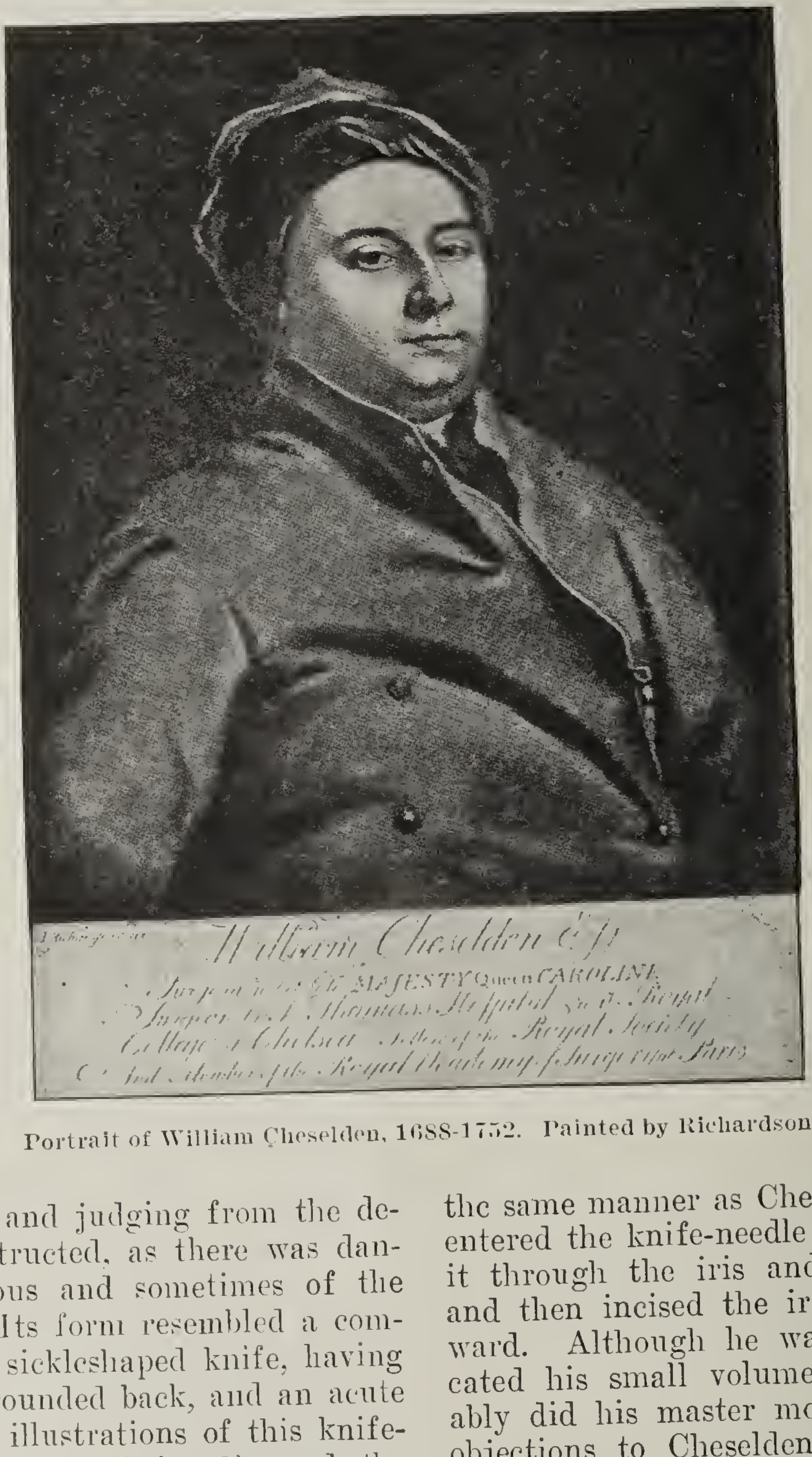
HISTORICAL REVIEW OF IRIDOTOMY

In this brief review of iridotomy[1] we shall confine our attention to the methods that have been advanced for the formation of an artificial pupil in cases of membranous occlusion of the pupil following removal of the lens, either by couching, extraction or discission, the iris-membrane in these cases being chiefly composed of inflamed iris tissue glued down by retro-iridian exudate to the thickened lens capsule.

The early history of iridotomy shows that the advocates of this operation were divided into two schools, (1) those recommending the use of the *knife-needle* for incising the iris-membrane, and (2) those adopting the method of introducing *scissors* through a previously made corneal section and freely excising the iris-membrane, or excising a portion of the same. We will first consider the school which advocated incision by the knife-needle.

I. KNIFE-NEEDLE METHOD

Cheselden,[2] a renowned surgeon, and oculist to Her Majesty, Queen Caroline of England, first announced, in 1728, his success in making an artificial pupil by means of his knife-needle. He made his puncture back of the corneoscleral junction on the temporal side, passing the knife across the posterior chamber, and making a counter-puncture in the iris-membrane near the nasal margin. He then cut through the iris from behind forward as he withdrew the knife, the incision being carried through two-thirds of its extent. The pupillary opening thus made was a long oval slit, horizontally placed. He has reported two successful cases[3] (Figs. 1 and 2), occurring in patients who had previously undergone couching of the lens. His instrument, strange to say, was practically of the same general shape as the Hays knife-needle, but was larger, and judging from the description more clumsily constructed, as there was danger of leakage of the aqueous and sometimes of the vitreous when it was used. Its form resembled a combination of a bistoury and a sickleshaped knife, having a sharp edge on one side, a rounded back, and an acute point. We possess two good illustrations of this knife-needle, one by Cheselden himself (Fig. 3), and the other by his pupil, Sharpe[4] (Fig. 4).



Portrait of William Cheselden, 1688-1752. Painted by Richardson.

For more than a century the method of Cheselden seems to have been the storm center of controversy. Some doubted his veracity, others essayed his operation but failed, while a few had a moderate degree of success. Many attributed to him statements which do not appear in his published report. He says clearly that in each of his cases couching had previously been performed, and yet some have insisted that the lens was present, and must have been wounded. He also states that his incision was made from behind forward, and yet his followers, Sharpe[4] and Adams,[5] both describe the incision as being made from before backward. As Sharpe was his pupil, and presumably had seen him operate, Guthrie[6] suggests the possibility of his having made his incision both ways, the technic being practically the same.

Morand,[7] in his "Eulogy of Cheselden," claims to have personally seen him operate "on an eye in which the iris was closed by an accident," and gives a more detailed description which closely follows the original method. He states that Cheselden presented him with one of his knife-needles as a souvenir of the occasion. Although Morand does not record the exact date of his visit to London, he does state that it occurred during the year 1729. Huguier,[8] in his exhaustive thesis on artificial pupil also places the date of thi visit in the year 1729. Thi fact is important, as som writers have declared tha Morand neither made th visit to London nor sa Cheselden operate, but onl quoted the original accoun given in the Philosophica Transactions. The publication of Morand's high encomiums in 1757 attracte renewed interest to the subject of Cheselden's operation among men of scientific and medical attainments.

Sharpe,[4] in 1739, performed this operation i the same manner as Cheselden, except that after he ha entered the knife-needle through the sclerotic he passe it through the iris and across the anterior chambe and then incised the iris-membrane from before backward. Although he was Cheselden's pupil, and ded cated his small volume on surgery to him, he pro ably did his master more harm than good, as all th objections to Cheselden's method seemed to be bas on the deprecatory remarks of Sharpe. He says, " once performed it with tolerable success, and a f months after, the very orifice I had made contracted and brought on blindness again." He mentions the danger of wounding the lens, the lack of success in paralytic iris with affection of the retina, the danger of iridodialysis from traction of the knife, and the possibility of failure because the incision would not enlarge sufficiently. Thirty years later (1769) he published the ninth edition of his book without recording a single additional case, but added the thought that, since extraction of the crystalline lens showed the cornea was not so vulnerable as had been believed, he would "imagine" that a larger knife might be introduced perpendicularly through the cornea and iris and a similar incision made. In his first eight editions he pictures Cheselden's iris-knife (Fig. 4, vide p. 538), but in his ninth edition he substitutes a broad lance-knife with two edges which closely resembled the one Wenzel (vide Fig. 17) ad just introduced (1767), and which Sharpe suggests can also be used for the extraction of the cataract." Ie evidently did not have a very clear idea of the subject, and only succeeded in casting doubt and discredit n the method of Cheselden, which, judging by his own tatement, he had tried but once.

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[1] Wagner, Karl Wilhelm Ulrich: Inaugural Thesis, Göttingen, 1818. He invented the designation iridotomia, which he formed from the original Greek, ἶρις, ἶριδος (the iris) and τομή (cut).

[2] Cheselden, William: Philosophical Transactions, London, 1728, xxxv, p. 451.

[3] Ibid. abridged, vii, pl. v, Figures 2, 3 and 5.

[4] Sharpe, Samuel: A Treatise on the Operations of Surgery, London, 1739, p. 169.

[5] Adams, Sir William: Practical Observations on Ectropiu Artificial Pupil and Cataract, London, 1812, p. 37 et seq.

[6] Guthrie, G. J.: Operative Surgery of the Eye, London, 18 p. 428.

[7] Histoire et Mémoires de l'Académie Royale de Chirur Paris, 1757, iii, p. 115.

[8] Huguier, Pierre Charles: Des Opérations de Pupille Artif elle, Paris, 1841.

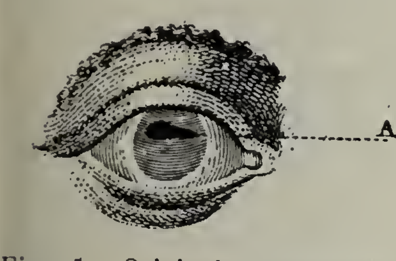


Fig. 1.—Original case of iridotomy. Iris incised above Cheselden).

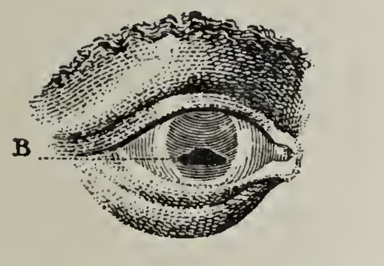
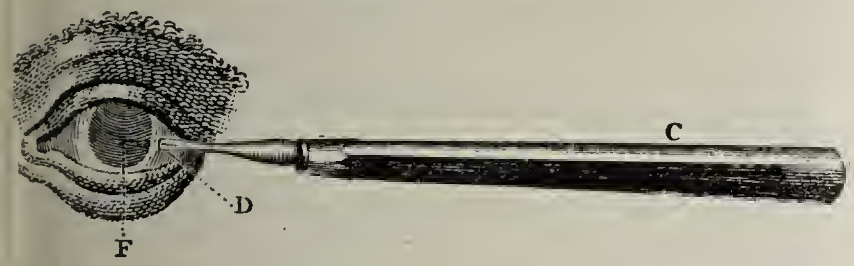


Fig. 2.—Second case of irid otomy. Iris incised below (Cheselden).

Heuermann,[9] in 1756, had already antedated these oughts of Sharpe by practising a similar method. He assed a double edged lance-knife through the cornea stead of through the sclera, and then made a sweeping cision through the iris-membrane without enlarging e corneal wound. He was probably the first to puncre the cornea with the iris-knife.

Janin,[10] about 1766, performed Cheselden's operation veral times with but little success owing to reclosure the wound by plastic exudate. He adopted Sharpe's odification, but later on changed the incision from a rizontal to a vertical one with better results. He, hower, afterward abandoned this procedure and became e originator of the other school, composed of those 10 preferred to use the scissors.


ig. 3.—Original knife-needle in situ, behind the iris (Cheselden).

Guérin,[11] in 1769, made a free corneal incision with a ge cataract knife, and then introduced a small irisife, with which he made a crucial incision from before kward in the center of the iris-membrane. Although thrie[6] distinctly states that Guérin afterwards reved the four angles of the cross with a pair of scissors in order to prevent reclosure of the incision, no direct confirmation of this statement can be found in his writings.

Beer,[12] in 1792, first published his method, which he designated as "an improvement on Cheselden's method." Although the technic is somewhat different, the procedure is practically the same as that originated by Heuermann in 1756. Beer selected certain cases in which a prolapsed iris had followed the lower incision for cataract, causing adherent leucoma with a tensely drawn iris-membrane. He plunged his double-edged lance-knife (Fig. 5) through the cornea and stretched out iris, from above downward and a little obliquely (Fig. 6), so as to incise the center of the tense iris fibers crosswise, at right angles to the line of traction; cutting horizontally when the traction was vertical, and vertically when this was horizontal. In his monograph on artificial pupil,[13] 1805, he substitutes for the lance-knife his new broad iris-knife, which is practically the same as that later shown by Walton (vide Fig. 12), as, indeed, Walton's procedure (vide Fig. 13) was almost identical with that of Beer. For other conditions he usually employed Wenzel's operation until by chance he encountered a puzzling case which led him to perform the operation we now know as iridectomy (1797) and which thereafter became his favorite procedure for artificial pupil.

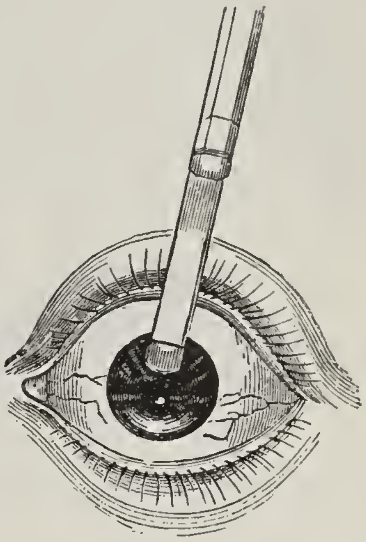


Fig. 6.—Beer's iridotomy with broad iris-knife (after Mackenzie).

Adams,[14] in 1812, revived the operation of Cheselden with certain modifications. While his puncture was made in the same location, his technic was different. He entered the sclera with a small iris-scalpel[5] of his own special design (Fig. 7), which, like Sharpe, he passed through the iris-membrane into the anterior chamber, carrying it across to the nasal side (Fig. 8). From entrance to exit he always kept the edge of the knife turned back toward the iris, so as to cut from before backward. He was thus able by the most delicate pressure of his instrument, to make a long horizontal incision, without causing iridodialysis (Fig. 9). If the first incision appeared to be too short, he did not withdraw the knife entirely, but again carried it forward and partially withdrew it, always cutting in the same plane. To quote his own words, "by repeating the efforts to divide the iris (taking care in so doing to make as slight a degree of pressure as possible upon the instrument, instead of withdrawing it out of the eye at once, as recommended by Cheselden), a division of that membrane

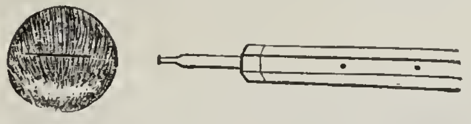


Fig. 8.—Adams' iris scalpel in situ, showing location of scleral puncture (after Lawrence).

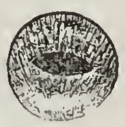


Fig. 9.—Iridotomy by Adams' method (after Lawrence).

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9. Heuermann, Georg: Abhandlung der Vornemsten Chirurgi- en Operationen, Copenhagen and Leipzig, 1756, ii, p. 493.

0. Janin, Jean: Mémoires et Observations sur l'Oeil, Lyon, 1772, 191.

1. Guérin, M.: Maladies des Yeux, Lyon. 1769, p. 235.

12. Beer, Georg Joseph: Lehre der Augenkrankheiten, Wien, 1792, ii, p. 12.

13. Beer, Georg Joseph: Ansicht der Künstlichen Pupillen-Bildung, Wien, 1805, p. 105.

14. Adams, Sir William: A Treatise on Artificial Pupil, London, 1819, p. 34, et seq.

may. in almost all cases be effected, of a requisite size to establish a permanent artificial pupil" (Figs. 10 and 11).

Here were three elements of success, a sharp knife. a gentle sawing movement, and the most delicate pressure of the instrument. His method was a decided advance, and he reported success in nearly one hundred cases. Others, less skilful, however, failed of success, and the severe criticisms of Scarpa,[15] though evidently unjust and tinged by personal animosity,[16] cast a shadow of doubt on the method.

From that time on for nearly half a century this form of iridotomy was practically abandoned, the pendulum swinging toward the use of scissors, which Maunoir had popularized and Scarpa had indorsed. Walton,[17] however, about 1852, proposed a method closely resembling that of Heuermann and almost identical with that of Beer (vide Fig. 6). His iris-knife (Fig. 12) was practically the same as the broad iris-knife of Beer. He incised the cornea near the limbus, and passed the knife across the anterior chamber to the middle of the iris-membrane which he punctured with a sweeping vertical incision (Fig. 13). If the tissue still retained its elasticity there appeared a long pupillary aperture, elliptical and vertical (Figs. 14 and 15). This incision, however, like all those made through a single set of the iris fibers, was only successful when there was sufficient resiliency remaining in the iris tissue to draw the slit open, and thus keep the edges from uniting. While this method never became very popular, there were some who later practiced it by substituting a very narrow Graefe knife for the iris-knife of Heuermann, Beer and Walton. In fact, this latter procedure still has considerable vogue, both for iridotomy and capsulotomy.

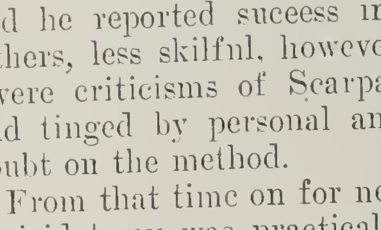
Fig. 10.—Occlusion of pupil (Adams).

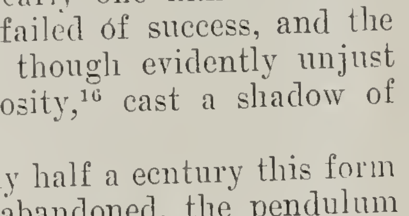
Fig. 11.—The resulting pupil after iridotomy (Adams).

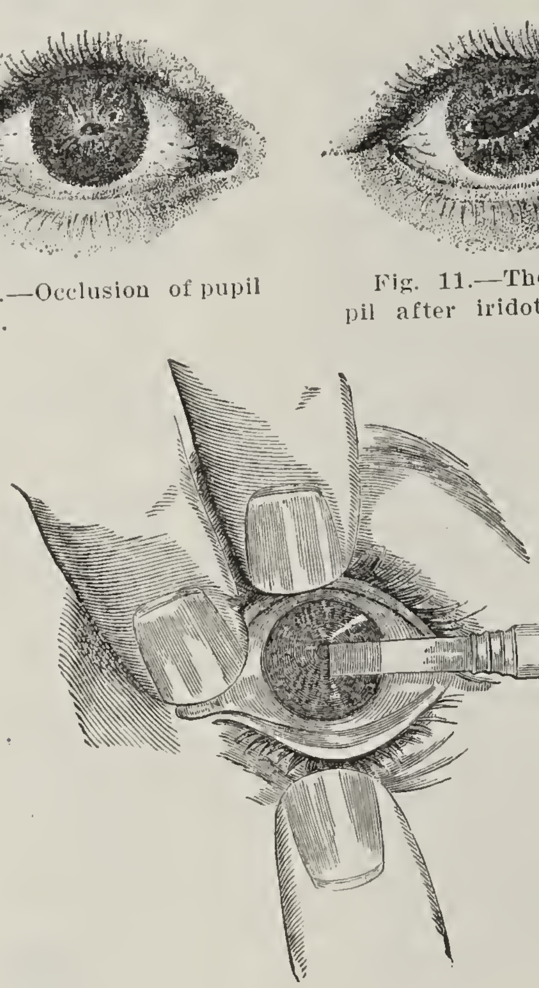
Fig. 13.—Iris-knife in position to make central pupil (Walton, after Beer).

During the following seventeen years no notable advance was made. the scissors method still retaining its hold on the profession, until in 1869. von Graefe, after long reflection, became convinced of the dangers of that method, and communicated to one of his pupils, M. Meyer, his method of simple iridotomy performed with the knife-needle. Meyer[18] quotes his views as follows:

"For such cases von Graefe has suggested another method of operation, the principle and execution of which are contained in the following note written for us by that illustrious savant in 1869:

"When, in consequence of a cataract operation, the lens is absent, and when there is highly developed retro-iritic exudation, with disorganization of the iris tissue, flattening of the cornea and the other sequelæ of a destructive iridocyclitis, I substitute simple iridotomy for iridectomy, which is the operation hitherto performed, generally without success. The operation consists in inserting a double-edged knife, resembling ir shape a very sharp pointed lance-knife, through the cornea and newly formed tissues till it pierces the vitreous body, and immediately withdrawing it; and, while withdrawing it, enlarging the wound in the membranes without increasing the siz of the corneal wound. Experience shows that such plasti membranes attached to the atrophied iris and to the capsul of the lens have a tendency to contract sufficient to maintain to a certain extent, the opening which has been made.

"If, in the ordinary method of iridectomy, combined wit laceration or extraction of the false membranes, we find tha the artificial pupil usually becomes closed, we must attribut this to an excessive vulnerability, which immediately sets u proliferation in those tissues which have been touched, an which are endowed, in consequence of their structure, with a irritability altogether peculiar. We know that even the tran tory reduction of the intraocular pressure, which follows t evacuation of the aqueous humor, is sufficient to give rise hemorrhage in the anterior chamber, which interferes with t perfect success of the intended operation; but most of our fa ures in the ordinary methods are due to the irritation caus by the forceps and the traction on the surrounding structur Simple iridotomy is free from such inconveniences; it is, so speak, a sub-corneal act, and enjoys the immunity which l longs to subcutaneous operations.

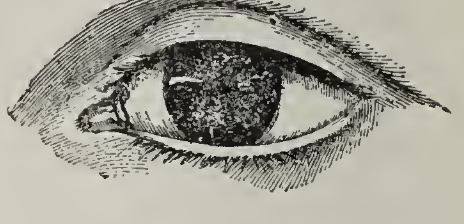
Fig. 14.—Occlusion of pupil (Walton).

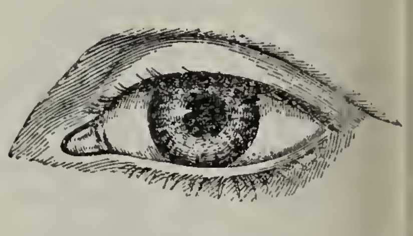
Fig. 15.—New pupil after i cision with iris-knife (Walton

"I have also reduced the corneal wound to a minimum, using small falciform knives. These are passed through t false membranes, which are then cut from behind forward."

Von Graefe thus proposed two methods, (1) by cutti from before backward with a double-edged lance-kni according to the method of Heuermann, and (2) cutting from behind forward with a sickle-shaped kni after the original suggestion of Cheselden. Later in t same year, as he lay on his last bed of illness, he beca so absorbed in the study of this subject that he sen telegram to the Heidelberg Congress[19] (Septeml 1869), in which he advocated the method by the sick shaped knife-needle as the best procedure. His last m sage to his colleagues showed, therefore, that throu mature conviction he strongly favored the use of knife-needle, and the making of a sub-corneal incisio the iris-membrane without evacuating the aqueous mor. His untimely death, however, prevented him from further perfecting this procedure and presenting it to the profession.

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[15] Scarpa, Antonio: Trattato Della Principali Malattie Degli Occhi, Ed. quinta, Pavia, 1816. translated by James Briggs, London, 1818, p. 373.

[16] Edin. Med. and Surg. Jour., No. 58.

[17] Walton, H. Haynes: The Surgical Diseases of the Eye, London, 1861, p. 604

[18] Meyer, Edouard: Traité Pratique des Maladies des Y Paris, 1880, translated by Freeland Fergus, Philadelphia, 188 396.

[19] Klinische Monatsblätter für Augenheilkunde, 1869, p. 43

Galezowski,[20] in 1875, published a somewhat similar method in which he used his falciform knife, *aiguille-a-serpette* (Fig. 16), which he introduced through the cornea and iris-membrane, making either a horizontal or a vertical incision, with a "go-and-come" (sawing) movement, after the suggestion of Adams. If this single cut was not sufficient, he made a linear incision of the cornea with a Graefe knife, drew out the iris and cut it off with scissors. By a process of evolution, however, he perfected the former procedure and eliminated the scissors. This latter method was published in the third edition of his book in 1888. He punctured the cornea and iris-membrane with the sickle-shaped knife, making first a horizontal incision by the sawing movement of Adams, and finishing with a second cut in the vertical direction, thus forming a T-shaped incision. In actual practice, however, he frequently prolonged this second cut, thus making a crucial incision after the manner of Guérin.[11]

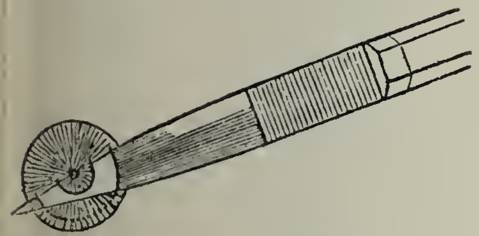

Fig. 17.—Wenzel's cataract knife and method of incision (after MacKenzie).

The writer,[21] in 1888, was led to devise an operation vith a modified Hays knife-needle, in which through a orneal puncture he made a converging incision in the ris-membrane which resembled an inverted V. The resulting pupil opened up and formed either a triangular r an oval-shaped pupil depending on the degree of stiffness or resiliency of the iris-membrane. This method vill be described in detail later on.

II. SCISSORS METHOD

We will now return to the consideration of the second chool in which scissors were introduced through a previsly made corneal section and a free incision was made the iris-membrane, or a portion of the membrane exsed

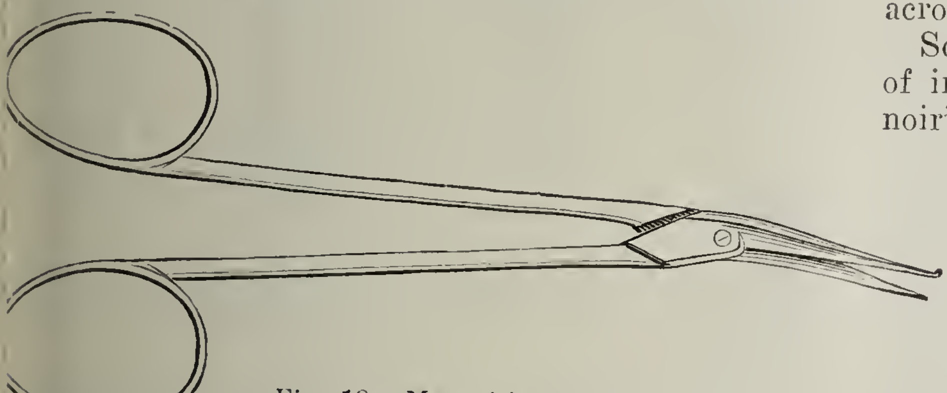

Fig. 18.—Maunoir's scissors.

Janin,[10] in 1768, having abandoned the procedure of heselden, proposed a new method. He incised the rnea below as for cataract extraction, and raised the rneal lip with a spatula while he introduced a pair of rved scissors, the lower blade of which was pointed. e plunged this sharp blade through the iris-membrane, d with a single vertical cut made a crescentic pupil ich gaped sufficiently for visual purposes. As this is the first known description of iridotomy by the scissors method it is probable that Janin was the originator of this procedure.

Wenzel,[22] in 1786, employed a different method. With a lance-shaped cataract knife he entered the cornea, dipped through the iris-membrane, returned to the anterior chamber, and continuing to cut made a counter-puncture on the opposite side of the cornea, following which he completed his cataract incision. This gave a semilunar flap of iris tissue which could easily be excised by scissors passed through the large corneal opening (Fig. 17).

Maunoir,[23] in 1802, took up the method of Janin, with the object of improving it. He made an incision near the corneal margin, through which he introduced a pair of long, thin, angular scissors of his own design (Fig. 18), one blade of which was sharp-pointed like a lancet, and the other button-pointed like a probe. The iris-membrane was then punctured by the sharp blade at about the natural location of the pupil, and an incision executed toward the ciliary margin of the iris. Finding that this single incision did not always succeed,[24] he subsequently improved this method by making a second incision from the pupillary area toward the iris margin, in the line of the radiating iris fibers, thus making a divergent V (Fig. 19). This triangular flap was then allowed to shrink back, or if too stiff, was drawn out and excised. The resultant pupil assumed the shape either of a triangle, a parallelogram (Fig. 20), or a crescent (Fig. 21). He always made his incision parallel with the radiating fibers of the iris and across the circular fibers.

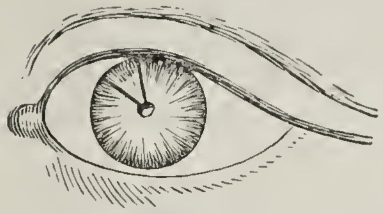

Fig. 19.—V-shaped iridotomy with scissors (Maunoir).

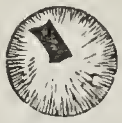

Fig. 20.—Parallelogram pupil (Maunoir).

Scarpa,[15] in 1818, having abandoned his own method of iridodialysis as wholly unsatisfactory, adopted Maunoir's procedure with enthusiasm, chiefly because he had by a friendly correspondence[24] personally encouraged Maunoir with advice and suggestion during its development. He indorsed Maunoir's plan of a double incision when he stated his conviction that "experience has proved that in order to obtain, with the most absolute certainty, a *permanent* artificial pupil, it is necessary to make *two* incisions in the iris so as to form a triangular flap in the membrane, in the form of a letter V, the apex being precisely in the center of the iris and the base near the great margin." Some have claimed that Scarpa himself originated the V-shaped incision, but

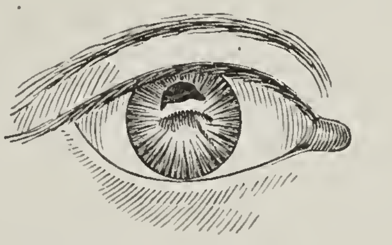

Fig. 21.—Crescent pupil (Maunoir).

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[20] Galezowski, Xavier: Maladies des Yeux, 2d. ed., Paris, 1875, 401, and 3rd. ed., Paris, 1888, p. 384.

[21] A brief description of the author's method, written by him, s first published in de Schweinitz on Diseases of the Eye, Phila-lphia, 2nd. ed., 1896, p. 607.

[22] Wenzel, Baron de: Traité de la Cataracte, Paris, 1786, translated by James Ware, London, 1805, ii, p. 256.

[23] Maunoir, Jean Pierre: Mémoires sur l'Organisation de l'Iris, et l'Opération de la Pupille Artificielle, Paris, 1812.

[24] Medico-Chir. Trans., London, 1816, vii, p. 301, and ix, p. 382

he gives Maunoir full credit for its successful accomplishment, although he does suggest some additional indications for its practical application.

His opposition to the knife-needle incision of Cheselden arose from the fact that the pupil either did not open, or if it did open would not remain permanent, chiefly because of the single iris incision. His antagonism to the more successful procedure of Adams was the result of a caustic personal controversy[16] with that skilful surgeon, who ably parried his charges.[14] His great influence with the profession of that day, however, served to check the sentiment in favor of Adams' procedure, and when the weight of his indorsement was cast in favor of Maunoir's operation the scales were decisively turned toward the side of the scissors method.

Mackenzie,[25] in 1840, practiced Maunoir's operation with considerable success, but in certain cases found it necessary to employ a slight modification of this procedure. He reversed Maunoir's incision by making the same divergent V across the radiating fibers of the iris instead of parallel with them (Fig. 22), thus securing a triangular pupil (Fig. 23), which Lawrence[26] thought might succeed in some cases where Maunoir's method would not be available.

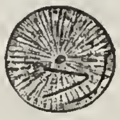

Fig. 22. — Mackenzie's incision in cornea and iris-membrane (Mackenzie).

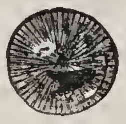

Fig. 23.—Resulting triangular pupil from Mackenzie's incision (Mackenzie).

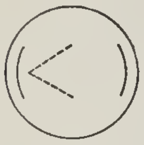

Fig 24.—Plan of Bowman's first iris incision. Divergent V.

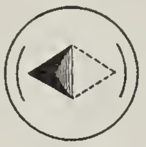

Fig. 25. — First incision completed. Plan of second, showing double V.

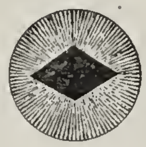

Fig. 26. — Rhomboidal pupil, resulting from Bowman's iridotomy.

Bowman,[27] in 1872, proposed a method which, though surgically difficult to execute, was quite ingenious, and may have been the initial suggestion that stimulated DeWecker to write his monograph in the following year. I will quote his description as follows: "We make a double opening simultaneously on opposite sides of the cornea. It is more convenient, of course, to make these two openings in a horizontal than in a vertical direction. I then run a pair of scissors in two diverging lines (V) from each incision, thus enclosing between the incisions a large square or rhomboidal portion of the iridial region including the pupil, and all the structures there. You then withdraw the portion thus cut out. There is no drag on the ciliary region; whatever is withdrawn has been cut away from its connections beforehand" (Figs. 24, 25 and 26).

This method is simply an elaboration of the one proposed by Maunoir, in which, instead of forming one divergent V, Bowman has made a duplicate incision on the opposite side, and by joining the bases of these two resultant triangles has caused them to take the shape of a rhomboid, thus <>.

DeWecker,[28] in 1873, published his admirable monograph on iridotomy, in which he proposed the operation which bears his name, and which has long stood as the best recognized method of this procedure. He advocated two different ways of performing this: 1, simple iridotomy, and 2, double iridotomy.

1. *Simple Iridotomy.*—This is practically the same operation as Critchett's sphincterotomy and Bowman's visual iridotomy, although differently executed. It has been supplanted in our day by iridectomy, and does not, therefore, come within the purview of this discussion.

2. *Double Iridotomy.*—He rightly claimed that this was both antiphlogistic and optical in its purpose. He employed two distinct methods, which he designated as (*a*) iritoectomie, and (*b*) iridodialysis. The instruments he used were a small stop-keratome (Fig. 27) and a pair of specially devised fine iris scissors (pinces-ciseaux) (Fig. 28), one blade being sharp pointed and the other blunt. These scissors were a great mechanical advance over all previous instruments of this kind, and undoubtedly proved to be a most important element in the success of his procedure.

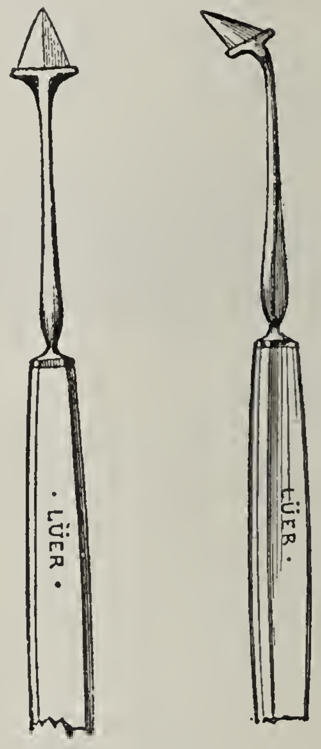

Fig. 27. — Stop-keratomes, straight and angular (DeWecker).

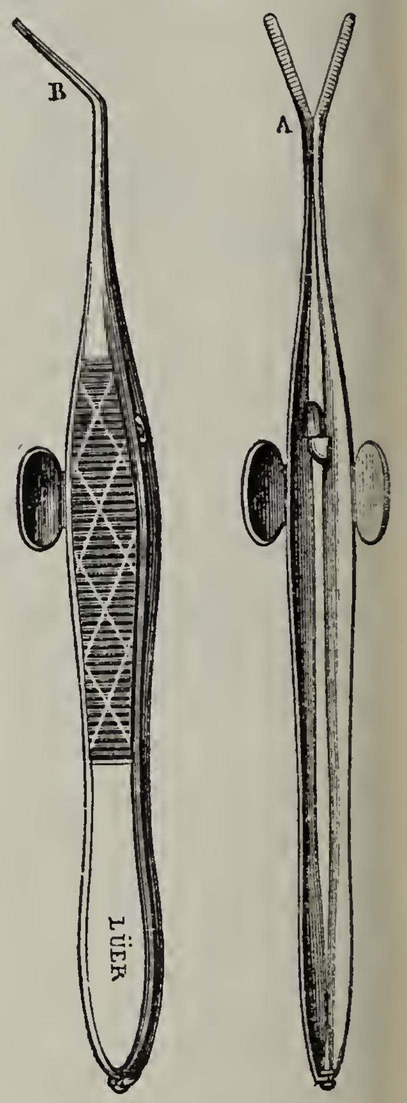

Fig. 28. — Forceps-scissors (pinces-ciseaux) (DeWecker).

(*a*) *Iritoectomie.*—He entered the stop-keratome through the cornea, made an exact 4 millimeter incision, and then partly withdrew it while letting the aqueous slowly escape. As soon as the iris-membrane floated up against the knife, he pressed forward, making a 2 millimeter incision in the iris. Slowly withdrawing the knife, he introduced the sharp point of the scissor through the iris buttonhole and cut obliquely from either extremity of the incision toward the apex of triangle, thus making a convergent V (Fig. 29). He then grasped the resulting triangular flap with the forceps and removed it, leaving an open central pupil.

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[25] Mackenzie, William: Diseases of the Eye, 3rd. ed., London, 1840, p. 746, American edition, edited by Hewson, Philadelphia, 1855, p. 815.

[26] Lawrence, Sir William: Diseases of the Eye, American edition, edited by Hays, Philadelphia, 1854, p. 478.

[27] Transactions, Fourth Int. Ophth. Cong., London, 1872, p. 179.

[28] DeWecker, Louis: Annales d'Oculistique, Sept., 1873, 1 123, et seq.

(*b*) *Iridodialysis.*—His second method was a counterpart of Maunoir's earlier operation, with the addition of iridodialysis. He made the corneal and iris incision with the stop-knife, as in the previous method. Slipping in his scissors he cut from the center of the iris-membrane toward the periphery, and duplicated this ncision at an oblique angle to the first, thus making a divergent V (Fig. 30). This formed a triangular flap which he grasped with forceps and tore from its ciliary ttachment by iridodialysis.

DeWecker's procedure was planned by a skilled opera- or, and required great dexterity in its execution. When uccessful, however, the result was most brilliant. Nev- rtheless, it was impossible to eliminate the danger of emorrhage and loss of fluid vitreous in iritoectomie, hile in iridodialysis there was the added danger of a orn ciliary surface and traction on the ciliary body. His trict injunction to have a trained assistant hold up the peculum blades in order to avoid the loss of fluid itreous, showed how much he feared this disastrous ontretemps. The success of his method of incision is ell shown in the illustration of his two cases (Figs. 31 nd 32).

I have already suggested the possibility of Bowman's aper before the London Congress of 1872 having given rigin to DeWecker's monograph in 1873. This seems ite reasonable when we consider that Bowman prosed two methods of iridotomy, one his double V operion with a rhomboidal pupil (previously quoted), and e other a visual iridotomy or sphincterotomy, by cutg through the pupillary margin with a blunt corneal ife. These two methods are exact prototypes of Wecker's proposals. Furthermore, DeWecker was esent at the London Congress where he heard Bowm's paper, and took part in its discussion. In fact, irteen years later DeWecker acknowledged[29] that after nsidering the objections to Bowman's method of iritomy "I addressed myself at that time to the search an instrument which allows the avoidance of all tracn on the iris, and which can be handled through a rrow opening, while exerting its cutting action in a ne parallel to the surface of the cornea, against which diaphragm of the iris applies itself, after the escape the aqueous humor. The forceps-scissors having been covered, it was easy for me to cause to be revived the cedure of Janin, and to make it decisively take rank modern ocular surgery."

eWecker makes only a casual reference to Maunoir's thod, but credits Janin with the original suggestion the method which he has thus elaborated. Neverthe- it is quite evident that DeWecker's method was ply a modification of the one outlined by Maunoir nty years before. Furthermore, he lays down the e rule that Maunoir first offered: "Always cut parl to the radiating fibers and perpendicularly to the ular fibers of the iris."

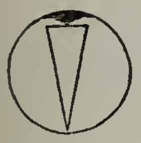
Fig. 29.—Iritoectomie. Convergent V (DeWecker).

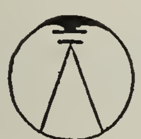
Fig. 30.—Iridodialysis. Divergent V (DeWecker).

RELATIVE ADVANTAGES OF KNIFE-NEEDLE VS. SCISSORS

In reviewing the questions at issue between these two schools of iridotomy, one can not help noticing the constant oscillation from one method to the other as certain advances were made. The method by the knife-needle seemed to possess the advantage of easy accomplishment and less postoperative disturbance, but with the disadvantage that often the pupillary opening was inadequate and promptly reclosed by plastic exudate. On the other hand, the method by the scissors was more difficult of accomplishment, caused more traumatism to the eye, was often complicated by great loss of fluid vitreous, and was frequently followed by severe inflammatory reaction. If, however, it proved successful, the resulting pupil was permanent and sufficiently large for visual purposes. The inclination of all operators seemed to be toward the use of the knife-needle, and it was only necessity that forced them to adopt the more complicated procedure of the open operation with scissors. Von Graefe seemed to recognize this when he referred to the knife-needle incision as "a sub-corneal act which enjoys the immunity of subcutaneous operations."

The chief advantages of iridotomy by the knife-needle are the ease of incision, the lack of traction on the ciliary body, the freedom from postoperative inflammatory reaction, the avoidance of opening an eyeball which may contain fluid vitreous, the lessening of the tendency to iris hemorrhage from lowered tension, and the avoidance of the nebulous scar which often follows a large corneal incision in old inflammatory eyes. The disadvantages revealed in the method of the knife-needle lay partly in the method and partly in the faulty instruments constructed in that day. Cheselden, Morand, Sharpe and Adams all made the mistake of entering the eye back of the corneoscleral junction, which is so near to the danger zone of the eye. Adams, however, made a two-fold improvement in adding to his operation a sawing movement and in advocating the "most delicate pressure of the instrument" in order to make a free incision. Heuermann was apparently the first to make the puncture through the cornea instead of through the sclera.

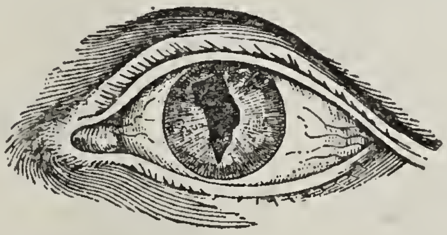
Fig. 31.—Pupil by iritoectomie. Two incisions. Convergent V (DeWecker).

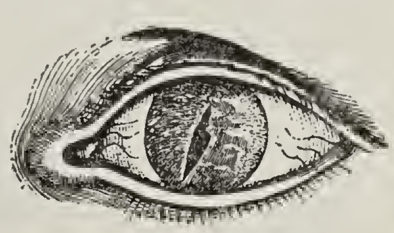
Fig. 32. — Stenopaic pupil. Single iris incision (DeWecker).

The advocates of the knife-needle method long labored under the disadvantage of making a single iris incision, while those who employed the scissors early discovered that a double incision was necessary to success. Although Janin was the originator of the scissors method, Maunoir was the first to deliberately try a triangular flap, which DeWecker later elaborated and made a permanent success. The many disastrous results of the open operation, however, compelled conservative surgeons, like von Graefe, to revert to a study of Cheselden's method, and to seriously consider the great advantages which a successful iridotomy by the knife-needle method would confer on surgeon and patient alike.

. DeWecker et Landolt: Traité Complet d'Ophtalmologie, s, 1886, ii, p. 393.

THE CHOICE OF A KNIFE-NEEDLE

1. Cheselden's knife-needle (Figs. 3 and 4) was a splendidly designed instrument, but a poorly executed one. The blade was too large (11 mm.) and the shank improperly rounded, so that both aqueous and vitreous were liable to escape through the scleral puncture. This leakage may explain many failures, although the single iris incision was undoubtedly the most serious fault of the method.

2. The iris-scalpel of Adams (Fig. 7) was poorly designed but splendidly executed, the long blade completely filling the wound and thus preventing the escape of any fluid. The cutting edge, however, was too long (15 to 20 mm.), and especially so for the execution of the sawing movement advised by Adams.

3. The double-edged lance-knife (Figs. 5, 12 and 33) employed by Heuermann, Beer and von Graefe, was useful for the long sweeping incision in the iris-membrane which they advocated, but is not adapted for the method which will be described later. The same shaped knife (Fig. 33) with a smaller blade and a longer shank is also used for this purpose, but is likewise too broad, too oval pointed and too much bellied to cut well, while the upper edge is liable to scarify Descemet's membrane at the same time that the lower edge is executing the incision in the iris tissue.

4. The sickle-shaped knife (Fig. 16) which von Graefe recommends and Galezowski employs, is excellent for making the puncture, but for the go-and-come movement, which Galezowski advises, is not nearly so good as the straight blade with a slight falciform point. It closely resembles the older falciform knife of Scarpa.

5. The knife-needle of Knapp (Fig. 34), which is so generally used for capsulotomy, is unfortunately not well adapted for iridotomy. The point is too oval, the cutting edge is too much bellied, and the blade is too short (5 mm.). It will not easily puncture a dense iris-membrane, and the long sawing incision can not be well executed, because the short blade either persists in slipping out of the iris incision or else allows the membrane to ride up on the shank, in either case interfering with the completion of the operation.

6. Sichel's iridotome (Fig. 35) closely resembles Knapp's knife-needle, and although specially designed for this purpose, has the same faults, an oval point and a bellied edge. On the other hand, the blade is too long (11 mm.) to be easily manipulated in the anterior chamber.

7. The Hays knife-needle (Fig. 36), as suggested in the early part of this paper, has the same general shape as Cheselden's instrument, although much smaller. It was devised by Dr. Isaac Hays, an early surgeon of the Wills Hospital, and, although not well known to the profession at large, has been in constant use by the staff of that hospital for more than half a century. I may be pardoned for briefly quoting the original description of the instrument as published by Hays[30] in 1855:

> "This instrument from the point to the head, near the handle (a to b, Fig. 36), is six-tenths of an inch, its cutting edge (a to c) is nearly four-tenths of an inch. The back is straight to near the point, where it is truncated so as to make th point stronger, but at the same time leaving it very acute and the edge of this truncated portion of the back is made t cut. The remainder of the back is simply rounded off. Th cutting edge is perfectly straight and is made to cut up to th part where the instrument becomes round, c. This portion re quires to be carefully constructed, so that as the instrumen enters the eye it shall fill up the incision, and thus prevent th escape of the aqueous humor."

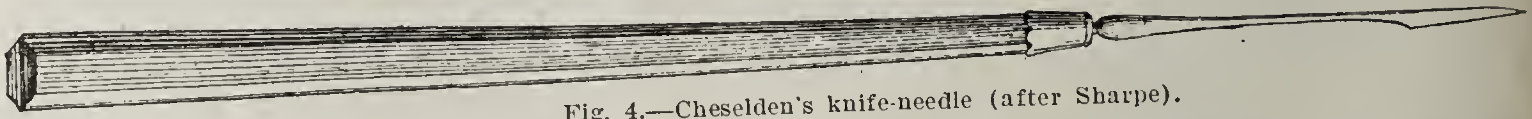
Fig. 4.—Cheselden's knife-needle (after Sharpe).

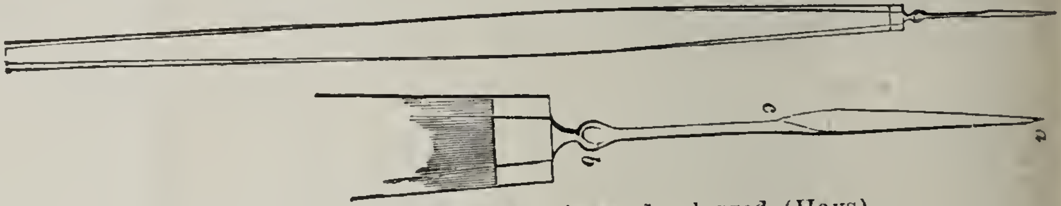

Fig. 36.—Hays' knife-needle, exact size and enlarged (Hays).

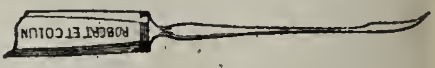

Fig. 16.—Sickle-shaped knife, Aiguille-à-serpette (Galezowski).

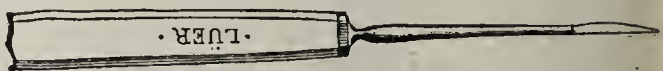

Fig. 35.—Sichel's iridotome (after Meyer).

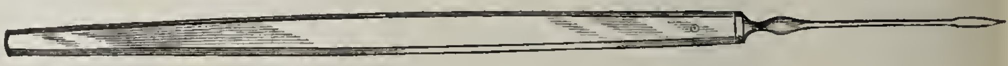
Fig. 34.—Knapp's knife-needle.

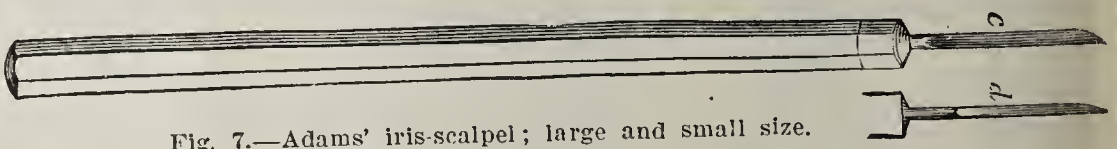
Fig. 7.—Adams' iris-scalpel; large and small size.

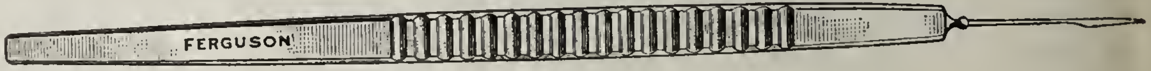

Fig. 37.—Ziegler's model of knife-needle.

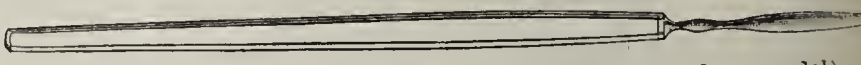
Fig. 33.—Double edged lance-knife (modern model).

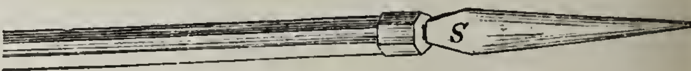

Fig. 5.—Double edged lance-knife (Beer).

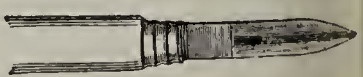
Fig. 12.—Iris-knife (Walton, after Beer).

THE VARIOUS KNIFE-NEEDLES AND IRIS-KNIVES MENTIONED IN THE TEXT. (Grouped together for study and comparison.)

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[30] Amer. Jour. of the Med. Sciences, July, 1855, p. 82.

8. The knife-needle, which I invariably use, is a modified pattern of that devised by Hays. The form of this instrument lies midway between the falciform knife and the bistoury, and possesses the advantages of both. It has a very delicate point which punctures easily, and an excellent cutting edge of sufficient length (7 mm.). If the shank is properly rounded it can be used with a sawing motion, sliding backward and forward through the corneal puncture without injuring the cornea, and without allowing the aqueous to escape. To accomplish this the more easily, the shank has been made 4 mm. longer than the original model. This instrument, therefore, seems to meet all the requirements of a perfect iris-knife, viz., a falciform point which makes the best puncture, a straight edged blade which makes the best incision, and a cutting edge 7 mm. long, which is the best length for properly executing the sawing movement. My model[31] of knife-needle (Fig. 37) resembles Cheselden's knife, as shown by Sharpe (Fig. 4), even more closely than the original pattern of Hays does.

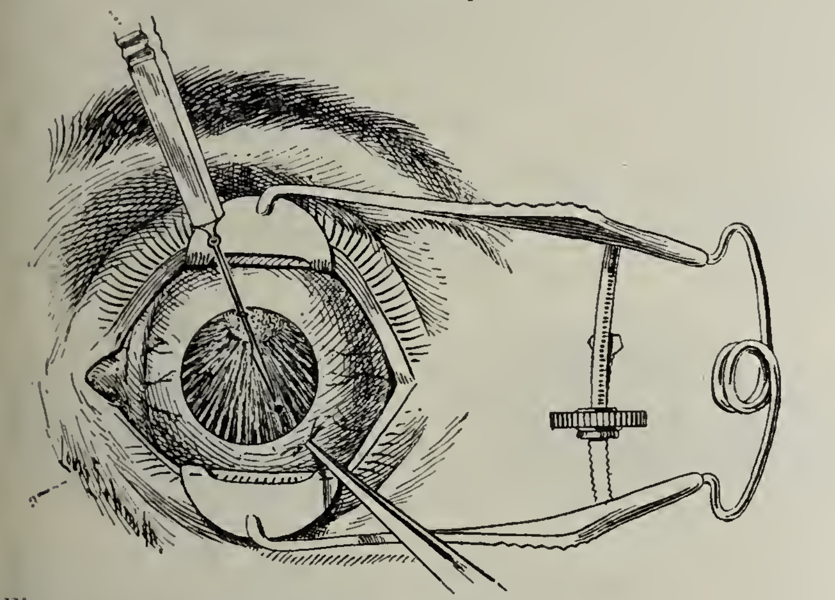

Fig. 38.—Author's V-shaped iridotomy. Knife-needle entered through cornea.

SSENTIALS OF SUCCESS IN IRIDOTOMY BY THE KNIFE-NEEDLE METHOD

1. A good knife-needle must be carefully selected. Ve have already concluded that the modified Hays nife-needle is the best model for this purpose. The nife-needle must, of course, have a well sharpened oint and edge.

2. The character of the incision in the iris-membrane s of vital importance. It should be a double incision. uérin, Maunoir, DeWecker and Galezowski recognized his. Guérin made a crucial incision, Maunoir and De-Vecker adopted the triangular flap, while Galezowski dvocated the T-shaped cut. Our choice is the V-shaped ncision, which is undoubtedly the only one that will cut hrough all the iritic fibers in such a way as to give us he greatest retraction of the membrane.

3. Absolutely no pressure should be made in cutting ith the knife-needle. This must be recognized as the ain secret of success, whether you are incising a dense, lt-like iris-membrane, or a thin filmy capsule. If this ule is observed all traction on the ciliary body will be voided.

4. The knife-needle should slide backward and for-ard through the corneal puncture with a gentle saw-g movement.

5. The corneal puncture and membrane counter-uncture should be far enough apart to make the corneal puncture a good fulcrum for the delicate leverage necessary in executing the iris incision.

6. The knife-needle should be so manipulated that no aqueous shall be lost, as this accident may prevent the completion of the operation, and may increase the tendency to iris hemorrhage by lowering the ocular tension.

7. Every incision should be made a thoroughly clean cut, and all tearing of the tissues should be avoided.

8. The most perfect artificial illumination should be secured, either by an electric photophore or a condensing lens, as both iridotomy and capsulotomy require constant and close inspection of the operative field.

AUTHOR'S V-SHAPED IRIDOTOMY

The method of V-shaped iridotomy, performed by me with my modified Hays knife-needle, may be described as follows:

First Stage.—With the blade turned on the flat, the knife-needle is entered at the corneo-scleral junction, or through the upper part of the cornea (Fig. 38), and passed completely across the anterior chamber to within 3 millimeters[32] of the apparent iris periphery. The knife is then turned edge downward, and carried 3 millimeters to the left of the vertical plane (Fig. 39).

Second Stage.—The point is now allowed to rest on the iris-membrane, and with a dart-like thrust the membrane is pierced. Then without making pressure on the tissue to be cut, the knife is drawn gently up and down with a saw-like motion, until the incision has been carried through the iris tissue from the point of the membrane puncture to just beneath the point of the corneal puncture. This movement is made wholly in a line with the axis of the knife, the shank passing to and fro through the corneal puncture, and the loss of any aqueous being carefully avoided in the manipulation.

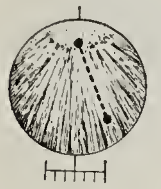

Fig. 39.—Author's V-shaped method. Plan of first incision.

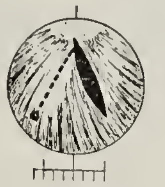

Fig. 40.—First incision completed. Plan of second incision.

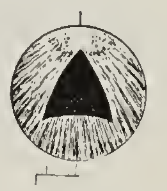

Fig. 41.—Pupil resulting from V-shaped iridotomy.

Third Stage.—The pressure of the vitreous will now cause the edges of the incision to immediately bulge open into a long oval (Fig. 40) through which the knife-blade is raised upward, until above the iris-membrane, and then swung across the anterior chamber to a corresponding point on the right of the vertical plane, which, owing to the disturbance in the relation of the parts made by the first cut, is now somewhat displaced and the second puncture must be made at least 1 millimeter farther over, i. e., 4 millimeters to the right of the vertical plane (Fig. 40).

Fourth Stage.—With the knife point again resting on the membrane, a second puncture is made by the same quick thrust, and the incision rapidly carried forward by the sawing movement to meet the extremity of the first incision, at the apex of the triangle, thus making a *converging* V-shaped cut (Fig. 41). Care must be taken at this point that the pressure of the knife-edge on the tissue shall be most gentle, and that the second incision shall terminate a trifle inside the extremity of the first, in order that the last fiber may be severed and thus allow the apex of the flap to fall down behind the lower part of the iris-membrane. If the flap does not roll back of its own accord it may be pushed downward with the point of the knife. When the operation is completed the knife is again turned on the flat and quickly withdrawn.

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[31] This knife-needle has been carefully made for me by Lüer, ris, and by Ferguson, Philadelphia.

[32] Compare with millimeter scale beneath each diagram.

CAUSES OF FAILURE

The most fruitful sources of failure are, first, a poorly sharpened knife-needle; second, a badly planned incision; third, inability to sever the apex of the triangle; fourth, the early loss of aqueous; fifth, too heavy pressure with the knife-edge, and sixth, rocking or rotating the knife backward instead of making the sawing movement. All of these can easily be avoided, if the surgeon will only exercise care and good judgment.

In an occasional case, the iris-membrane may be so stiff that the apex of the flap will not retract. If the apex can not be pushed down by the tip of the knife turn the blade on the flat, puncture the base of the flap by a quick thrust, and with a sawing motion cut across its fibers so that it will fall back as though hinged; or, if positive that the vitreous is not fluid, introduce a keratome in the cornea below, draw out the triangular tongue, cut it off with the iris scissors, and dress back the base with a silver spatula.

It is possible that the capsule, or iris tissue, may lose its anchorage. In that event we must either reverse the procedure by entering the knife-needle below, and cut from above downward, or else pass a second knife-needle through the loosened edge of the membrane to fix it, and then proceed with the usual method.

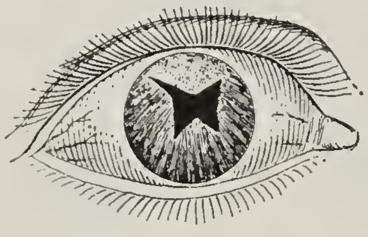

Fig. 42 (Case 1).—Iridotomy in a stiff iris-membrane (author's original case).

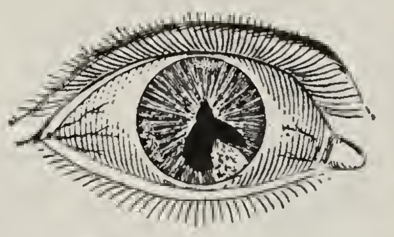

Fig. 43 (Case 2).—Iridotomy in a soft eye-ball, with dense iris-membrane.

Occasionally, the apex of the triangular flap will hold fast, because the last fiber of tissue has not been severed. If the leverage is too short to incise it from above, withdraw the knife-needle and reintroduce it far enough from the apex to secure the proper leverage, and again incise it gently, until it falls back.

Traction on the ciliary processes, accidental puncture of the ciliary body, or the tearing of the membrane from its ciliary attachment may all set up iridocyclitis or glaucoma, and should therefore be avoided. As tense capsular bands are liable to engender a similar condition they should be incised. If any of these traction bands should remain in the edge of the coloboma, we may enter the knife behind them and gently saw through into the already cleared pupil, before withdrawing the knife.

ILLUSTRATIVE CASES

I will briefly cite a few examples of the V-shaped operation, two that were my first efforts, and two that were recent cases. They were all of the class that are often abandoned as hopeless; hence the visual result is far below the operative success.

Case 1.—*History.*—F. M., aged 65 years. O. D. complete membranous occlusion of pupil from iridocyclitis, following cataract extraction. The iris and capsule are tensely drawn up toward the ciliary border. Light perception and projection good. Several efforts have been made to incise the membrane, but without success. Admitted to Wills Hospital by the late Dr. Goodman, through whose courtesy I operated.

Operation.—On Jan. 15, 1889, I made two long incisions, almost crucial, and extending beyond the apex of the V, resulting in a W-shaped pupil, on account of the stiff iris membrane (Fig. 42). With S. + 10 D. he saw 20/50.

Case 2.—*History.*—J. S., aged 30 years. O. S. injured and enucleated. O. D. sympathetic inflammation, choroidal cataract; three discissions and one iridectomy, down and in. Membranous occlusion of pupil. I first saw him in 1888 while house surgeon at the Wills Hospital, where iridotomy was skilfully performed nine times by one of the surgeons, the methods being varied and ingenious, but without success, as the incision was invariably closed by plastic exudate. My interest in this series of operations first drew my attention to the subject of iridotomy, and stimulated me to develop the method I have here submitted and which I first tried in Case 1.

One year later this patient came to my clinic at St. Joseph's Hospital. Iris was discolored, capsule thickened and visible through the coloboma, down and in; areas of scleral thinning, with pigmented chorioid showing through. T—3. Light perception good, projection only fair.

Operation.—On June 17, 1889, I made a V-shaped iridotomy along the outlines of the former iridectomy. The membrane freely opened up into a triangular or pear-shaped pupil (Fig. 43), which proved permanent, but was only useful for quantitative vision, about 5/200. No further test could be made because the disorganized vitreous was filled with floating masses. I have seen him within a year, going about and earning his living. From an operative standpoint I have always considered this early effort one of my most successful cases, chiefly because of the great density of the iris-membrane and the lowered tension of the eyeball.

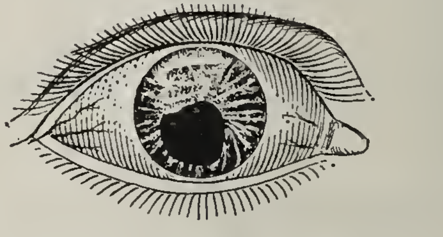

Fig. 44 (Case 3).—Iridotomy in a soft eyeball, with thin membrane and iris bombé.

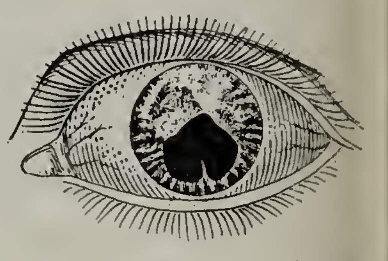

Fig. 45 (Case 3).—Iridotomy showing apex of iris flap after incision through adherent fibers.

Case 3.—*History.*—Mrs. A. D., aged 45 years. O. D. iridectomy for glaucoma seven years ago. O. S. iridectomy two years ago by another surgeon, at which time there occurred slight incarceration of iris, followed by sympathetic ophthalmitis in O. D. The severe iridochorioiditis resulted in cataract and some shrinkage of globe. The cataracts were extracted from both eyes in 1907, followed by dense opacity of cornea above, iris bombé, shallow anterior chamber, T—2. Here was a soft, distensible, iris tissue with shallow anterior chamber and greatly lowered tension of the eyeball, constituting one of the most difficult conditions to operate on.

Operation.—On May 13, 1907, the eyes being quiet, and light perception and projection fair, V-shaped iridotomy was performed on both eyes. The leucomatous areas in the upper part of cornea necessitated making the pupil below. In O. D the pupil opened up beautifully (Fig. 44), but in O. S. a tag of iris hung fast (Fig. 45) and was again incised two months later. The artist has illustrated the remaining portion of thi tag very well. As soon as the iris tissue was incised it re tracted, making the pupils larger than the area of incision The test for glasses, nearly a year later, March 15, 1908 yielded the following result:

O. D. S + 13 D $\asymp$ C + 4.75 D ax. 105° = 20/40.
O. D. S + 13 D $\asymp$ C + 3 D ax 65° = 20/40.
Add
O. D. S + 4 D = J. 10.
O. S. S + 4 D = J. 10.

These were ordered in biconvex torics. She had worn glasse for a year, but claims vision is much better with the new one This seems like an excellent result when we consider that the eyes had passed through glaucoma, iridochorioiditis and cataract, followed by membranous occlusion of pupil, lowered tension and fluid vitreous. The high hyperopia and astigmatism show the phthisical condition of each globe. There is marked cupping of both nerve heads and the fields are contracted.

Case 4.—*History.*—Mrs. B. M., aged 64 years. O. S. struck by a stone in childhood, destroying vision. Dense leucoma above, chorioidal cataract, calcareous deposit; exclusion of pupil. T—1. Lpe. good. Lpj. fair. O. D. recurrent attacks of inflammation for seven years, posterior synechiæ and cataract. Counts fingers at 6 inches. Extraction with iridectomy, both eyes, in 1907. Site of incision has become densely leucomatous. O. D. shows capsular area above, iris drawn up. O. S. complete membranous occlusion of pupil.

Operation.—Oct. 7, 1907, V-shaped incision was executed entirely in the iris tissue of O. D., the pupil spreading out into an ovoid shape (Fig. 46), leaving area of capsule and small band of iris above. O. S. was operated on Jan, 13, 1908, by the same method, the resulting pupil being almost round (Fig. 47) owing to the resilient iris tissue.

The test for glasses, March 10, 1908, gave the following result:

O. D. $S + 12\ D \overset{\frown}{\smile} C + 1.25\ D$ ax. 135° $= 20/50$.
O. S. $S + 12\ D \overset{\frown}{\smile} C + 1.25\ D$ ax. 135° $= 20/70$.
Add
O. D. $S + 5\ D = J.\ 6$.
O. S. $S + 5\ D = J.\ 12$.

These were ordered in biconvex torics, which she now wears with great comfort. It is worth noting that O. S. still retained good visual acuity, although blinded by an injury nearly fifty years before.

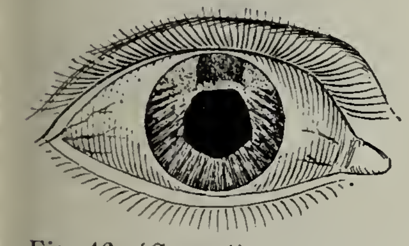

Fig. 46, (Case 4).—Irido-capsulotomy, with band of iris, and capsule in coloboma above.

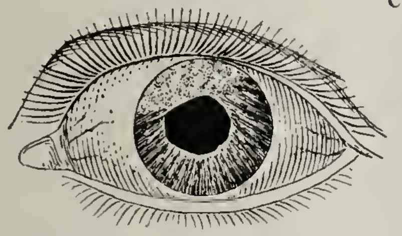

Fig. 47, (Case 4).—Iridotomy with round central pupil in a resilient iris-membrane.

CAPSULOTOMY BY THE V-SHAPED METHOD

The application of the V-shaped method to capsulotomy shows an even greater field of usefulness, as this method is par excellence the best way of incising a delicate secondary capsular cataract. This should be done under artificial illumination. The pupil should be dilated, as the area of incision is necessarily smaller than in iridotomy, and unnecessary wounding of the iris should be avoided. The proposed capsular opening must be so calculated as to fall within the area of the undilated pupil, or partly within the coloboma if an iridectomy has been previously performed.

The knife-needle is entered at the upper corneal margin, passed across the anterior chamber to a point 2 mm. to the left of the vertical plane (Fig. 48), the capsule punctured by a quick thrust, and the saw-like incision carried from below upward, as in iridotomy. The knife is then raised up above the capsule and swung 3 mm. to the right of the vertical plane (Fig. 49), the capsule is again punctured, and a duplicate incision carried up to join the first, at the apex of the converging V (Fig. 50.)

Where the pupillary margin is adherent to the underlying capsule, or the pupillary space is too small, it may be necessary to start the incision in the iris tissue, a little below the pupil, and then cut upward until the knife emerges into the pupillary area, thus making an irido-capsulotomy. The soft iris tissue is easily incised if no pressure is made with the knife, and the sawing motion is maintained.

AFTER-TREATMENT

Postoperative inflammatory reaction is infrequent, but if it should occur the usual antiphlogistic treatment of atropin, calomel, ice-pads and leeching should be actively instituted and continued until the eye is absolutely quiet. The operation itself is frequently an antiphlogistic measure, because it relieves iris-tension and traction on the ciliary body. The usual compress of gauze and cotton, covered with a Liebreich patch, may be applied to the eye for the first twenty-four hours and rest in bed enjoined for that period.

IN CONCLUSION

We have carefully reviewed the history of iridotomy for nearly two centuries, and noted how the pendulum has swung from knife-needle to scissors, and back again. We have learned that Cheselden, the father of iridotomy, originated the method of incision by the knife-needle, which Heuermann modified, and Adams later revived and improved. We have seen how Janin abandoned this procedure and originated the scissors method, which Maunoir greatly improved and caused to hold sway for more than half a century. We have been deeply impressed by the fact that the mature, judicial mind of von Graefe led him to abandon the scissors and revert to the knife-needle method; and finally we have seen how, soon after his death, the great influence of De Wecker had swerved the thought of the ophthalmic world back to the adoption of the scissors method in a greatly improved form.

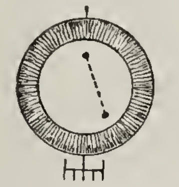

Fig. 48.—Author's V-shaped capsulotomy. Plan of first incision.

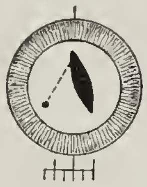

Fig. 49.—First incision completed. Plan of second incision.

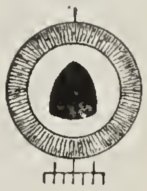

Fig. 50.—Pupil resulting from V-shaped capsulotomy.

Whether I have succeeded in citing sufficient facts and arguments to establish my thesis in favor of the knife-needle, or not, I nevertheless submit to the profession my V-shaped method of iridotomy and capsulotomy with a confidence born of twenty years' successful experience in its use, and with the hope that it may prove equally efficient in the hands of others who will take pains to study and understand the method, and who may have the patience to put it in practice.

1625 Walnut Street.

ABSTRACT OF DISCUSSION

Dr. George E. de Schweinitz, Philadelphia: Although Dr. Ziegler only now publishes this detailed account of his operation, he gave a description of it in 1896 in one of the editions of my text-book. I mention this in order that Dr. Ziegler may have full credit for an early record of this ingenious operation. My experience with the operation has been limited but entirely satisfactory. I have found it more satisfactory and less dangerous than iridotomy or iridectomy. I call especial attention to the necessity of a properly constructed knife, as the ordinary knife-needle used in discission after cataract is not a satisfactory instrument for this operation. I have not employed this operation in uncomplicated after cataracts, as for them I still consider Knapp's knife-needle operation the best one. Ziegler's operation is more satisfactory for complicated after-cataract and closed pupils following iridocyclitis and thick membrane remaining after needling of some congenital cataracts. I consider that the operation has a wide field of usefulness.

Dr. C. H. Williams, Boston: I think that we shall sometimes be disappointed in the amount of opening we finally obtain after operations on the iris for artificial pupil, especially where there is a membrane of inflammatory deposit behind the iris. I had a case which illustrates the need of a large division in order to obtain a serviceable pupil. A sea-captain of 70 years came to me with a history of repeated attacks of iritis in each eye. There had also been some cyclitis in the left eye and in that eye there was not even perception of strong light.

In the right eye an iridectomy had been done some time previously for closed pupil, and the patient had good light perception but nothing more. A cataract having developed in this right eye, it was finally decided to make an extraction, which was done without special difficulty. After the extraction the pupil gradually filled with a whitish deposit and the iris was drawn upward to the corneal cicatrix, the vision being again reduced to perception of light. Four months after the extraction, the eye having become comparatively free from inflammation, a division of the iris and the membrane behind it was made by passing a Graefe knife through the upper part of the cornea directed toward the center of the eyeball, so as to penetrate the iris and membrane. De Wecker's scissors were then passed into the wound and a cut was made from above downward to within about 3 mm. of the lower part of the iris, which resulted in a cat's-eye pupil through which the patient could see to play cards for about one month.

After this, the pupil became blocked by a whitish deposit beginning at the lower part and extending upward. Five months later a second attempt to make an artificial pupil was made by passing the Graefe knife through the outer edge of the cornea and following this by three cuts with the De Wecker scissors. one horizontal. one upward and inward, the last downward and inward. This resulted in a stellate-shaped pupil of good size. After a time the same process as before began to fill up the pupil, but it only went so far as to fill up the stellate rays, leaving the center of the pupil free, and the patient now has, with his correcting glasses, vision of 3/10 and can read ordinary newspaper print.

Dr. Edward Jackson, Denver: I have been familiar for years with Dr. Ziegler's work. When I was at the Wills Eye Hospital fifteen years ago, and before that I had followed in the main the mechanical methods that he has followed. No one who has not tried such an operation in difficult cases, such as Dr. Williams has mentioned, can realize the wide applicability of the method. I am sure that within the last ten years I have not used the de Wecker scissors in any case, and in some that looked quite as bad as the one Dr. Williams has spoken of I have obtained a good pupil with comparative ease. In reference to gaping of the opening, to which Dr. Ziegler alludes in his paper, it is absolutely essential that the two incisions meeting at an angle shall come together. If there is the least little shred of tissue left, it holds this tongue of iris and membrane in position. and you fail to get a good pupil. If your knife is sharp enough, there is no need for any more than the minimum amount of pressure. The tougher membrane will require the sharper knife and will require longer sawing, but if you carefully observe the mechanical conditions very tough membrane can be disposed of in this way. Leverage is of great importance. You should at least have a leverage long enough to maintain its proper relation to the incision in the membrane. Its best relation is pretty nearly perpendicular. By going into the limbus you get the longest leverage.

Dr. John Green, Jr., St. Louis: Occlusion of the pupil consecutive to severe iridocyclitis after combined extraction usually presents a membrane occupying the site of the original coloboma. If in such a case the margin of the upper lid, in distant fixation, does not encroach appreciably on the cornea the following procedure is applicable: A keratome with the tip directed toward the center of the globe is made to penetrate the membrane exactly at its junction with the iris tissue. A very narrow Graefe knife with the cutting edge forward is then made to divide the lateral bands at their junction with the iris tissue. The resulting pupil is usually circular. My belief is that, when possible, we should avoid additional operative traumatism to the iris tissue which has shown itself so prone to react to injury.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: I have used two knives of Dr. Ziegler's pattern, according to his method, in three different cases, with excellent results, but it is my opinion that the knives should always be of proper form and in perfect condition as to cutting edge and point or otherwise the operator will be disappointed in his results. The shank in particular should be in proper shape and not taper if loss of aqueous is to be avoided. A Ziegler knife with a sharp cutting edge will permit of incision through a rather tough membrane without traction. The knife is also an ideal one for the ordinary operations for secondary cataract.

Dr. M. Wiener, St. Louis: I have used this excellent operation for the last few years and found it better than any method I have used previously. One class of cases in which I found difficulty was those with very shallow anterior chamber and lowered intraocular tension; and another in which we have anterior synechia, the iris attached to the cornea irregularly.

I should like to ask Dr. Ziegler what he does in these conditions. If there be only one spot where it is attached, by a sweeping motion it can be detached before the V-shaped incision is made. I have found that I can get along a little better by having the blade a little shorter than the one used by Dr. Ziegler. I had some knives made with the blade about two-thirds the length; in other respects the same.

Dr. S. L. Ziegler, Philadelphia: The reference which Dr. de Schweinitz has so kindly made to his success with this operation in cases of membranous occlusion of the pupil leads me to believe that his adoption of this method for all of his cases of capsulotomy is only a question of time. The V-shaped incision is undoubtedly the best one for securing a satisfactory opening in any type of membrane, whether thick or thin. The incision can, of course, be placed in any part of the membrane and in any direction that you may wish to locate it. I do not believe there would be the slightest difficulty in securing good results in the cases Dr. Williams describes. I am sure that such drawn-up iris membranes will easily yield to this operation. The first case I present in my paper illustrates this condition exactly. The second case was a similar one, the membrane being very dense and the eyeball soft. In both cases the operations were successful, and the results have been permanent. Of course. you do have failure in these cases by the older methods. If the operation is properly performed, however, there can be no pressure and no traction. In fact, I explicitly state in my paper that both pressure and traction must be avoided, or failure will surely

One of the chief causes of failure in all methods of

result.

iridotomy has been the single incision, which is so liable t close up. We must make a double incision. The V-shape cut has proved to be the most efficient in my hands. Th ultimate shape of the pupil formed by the V-shaped metho depends almost entirely on the degree of stiffness or resiliency present in the iris membrane.

Anterior synechiæ may be successfully freed with this form of knife-needle. In the cases to which Dr. Wiener refers little shorter blade might be better, because of the crampe position. For the long sawing incision of the ordinary cas of iridotomy, however, I consider this model of knife-needl just about perfect. Dr. Wiener also asks as to the degre of success in soft iris membrane. Case 3 is one of iris bomb in a soft eyeball, and well illustrates this condition. Thi membrane followed glaucoma and iridochorioiditis. I wa able to make an incision in it which opened the pupil eve wider than I cared to have it. This operation should not l condemned because the first trial results in a failure. On tl contrary, the V-shaped method should be studied and pra ticed until the failures are practically nil.

THE PROPER METHOD OF DETERMINING ERRORS OF REFRACTION

AND THEIR ACTUAL RELATION TO THE AILMENTS OF THE HUMAN BODY

D. B. ST. JOHN ROOSA, M.D., LL.D.
NEW YORK

Although I think that there is a general agreement nong ophthalmologists as to the principles and prac- ce of adjusting glasses to the human eye, there are few, iefly in this country, who with very little intermission ciferously protest that most methods except their own e imperfect, or even altogether wrong. One writer es so far as to say that there are no schools of instruc- on where determination of the refraction of the eye is operly taught and that dire consequences are resulting om this circumstance and from the wrong methods ophthalmologists in general.

XAGGERATED VIEWS OF THE RESULTS OF EYESTRAIN

The constant appearance of articles written in this ain, with exaggerated statements as to the conse- ences of wrong methods, the almost frantic appeals om these writers that eyestrain shall be more correctly idied and treated, induce me again to ask the indul- ice of general practitioners, and perhaps some of the inger ophthalmologists, while I present what I con- ve to be safe and sane views on this subject. These ws I also believe in the main are those of the majority ophthalmologists, and the practice of which are ac- nplishing about all that may be properly and reason- ay expected from the use of glasses to correct errors refraction or weakness of accommodation (presby- a).

he general practitioner, I am sure, is anxious to lerstand in a general way what are the limitations in efficacy of glasses for symptoms that are not ob- usly those pertaining to clear vision and the regular l continued use of the eyes, and he finds widely ying opinions as to the therapeutic value of glasses the proper method of choosing them.

here are a few ophthalmologists who consider that ny general morbid conditions of body and mind result n the non-use or improper use of glasses. Ophthal- nogists in general find in glasses a remedy for ocular ects only, and believe that the benefits of glasses are fly and generally limited to the correction of ocular ects. The hopes of those who found in the correction hypermetropia and astigmatism, whether existing ly or in combination, a remedy for any class of ons disease have had the same disappointment as shown very long ago.

roperly chosen glasses will often relieve headaches may be easily traced to excessive use of the accom- ating power, certain forms of chronic conjunctivitis, haritis ciliaris, mild forms of lachrymal catarrh, opia, vertigo and nausea, coming on after continued of the eye, at a play or at a musical concert or visit picture gallery, for instance. This, to my mind and rience, comprehends about all that may be expected the use of glasses. It is still thought by a few rvers that migraine is often relieved by proper cor- ng glasses, but this belief I do not share, and I made innumerable efforts to relieve migraine by means and finally have abandoned them. Certain halmic writers in this country assert that failure elieve migraine and more serious affections of the nervous system is due to a want of proper choice and adjustment of the glasses, although the authorities who have reported such failures are adjudged by the profession to be competent oculists.

THE ART OF FITTING GLASSES NOT OF SUPERHUMAN DIFFICULTY

Even more radical statements than these are made, namely, that few ophthalmologists in the whole civilized world know how to fit glasses properly.

To this style of argument, which, strange to say, finds a place in respectable medical journals in this country, it is scarcely possible to give a serious reply. Since these views get a wide circulation in the profession, to leave them unanswered is to leave them to be considered unanswerable by some. I undertake to present another view from this. I do not think that the science and art of choosing glasses correctly is as difficult as in certain quarters it is said to be. Any well-educated medical practitioner, by careful study and large experience, such as is obtained in special hospitals and clinics, may expect in a few months to be able to fit glasses to the eye properly, and also to eliminate those cases in which glasses will be of no service, provided this experience is begun with a fairly critical knowledge of optics and the various errors in the refraction of the eye, as first formulated by Donders. There is no special difficulty in the attainment of this knowledge, any more than there is in becoming an expert in auscultation or percussion, or a bacteriologist or pathologist. In short, there is no more difficulty in becoming an expert in this department than in any other of our science and art. The erroneous opinion that only a few have ever accomplished this is one that is widely promulgated by a very few ophthalmologists.

In the nature of things, the acquisition of the knowledge necessary for the practice of the correction of errors of refraction can hardly be originally and intrinsically so difficult that only a very few of the well-educated practitioners of the wide earth can ever acquire it. One of the grounds given in one quarter for the belief that the knowledge necessary to the adjustment of correct glasses is such an intricate and difficult thing to acquire is that so many errors fatal to the success of getting the proper glasses are fallen into, even by those of special education and experience, and that thus the results are entirely unsatisfactory. Such a view as this almost involves the idea of divine or demoniacal inspiration as necessary for the proper practice of this part of ophthalmology. But this is an utterly incorrect and even ridiculous view of the situation, and a few obvious facts controvert it.

Before Donders' discoveries and his classification of ametropia into hypermetropia, myopia, corneal astigmatism, either myopic, hypermetropic or mixed, with failure in accommodation and presbyopia, which reached the English-speaking profession in 1864, the civilized world got on with imperfect concave and convex spherical glasses chosen usually by the patient with the assistance of the vendor, who had only the most rudimentary knowledge of optics. Indeed, scientific men, with a very few exceptions, such as Thomas Young, possessed only a rudimentary knowledge of the refraction of the human eye; yet in those centuries on centuries of civilization in which no accurate fitting or correcting of glasses existed, when men and women probably had the same errors of refraction as now, Greek, Roman, French, German and English literature and art reached a high point, great pictures were painted, statues, sarcophagi and bas-reliefs were sculptured and temples and cathedrals were built which are still copied and admired, poets wrote verses and statesmen demonstrated great principles, warriors fought and lost and won, and even science was not destitute of mighty chemical, astronomical and physical discoveries.

I adduce these well-known facts simply because within the past few years interesting volumes have been published by a well-known ophthalmologist in which the lives of such writers as Carlyle and Darwin have been detailed to prove that they were sadly handicapped on account of the want of correction of their errors of refraction. If this is true of the few whose careers are fully recorded, the same is likely to be true of David, the Psalmist of Israel; of Homer and Horace and Virgil; of the statesmen, warriors and artists of all past time, who were equally without the benefits of proper glasses; but history gives us no trace of such sad results from the want of the optical discoveries of the nineteenth century. History gives here and there an example of a great handicap like the myopia of Gustavus Adolphus, who mistook the enemies' ranks for his own and fell in battle because his eyes were not properly fitted with correcting glasses. In our own time Turner was said to have reached some of his great effects because he suffered from uncorrected astigmatism; but in general, in spite of literature adduced to prove the opposite, the human race avoided general and widespread idiocy, indigestion, torticollis, chorea and epilepsy even without proper or any correcting glasses.

It is not true, however much they may fall short of clear and painless vision, that most members of our race are seriously affected in mind or body unless their refractive errors or their presbyopia are exactly corrected. In the adjustment of glasses for the purposes of vision there is a range of considerable degree between the glass that would be chosen by an expert examiner and that chosen by one of less experience which may very often be used without detriment to the wearer's health. Those who do not use their eyes in occupations requiring the most exact vision possible can, for example, get on in reading with a simple spherical glass, whereas an examination may show that the individual has a corneal astigmatism of one-half diopter. In such cases, if the eyes be used very much and in exact work, there is less danger of asthenopia and the person is able to read and write or work at an exact occupation like that of a seamstress or an artist, if the error be corrected; and yet, as I have just said, the persons with less exacting occupations, though using the simple spherical glass, will get on very well and will not suffer from asthenopia and nervous or other physical affections.

This is contrary to what is taught by those whom I venture to call radical ophthalmologists. They insist that if each human eye be not exactly fitted with mathematical correctness, or as nearly so as the present state of ophthalmic science admits, dire results will follow, not only in inability to use the eyes for a normal period, and, what is far worse, in serious general diseases of one variety or the other which may ruin a life. While the importance of the exact fitting of the eyes with glasses is greater as a rule among patients of high education and critical minds, with exacting pursuits, even among them it is often interesting to be seen how well some of these do their work without being accurately fitted, and that nothing detrimental to their general health results.

Life is full of illustrations in other departments of human effort that demonstrate the truth that good results may be obtained with imperfect means. Sometimes a mechanic with poor tools will accomplish that which will put to blush a workman with fewer mental resources but with much better outfit, and a young fisherman with a rod cut from an adjacent tree will sometimes be more successful than an angler with the best rod and the most attractive of flies. This does not at all prove that the best apparatus is not to be desired in every department, either of sport or work in life, but only that results do not always depend on the kind of gun but on the man behind the gun.

THE EMMETROPIC EYE ONLY NOMINALLY NORMAL

This leads me to say that it is not always possible to create ideal or correct vision for all people, even if the have nothing that is, strictly speaking, a disease of th eyes to prevent. This may seem an astonishing proposition, but it is, nevertheless, I think, a true one. Som writers have assumed that the normal eye is the emmetropic one, and that in prescribing correcting glasses cycloplegic should always be used, and that the eye with a high degree or low degree of hypermetropia should b converted into an emmetropic one by the proper glass In practice this system does not work well, patient being usually intolerant of complete correction of hypermetropia. It was necessary when Donders gave to th world his great work on errors of refraction and accommodation, since the subject was almost an entirely ne one, that he should lay great stress on the emmetropi as the normal eye, but I find no warrant for the doctrine that a low degree of hypermetropia, one to tw diopters, for instance, should be under a cyclopleg made emmetropic with glasses. A great many person accommodate their eyes to one or two or more diopte of hypermetropia without the slightest inconvenienc until the age of 40 is reached. The emmetropic eye remains the normal eye in name only, just as a perfect symmetrical human body is also ideal.

Hence the advice given by some ophthalmologists th every child should have his or her eyes examined f glasses on entering school life is utterly absurd an should not be heeded, for unless the child complains the eyes, or is observed not to see well, no examinatio is needed. We might just as well advise that every chi have the stomach washed and have a test breakfast ascertain if that part of the digestive apparatus is working order. Furthermore, should we place eve child under a cycloplegic and correct all errors mathematically, as foolishly advised in some quarters, ful 999 children out of every 1,000 would be weari glasses. The charlatan and eyeglass faker himself cou not give more interested advice.

The average human body will do all the work of l as well as would an Apollo Belvidere. An eye of moderate degree of hypermetropia without corneal tigmatism, other conditions being favorable, will do work in a thoroughly satisfactory manner. Myopia essentially a diseased condition of the eye, and stretching of the globe even in a moderate degree m cause pain and inconvenience when it is in use, or ev when it is not; but with a low degree of simple hyp metropia, which is only at the most incomplete devel ment of the eyeball, asthenopia, is very uncomm Most children are born into the world hypermetro If the two eyes are hypermetropic to the same deg and there is no astigmatism or other defect, part of ypermetropia disappears with advancing years and he development of the globe, and the owners are in vast majority put to no inconvenience on account of heir eyes. The great error that was made by those who or years laid great stress on errors of refraction as ausing epilepsy, chorea, and even idiocy, was in assuming that a low degree of hypermetropia was a refractive rror requiring correction. It was very soon shown that housands of human beings were hypermetropic without aving nervous disease. The field of abnormal refraction is actually not entered as far as hypermetropia of low degree is concerned. It is not reached unless it of a degree higher than, for instance, two diopters, unless corneal astigmatism is added to it.

It is an interesting fact that Jaeger the younger, ofessor in Vienna, who did some of the first and best ork with the ophthalmoscope and in illustrations of e fundus oculi, taught that myopia was the usual, if t normal, refraction of infants. The work of my sistant, the late Dr. Edward T. Ely, showed that permetropia and not myopia is the usual refraction of e newly born.

CAUSES OF ASTHENOPIA

It is established now, as Donders thought in his first omulgation of his classification and the means for its lief, that in the refraction, in the static condition as defined it, is to be found the cause of asthenopia and t in the external muscles. Here only do I find myself variance with many writers of this country. I deny existence of muscular asthenopia, except as dependt on errors of refraction, standing by my views exssed in 1890.[1] I do not find any value in prisms or decentered glasses, except in cases of paralysis of the ular muscles, and for years I have not prescribed m, except as above indicated. I think them of no ue except in actual paresis. In astigmatism I find great source of asthenopia and imperfect vision in es of error of refraction. While in hypermetropia in ung subjects, of a degree sufficient for correction with astigmatism sufficient for correction, we may expect iminution of the hypermetropia; this is not the case myopia, which generally becomes of a higher degree il adult life is reached, although in subjects of adcing years it is by no means an uncommon thing, trary to what is sometimes taught, to see myopia dily decrease in degree from 50 years or more on, hat weaker glasses may be worn. This is due in part lattening and hardening of the crystalline lens.

n passing it may be said that it is now pretty genlly conceded that full correction of myopia is best the comfort and safety of the patient. To see as l as one can is always desirable, and I have no fear, that so often expressed among the laity, of having sses too strong, either in myopia or hypermetropia, long as those chosen give the best vision. If they re this and the patient complains of pain, it may ssumed that the pain is not from the wrong glasses from the eye itself.

t is well known that morbid conditions in the cornea very common in myopia. The habit of many pats with unsatisfactory vision of going about from authority to another, seeking to relieve their ocular omforts by a change of glasses, is greatly to be ecated. When glasses are so frequently changed the t will sometimes be found in the oculist who vens on treatment as suggested and yields to the wish of a neurotic patient to have an infinitesimal change made. I do not believe that a difference such as a quarter of a diopter will make any essential difference in the vision of a patient, and especially not in his ability to use his eyes without headache or other asthenopic symptoms. The army of neurasthenics and other neurotics who form such a considerable portion of our people both among the lofty and lowly, by their undue influence on the profession, have worked great harm in lessening the number of safe and sane ophthalmologists. The late Dr. George M. Beard, who first employed the term neurasthenia, as I know from an intimate acquaintance, when he invented the term never dreamed that its application to human maladies would be so amplified as we find it now. This amplification may be entirely justified and may not, but the not uncommon suggestion that eyestrain is at the basis of neurasthenia really means that endless nervous symptoms are produced by want of balance of eye muscles. Unprejudiced judicial examinations made by thoroughly educated and widely experienced men, in my opinion, show the belief that eyestrain causes neurasthenia to be incorrect.

What I believe to be almost infallible evidence against the existence of eyestrain in a given case is the absence of ocular symptoms. If there is a symptom reflected from the eye there will always be found a condition in the eye to justify such a reflex affection; there will be watering of the conjunctiva or of the lachrymal sac, inflammation of the edges of the lid, hordeola, inability to use the eyes, sensations of sand in them, headache on use of the eyes; in short, before there is eyestrain there is always some symptom in the eye itself.

It is not true, I think, that imbalance of the ocular muscle or an uncorrected error of refraction causes a disease in another part of the body unless morbid conditions and symptoms can be found in the eyes themselves. Then abnormal conditions, such as mixed or double astigmatism, may exist, and while they are the cause of defective vision, they may beyond that have no effect on the general system. I have seen patients recover from such an affection as chorea and other forms of nervous disease without having had any correction of errors of refraction of a disturbing kind.

Indeed, I think that most of the very modern literature on eyestrain which ascribes almost any manner of disease to the eyes is highly illogical and scarcely supported by facts; but it will not be long before its true character will be found out by the disappointed neurologist or general practitioner who had expected a cure of organic disease by a correction of the imbalance or of an error of refraction.

I have seen many patients constantly wearing glasses which reduced their visual power considerably, having been told to persist in their use, for the glasses would finally work a cure for their various general symptoms. The fact is that if glasses do not improve the vision and are not comfortable on the eyes they are absolutely of no use. There is no mysterious virtue in them, if they do not at least clear the vision, and if they are not comfortable when worn.

Eyestrain, so called, as determined by the measurement of the power of the constantly varying power of the external ocular muscles has been, in my judgment, greatly misused in diagnosis. If the profession will abandon all attempts to measure the power of the ocular muscles, except in paresis and consequent diplopia, and confine the work of fitting glasses to correction of errors of refraction, myopia and hypermetropia, with the coexistent astigmatism, ophthalmologists will not suffer the opprobrium that once attached to the men who found in the ovaries and movable kidneys all the diseases of the female system. In my opinion, it will not be many years before no diseases except those clearly recognized in the early years of the specialty by the ophthalmologists who follow Donders and Graefe, as coming from errors of refraction, will be deemed to result from errors of refraction or imbalance. All the indications are that way, for we have passed through the day when it was believed that in the correction of eyestrain by glasses or by operation on the ocular muscles was found a remedy for epilepsy and chorea and idiocy. Migraine and neurasthenia will soon cease to be treated through the muscles or refraction of the eye. No one except a few extremists with no following, men who can no longer get a hearing in an ophthalmological society, find in errors of refraction and their improper correction every imaginable disease, mental and physical. The community in general has been so stirred that great numbers of people talk of eyestrain as if it were the cause of all their ailments. They come into our consulting-rooms with the firm conviction, in many cases produced by the family practitioner, that if the muscular balance can be restored by the proper glass, all their aches and pains will vanish.

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[1] Ophth. Rev., October, 1890.

THE PROPER USE OF TENOTOMY AND PRISMS

The practitioners who lay so much stress on the restoration of the muscular balance have grown a little shy of graduated tenotomies and of all operations on the muscles. Yet in cases of diplopia or want of binocular single vision a complete and thorough operation on the offending muscles (provided the operator is sure to operate on both of the fellow muscles) will now, as always, accomplish all that can be desired in the relief of ocular symptoms. It is the indiscriminate operations founded on fallacious tests of the power of the muscles that have done the harm. Very satisfactory results are obtained from tenotomies in properly chosen cases, especially if the Panas method is followed, stretching of the muscles being practiced in combination with the tenotomy, and both muscles being operated on at the same sitting.

Cases of insufficiency or diplopia requiring prisms for their correction, in my judgment, always require tenotomy, if the asthenopic symptoms are sufficient to be disturbing. It seems to me always better when the properly chosen spherical or cylindrical or a combination of these glasses do not afford relief, as they will in many cases of diplopia, to operate than to delay, and above all not to subject the patient to frequent changes of glasses, in the vain hope of finding those that will accomplish a result, after those have been tried that answer the test of a critical examination. Such a practice is to be likened to a looking about in the medicine-chest for a medicine to cure an undiagnosticated disease. Indiscriminate tenotomy has been generally given up for the cure of these cases of muscular insufficiency, but there still exists a want of appreciation of what I have long since shown, namely, that since there is so great a variation in the power of these muscles in persons who have no asthenopia, we can not conclude that these patients with lessened power or variations in power demand any treatment of the muscles except that which they undergo in the correction of the error of refraction or in that of the general health—for there is a neurotic asthenopia.

The treatment of the ocular muscles by systematic exercise with prisms has, I think, been pretty generally abandoned, as it deserved to be, except in cases of strabismus, in which the stereoscope is very useful and even essential after tenotomy in the effort to secure binocular single vision.

DETERMINATION OF THE REFRACTION

Although for some years previous to 1888 I had nearly given up any use of prisms in glasses prescribed for asthenopia, it was in that year, after the perfection of the ophthalmometer by Javal, that I also definitely gave up the use of a cycloplegic in the determination of the errors of refraction and the prescription of glasses. except in those rare cases of spasm of the accommodation. In 1876,[2] in a paper on blepharitis ciliaris, which I showed to be very often the result of an error of refraction, I was one of the very first writers, if not the first, to insist on the use of atropin or other cycloplegic for the positive determination of the degree and nature of an error of refraction. My attention was first called to the causation of blepharitis ciliaris by a severe cas of error of refraction from instilling atropin and paralysis of the accommodation which had lasted for years in spite of the ordinary treatment. The improvement of the patient's appearance was so great in twenty-fou hours that I believed I would find in a proper correctio of the refraction a relief from the troublesome inflammation. This proved to be so, and caused me to tes every patient of this kind for glasses. This I did whil the eye was under the influence of atropin, but with a exact measurement of the degree of corneal astigmatis I no longer find the cycloplegic necessary. If, however a case of severe blepharitis ciliaris be found, it is stil good therapeutics, if the disease is very annoying, t get the eye quiet and the lid free from redness by th instillation of atropin three times a day. It was then and remained for several years, my almost invariabl practice to use atropin in all cases that were no presbyopic before prescribing, and I know that thi became the ordinary practice in the Manhattan Eye an Ear Hospital, where I was then an attending surgeo This is a troublesome, tedious and even distressin practice for the patient; for the oculist it is also ver tiresome and monotonous.

Since there was no other way, however, as I the supposed, for the determination of the degree of astigmatism, mixed or simple, and of the hypermetropia with what proved to be only a bogey spasm of accomm dation always before me, I persisted in it. But whe Javal and his student and formerly my own, George Bull, showed me the precision and ease with which th perfected ophthalmometer would measure corneal astigmatism, and when I had learned from Bull how to u the instrument, I saw that in my practice, at least, th use of a cycloplegic as a means of determining the r fraction was ended, for it was just to ascertain th existence of corneal astigmatism and its degree that th atropin or other cycloplegic was used. With the perfe tion of the ophthalmometer dawned a new era in op thalmology. What Helmholtz labored for and acco plished only in a very poor way with an instrume difficult to use and altogether consuming too much ti to be of use in the consulting room and only fitted f the laboratory, Javal accomplished in a perfect mann for which he should receive everlasting praise. On r eturn to New York I brought the ophthalmometer into se in the Manhattan Eye and Ear Hospital, where it oon totally displaced the use of cycloplegics and the ractice of retinoscopy for the determination of refraction. Although Javal's instrument was well known to few ophthalmologists of America, Swan Burnett having exploited it in his work on astigmatism, and Noyes aving demonstrated the method of use, it was not, trange to say, generally used except as a scientific toy, ut it gradually commended itself to very many. I ersuaded Mr. Georgen, the optician, to make ophthalmometers in this country, which he did in the very best anner and at a price as low as that for which they ould be obtained in Paris, so that they became generlly accessible. After him came Meyrowitz, who coninues to make the ophthalmometer on Javal's latest odel—that of 1907. This is not sensibly different rom that of 1888, but conveniences have been added to e work of adjustment in the steadiness and precision f the instrument by A. E. Davis, Dennett, Skeel and thers. The work, however, was done in 1888; the g was made to stand upright when an ophthalmometer as presented to the profession which enabled an expert measure the radii of the cornea in three or four mintes. With me it did not displace retinoscopy, for I d already fairly tested this ancient method of detering the refraction, and, largely counseled by the te Dr. E. G. Loring, I had abandoned it as "the most fficult and least satisfactory of the methods of detering the refraction of an eye, which contributes nothg that can not be more easily and more expeditiously rformed by the upright image."

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[2] Tr. Am. Ophth. Soc.

Before leaving this subject of determining the refracon of the eye I may be pardoned one word in depretion of the use of the phrase, "to refract an eye." his is quite frequently used instead of the longer but rrect term, "to determine the refraction of the eye." is to be earnestly hoped such a barbarism as "how to fract" may speedily be abandoned by all who have any sire for the preservation of the purity of the English ngue.

With the ophthalmoscope, the ophthalmometer and e test types we have all the means, in my judgment, at are in any sense required for the work of selecting rrecting glasses. It is only in exceptional cases, in ich spasm of accommodation exists, that a cycloplegic ould be used. The ophthalmologist of experience, th these instruments, with patience and care in his bjective and objective tests, will at the most in two three sittings, be able to say positively, even in the st tedious cases, when the axes of greatest curvature not vertical or horizontal but oblique and differing the two eyes and when there is mixed astigmatism. l this in an unintelligent patient makes a trying comation, but experience and patience and skill will ally accomplish a perfect result.

In high degrees of corneal astigmatism there are ients who at first, perhaps for months or even years, l not be able to tolerate glasses with full correction; knowing exactly what full correction is, and having patient under observation, the oculist can make a nge whenever the patient becomes able to tolerate the sses theoretically adapted to the refraction of the s. The objection to this method has been often made one writer that the determination of the corneal asmatism by the ophthalmometer is a method with a chine. This is to me an absurd criticism. Some of best work in science is done with a machine. The sextant also is only a machine, but with a clear sky and a mariner of learning and experience behind it it does not fail to determine the location of the ship. Thus we might go on: the urine is examined with a machine, the blood count determined by a machine.

Fortunately, the use of the ophthalmometer is easily learned. With a good teacher, in two weeks' daily practice, a man at all skilled by education and experience in other manipulations and observations will be able to go on by himself, with a constant growth in the facility and exactness with which he can use this indispensable apparatus, for the ophthalmologist, Donders, left very little to be learned in the definition and description of the various errors of refraction and in affections of the accommodation, or in the affections likely to result from these uncorrected errors. Those who read his pages will learn that he anticipated almost all that has been said in the text-books and monographs on refraction and accommodation since his great treatise, except in regard to the measurement of corneal astigmatism; and this gap was filled by Javal and Schiotz. There is now no department of our science and art that can be more satisfactorily practiced than that of determining errors of refraction and of fitting glasses to the eye.

It is because so much is published in the medical journals on the immense difficulties of this art, which usually remains uncontradicted, that I have taken the risk of telling a twice-told tale. It may be of service, especially to those who are at the beginning of the practice of ophthalmology, to know that there remains a large class, of which I am a member, who adhere to the belief that the proper correction of an error of refraction is not exceedingly difficult to learn to practice, and who also still believe that no grave constitutional lesions depend on such errors. Those that are well known, most of which were described by Donders fifty years ago, such as headaches, blepharitis conjunctivitis, lachrymal catarrh—in short, asthenopia in its varied forms with imperfect vision from optical defects, the correction of which is the chief function of glasses—still remain easy of correction by a practiced hand. The proper functions of the human body do not altogether depend on the eye, however much its untrammeled and perfect use adds to our capacity for work and happiness. To this assertion may be added the statement that, after a thorough trial of tenotomies and prisms for the so-called imbalance of the eye, I have no use for them except in the unusual conditions of diplopia and strabismus and paresis already noted.

THE FAUCIAL TONSILS; A PROCEDURE FOR THEIR COMPLETE EXCISION *

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CHICAGO

Surgical operations which excise diseased tonsils completely are gradually replacing the hasty and uncertain manipulations with the tonsillotome and other implements which are apt to leave the base of the tonsil in the throat, experience having shown that such tonsillar remnants may contain tubercle bacilli, are prone to inflame, to hypertrophy, and to be the source of repeated peritonsillar abscesses.

Dr. Charles M. Robertson was one of the first to advocate a complete excision of the tonsil, and his demonstration of his scissors operation in the American Med-

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* Read before the Southwestern Kentucky Medical Association, Paducah, May 12, 1908.

ical Association in 1903 has done much to make tonsil surgery more radical.

In this paper I explain a knife-dissection technic for the complete removal of the tonsils adopted as my uniform operation after a trial of many methods. Its description is preceded by an outline of the anatomy of the tonsillar region, a brief recital of the indications for extirpation of the tonsil and reasons for abandoning imperfect methods of operating.

ANATOMY

The tonsil occupies a space called the tonsillar fossa, bounded posteriorly by the palato-pharyngeus muscle, forming the posterior pillar of the fauces or arcus palato-pharyngeus, and anteriorly by the palato-glossus muscle, forming the anterior pillar or the arcus palatoglossus. Inwardly the anterior pillar thins to a delicate, thin-edged fold of mucous membrane, normally overlying the foremost part of the tonsil and called the plica triangularis (Fig. 1, p). Above, to the extent of about the upper half of the tonsil, the plica triangularis is free so that a recess exists under it and it has to be pulled forward to uncover the anterior part of the tonsil. Below the upper half of the tonsil no recess exists under the plica, which is grown on to the tonsil in the form of a ribbon of mucous membrane. While hard to recognize in atrophic tonsils, in tonsillar hypertrophy the plica becomes very conspicuous, the tonsil, in enlarging, unfolding the plica triangularis and stretching it out as a broad band on its anterior and lower aspect (Fig. 5, p). Above, the pillars join to form a covering for the uppermost part of the tonsil, or velar lobe of Casselberry, so called because it extends up into the soft palate. Above the velar lobe is a recess of varying length and narrowness which extends outward and upward into the substance of the soft palate. This recess is called the fossa supratonsillaris (Fig. 1, f).

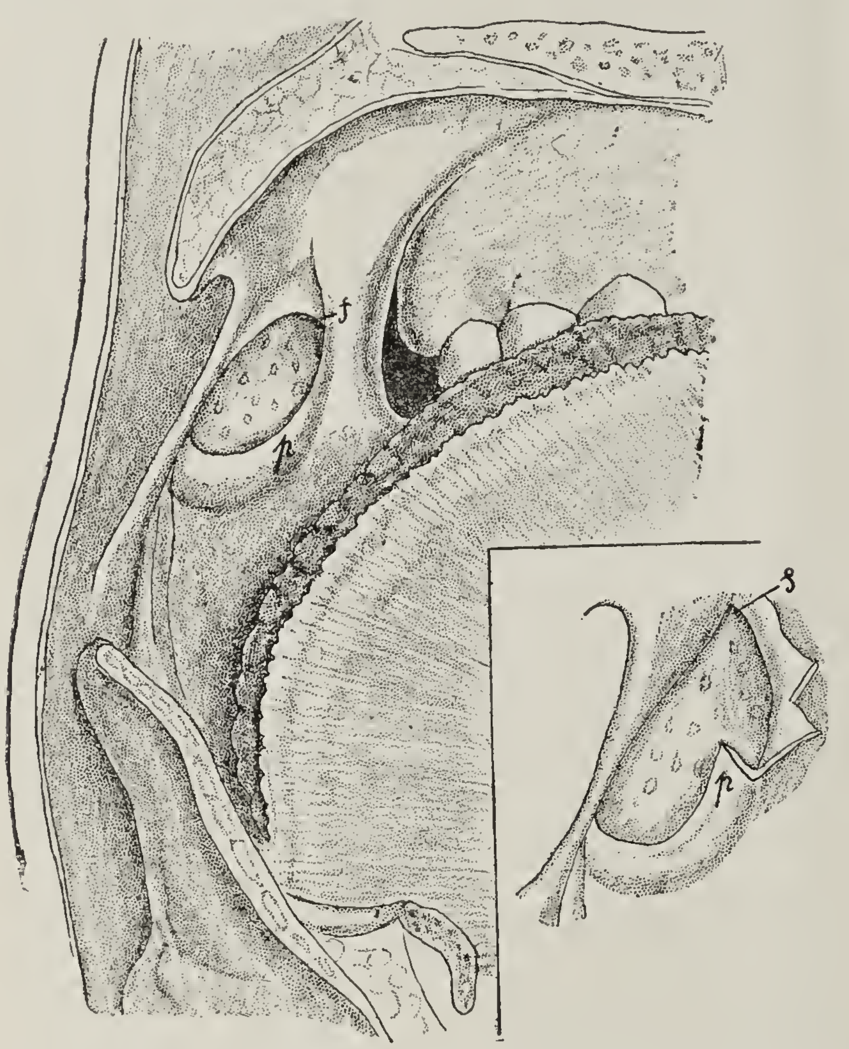

Fig. 1.—The tonsil seen from the side; f, entrance to the fossa supratonsillaris; p, plica triangularis. (Sketched from plate in Zuckerkandl's "Atlas.")

A number of crypts or follicles penetrate the tonsil, extending deep through its substance to its outer limits or capsule. The lower crypts lie horizontally, while the upper ones, originating in the fossa supratonsillaris, usually have a downward direction.

The outer aspect of the tonsil is attached to the tonsillar fossa and is usually encased in a fibrous envelope or capsule which may be well defined, merely indicated, or absent, some tonsils entering into the walls of the tonsillar fossa without definite boundary.

Externally the tonsil is usually loosely, but sometimes closely, attached to the fascia of the superior constrictor of the pharynx (Fig. 2). Outside of the superior constrictor lies the lateral region of the neck called the pharyngomaxillary fossa. It is filled with areolar tissue and is limited externally by the internal pterygoid muscle and internally by the fascia of the superior constrictor. The styloglossus and stylopharyngeus muscles traverse this space from behind forward and downward. Behind them lie the internal and external carotid arteries, which are thus fortunately situated too far behind and external to the tonsil to be endangered i operations for its removal (Fig. 2).

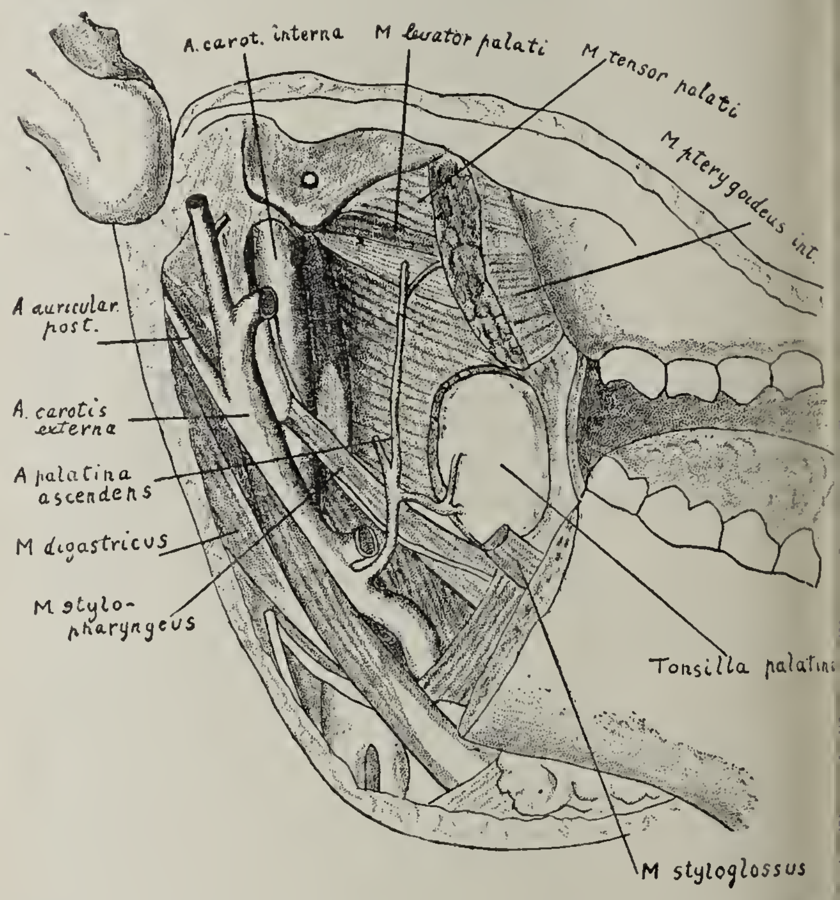

Fig. 2.—The external surface of the tonsil with its anatom relations. (Sketched from plate in Zuckerkandl's "Atlas.")

Dr. John Gordon Wilson[1] describes the ascendin palatine branch of the facial artery as the main sour of blood supply to the tonsil, the small tonsillar arte arising from it piercing the aponeurosis of the superi constrictor muscle and penetrating the tonsil in th deepest part of the tonsillar fossa. In Figure 2 th ascending palatine artery has an exceptional orig directly from the external carotid.

While the arteries of the tonsil itself are therefo small, the walls of the tonsillar fossa containing it ha a rich blood supply, a number of arterial branches fo lowing the pillars upward and downward as a sort vascular way. In accord with this distribution of t irculation it is my experience that an excision of the onsil by a dissection hugging it closely seldom produces rolonged bleeding, while wounding of the walls of the onsillar fossa is very apt to lead to it. For this reason utting the pillars in excising the tonsil should be voided and the plica triangularis should always be left ntact.

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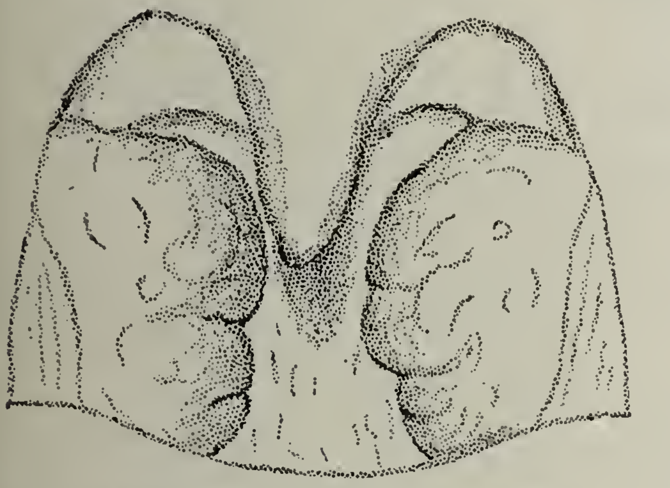
[1] Some Anatomic and Physiologic Considerations of the Fauc Tonsil, The Journal A. M. A., May 26, 1906, xlvi, 1591.

ATHOLOGIC CHANGES INDICATING EXTIRPATION OF THE TONSIL

Hypertrophy appears in two forms. One is the well-nown spherically hypertrophic tonsil, which lies super-cially and projects freely into the throat from a shal- w tonsillar fossa (Fig. 3). It varies in size from ight overgrowth to tumor-like masses which nearly fill e throat and seriously embarrass respiration.

The second variety of hypertrophy (Fig. 4) is the tramural or buried tonsil, which can not escape into e cavity of the throat as it grows because a close ap- ach of the pillars of the fauces confines it to the ton- llar fossa, which it therefore distends and deepens. As ey enlarge, buried tonsils force the pillars of the uces inward toward the uvula until they nearly or ite touch in the center, the globular form of the tonsil derneath it causing the anterior pillar to bulge spher- ally. Palpation helps in the recognition of buried nsils.



ig. 3.—Typical projecting tonsillar hypertrophy; suitable for t tonsillotome.

According to its size the buried tonsil obstructs res- ation. By distending the muscular walls of the ton- lar fossa it interferes with the fine adjustment of the t palate and thus makes enunciation indistinct, and pressing on the Eustachian tube from below it en- ngers the ventilation of the middle ear. Drainage m the crypts of buried tonsils is interfered with by overlapping muscular pillars, a condition favoring occurrence of peritonsillar abscess.

A third type of tonsil, commonest in childhood, and mal or nearly so in appearance, needs extirpation be- se of excessively frequent attacks of follicular or enchymatous tonsillitis.

The fourth variety needing complete removal is the atricial tonsil. It is the most difficult of all to excise ause of its small size, its commonly firm fibrous ion with its bed and its hidden position under the erior pillar. The cicatricial tonsil is one shrunken chronic inflammation to a hard nodule, and is per- ated by crypts frequently distended by cheesy con- ts and often dilated into hidden little pus pockets ich discharge foul tasting secretion of which the pa- nt complains. He often learns to empty these pockets finger pressure. Occasionally the fossa supratonsil- s itself is thus converted into a chronic ill-drained abscess, from which the pus may be made to discharge by pressure on the soft palate above the tonsil. On account of this tendency to retain septic matter the cicatricial tonsil is the one most liable to produce a series of peritonsillar abscesses, and it is on account of these that the patient usually asks for its removal.

In other cases the cicatricial tonsil does not create abscesses but makes its presence felt during swallowing and speaking by causing pain and discomfort in the throat hard to locate, until compression of the tonsil between a finger in the throat and one behind the angle of the jaw shows it to be the source of the disagreeable sensations, which disappear with its removal.

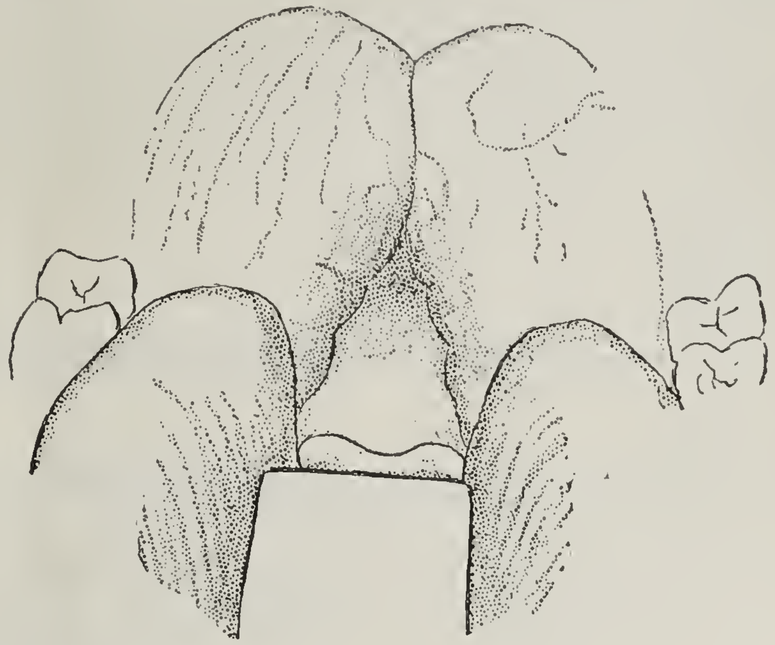


Fig. 4.—Extreme type of buried tonsils forcing the pillars together and hiding the uvula from view. The tongue is depressed until the epiglottis shows. (Sketched from life.)

In some cases of cicatricial tonsil which I have seen the chronic inflammatory process extended beyond the tonsil into the pillars of the fauces, causing them to become thickened and persistently swollen, so that they nearly or quite hid the offending tonsil. This chronic inflammatory thickening looked superficially so like a tuberculous or syphilitic infiltration that in one case a microscopic examination of an excised piece of the tissue was needed to make a diagnosis.

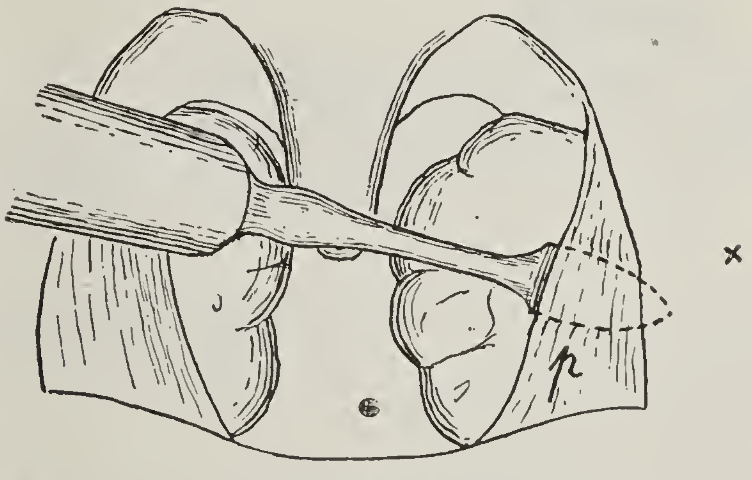


Fig. 5.—Dissection of the plica triangularis and anterior pillar from the tonsil with the pillar knife. The site of the submucous injection is marked with a star (*).

IMPERFECT METHODS OF TONSIL REMOVAL

The Tonsillotome.—If this implement be of a size to exactly fit over the type of tonsil which projects freely from a shallow tonsillar fossa (Fig. 3) it will sometimes remove it completely. The more the tonsil approaches the buried variety, however, the less of it is included in the sweep of the blade of the tonsillotome and the greater is the danger that portions of the pillars will be drawn into the ring of the instrument and cut, with resulting serious bleeding. The tonsillotome has the defect of all automatic mechanisms designed to replace the intelligent work of simpler implements guided by the eyes and hand: it is only adapted to the one pathologic condition which was in its designer's mind when he devised it and it does not fit the endless deviations from this one condition met in practice.

The Cold Snare.—This instrument is also apt to leave much of the tonsil, especially the worst part, the velar lobe of Casselberry, in the throat, and the constricting wire not only creates a torn and bruised wound surface but, unless the tonsil be nearly dissected from its bed as a preliminary, it is apt to draw portions of the pillars and palate into the contracting loop and inflict ragged wounds in them. Inflammatory reaction lasting for a number of days, sloughs filling the tonsillar fossa, fever and foul breath have in my experience often followed the use of the cold snare, for the wire loop is a poor cutting implement and the torn wounds it creates have the usual tendency to infection and inflammation characteristic of tissues devitalized by blunt force. I know of an instance in which snare tonsillotomy done by a skilful colleague resulted in throat gangrene and death from ulcerative endocarditis.

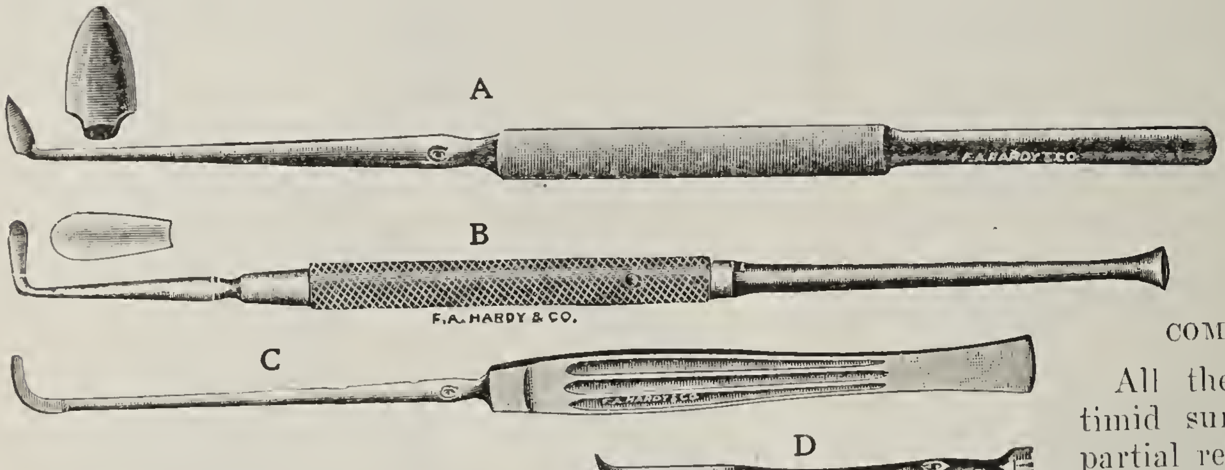


Fig. 6.—A, the Freer angular pillar knife bent on the flat; B, narrow sharp pillar-separator; C, Tydings' sickle-shaped tonsil knife; D, E, the Freer Tonsil knives with blades curved on the flat; F, Casselberry's tonsil-forceps; G, Rhodes' tonsil-punch; H, double tenaculum.

The Cautery Snare.—The cautery snare does not draw in and tear the tissues as does the cold snare, but leads to a good deal of inflammation and fever. It is but little employed now.

Cautery Dissection.—This permits complete removal of the tonsil, but is apt to be followed by secondary hemorrhage, hard to suppress; the inflammatory reaction is greater than when a knife is used, and it is difficult to dissect accurately with this clumsy implement, so that the pillars are apt to be injured by it.

Cauterizing Follicles.—Attempts are often made to prevent the peritonsillar abscesses resulting from the cicatricial tonsil by slitting, or merely burning, its follicles with the cautery point in the hope of obliterating them, a process as tedious as it is unsatisfactory, for it is impossible to follow all of the crypts to the bottom; many do not close after being burned, and hidden ones are not reached at all, so that the failure of the treatment is often announced by a new abscess. The contracting cicatrices left after the cautery may aggravate the pain and dysphagia caused by a cicatricial tonsil.

COMPLETE EXCISION OF TONSILS

All the procedures mentioned represent timid surgery which is satisfied with the partial removal of diseased tissues, or, fearing the keen blade, burns and tears where these tissues should be cut. The reason for this timidity is the fear of bleeding, but the very methods it has suggested are in my experience far more apt to lead to prolonged bleeding than a neat surgical excision of th tonsil, my conception of which is embodie in the following description:

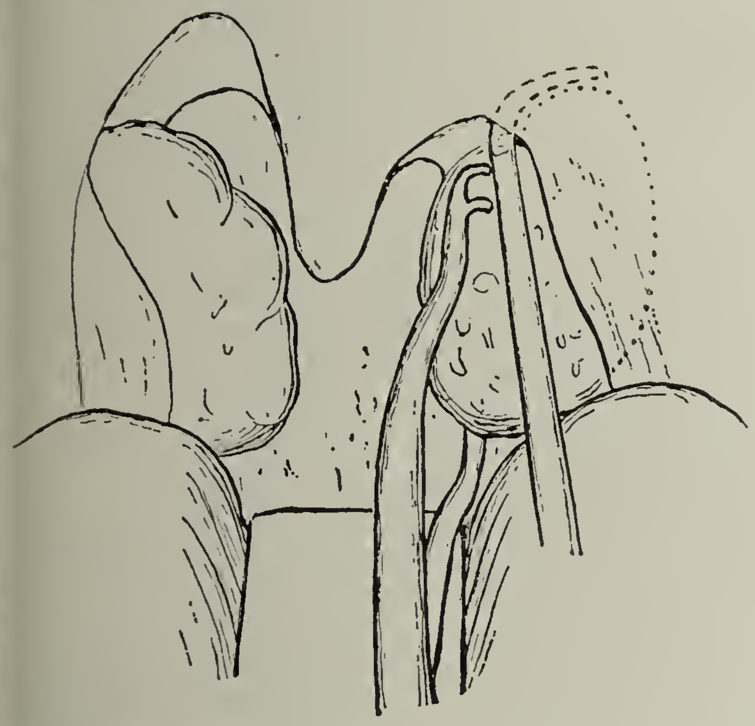
The operation may be performed unde general or local anesthesia. For local anesthesia 15 to 30 drops of a 1 per cent. solu tion of cocain, to which a few drops of to 1000 adrenalin solution are added, are in jected submucously through the outer limi of the anterior pillar just outside of the bas of the tonsil (Fig. 5). If the puncture b made too far inward the fluid will leak int the throat through the tonsillar crypts an local insensibility will not result. The sof palate, pillars and tonsils are next rubbe with one or two grains of pure cocain in th form of flake crystals in order to limi retching. In about five minutes after thi the operation may begin and is conducte with the patient sitting upright before th operator or else reclining on an operating chair or tabl The adrenalin insures a nearly bloodless field.

Where general anesthesia is employed the patient placed in the lateral position of Ingals, lying on h side with the arm underneath drawn out behind h back so that he rests partly on his chest at the ve edge of the table, his head lying on the cheek and bei held strongly backward by an attendant. In this po tion the blood runs out of the mouth and does not ent the air passages. For excision of the right tonsil t patient lies on his left side and conversely the upp most tonsil being the one cut out, so that the blood w flow downward out of the way of a view of the opera-ive field. I have not combined adrenalin injection with he general anesthesia, as collapse conditions have been ttributed to its use under these conditions.

The table on which the operation is performed should e high, from forty to forty-eight inches, according to he stature of the operator, so that he can sit at ease uring the operation. He must kneel, when a common able is used, in order to look into the patient's mouth.

For the illumination I use a Jansen electric head-amp having a miniature light in a small cylinder with condensing lens. The broad, bell-shaped head-lamps sed by the general surgeon are unsuitable, as they ave the operative field in shadow, their rays being mitted at too great an angle to the axis of the eye to hine deeply into the throat.

The instruments used for the operation are a Kirein tongue depressor; two dozen long swabholders; a ag, Allingham's preferred, used where the operation is one under general anesthesia; the Freer angular pillar nife and sharp narrow pillar separator (Figs. 6, A and). the latter for small throats and little tonsils; a ckle-shaped knife bent on edge (Tydings) and having harp, not a probe, point (Fig. 6, C); the Freer tonsil ves for excision of the tonsil, with blades curved on flat (Fig. 6, D and E); a Casselberry forceps for ing the tonsil (Fig. 6, F); a Rhodes punch forceps g. 6, G); two long slender double tenacula for ling the pillars apart where small tonsils are excised g. 6, H).



ig. 7.—The tonsil is seized with Casselberry's forceps and led downward while the velar lobe, indicated by a dotted line, lissected out with the Tydings' knife.

he first step of the operation is the dissection of the a triangularis and anterior pillar from the tonsil, sharp-pointed blade of the pillar knife cutting up down underneath them until it has freed them enly (Fig. 5). The pillar knife must be very sharp, he tissues to be cut are often tough. The posterior r is then dissected from the posterior surface of the il with the same knife or, if tonsils are very large, with a longer blade, not shown in the cut. So far tonsil has not been pulled from its bed with forceps, drawing out the tonsil during the freeing of the rs distorts the natural relation of the parts and es the dissection liable to cut into the walls of the illar fossa.

The next step is the dissection of the velar lobe out of its bed in the soft palate. This is accomplished by pulling the tonsil strongly inward and downward with the Casselberry forceps until the velar lobe becomes visible, when it can be severed by the sickle-shaped knife of Tydings from its attachment to the palate above (Fig. 7).

The preliminary dissection is now complete and the tonsil prepared for removal. So far the operator has held the tongue depressor. He now hands it to an assistant, and grasping the tonsil deeply at its upper and lower poles with the Casselberry forceps pulls it inward and downward as far as it will go (Fig. 8). As it has been freed from the pillars and palate by the dissection described it can usually be readily drawn out beyond its base and made to project in its entirety beyond the plane of the pillars. As the deeper tissues of the neck lying in the pharyngomaxillary fossa outside of the dense fascia of the superior constrictor muscle do not follow the pull upon the tonsil it becomes removed by the traction far inward from the danger of wounding larger vessels in its excision. While the tonsil is thus held drawn out of the tonsillar fossa the one of my two tonsil knives, bent on the flat, which curves away from the side of the throat when its edge looks toward the base of the tongue, is inserted above the tonsil and made to cut downward behind its base until the tonsil is severed completely from its bed (Fig. 8). When general anesthesia is used free bleeding follows for a few seconds, but it may always be controlled by placing the index finger in the wound and making pressure. After the removal of the tonsils under cocain and adrenalin there is little or no bleeding.

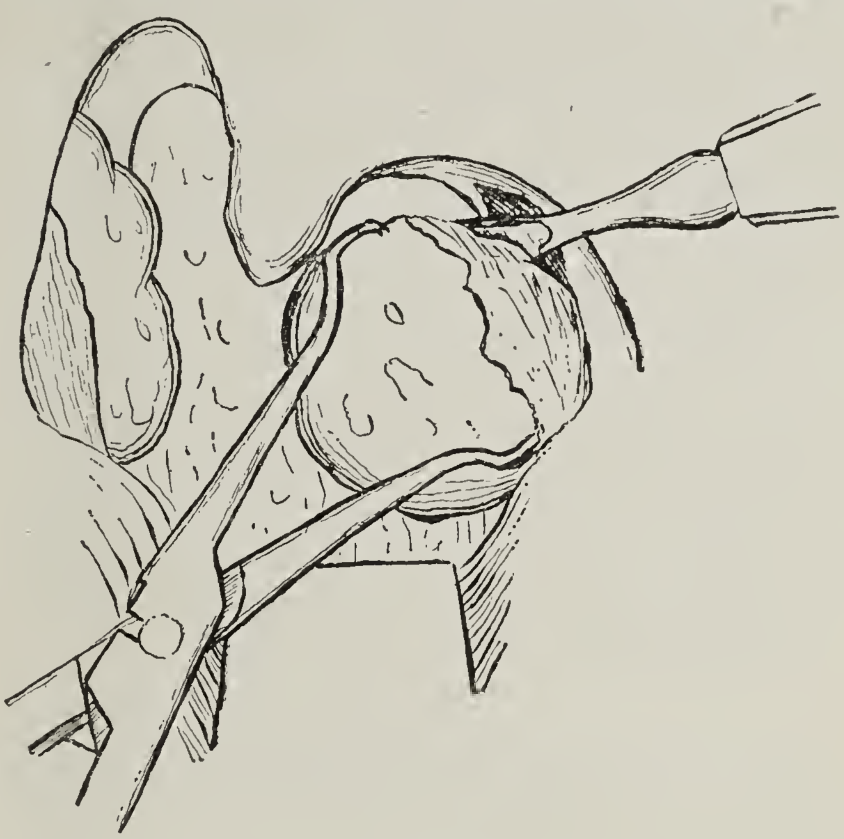


Fig. 8.—The tonsil is strongly drawn downward and inward while the curved Freer tonsil-knife cuts it out under its base.

The reason for the use of the blades curved on the flat instead of straight ones, for the final excision of the tonsil, is the tendency of the point of a straight blade to cut into and buttonhole the posterior pillar, while that of a curved one trends away from it. Probe-pointed knives cut badly.

When the operation is done under general anesthesia it is occasionally necessary to remove, with the Rhodes punch, fragments which were left by the knife. When local anesthesia is employed, however, the excision is usually so exact and complete that this auxiliary is not needed.

The excision of the small, cicatricial tonsil, after it has been circumcised, is often difficult, and in some instances in which it has degenerated into a ragged warty remnant hidden under the pillars, its flat, friable fissured substance gives no hold to the teeth of the forceps so that they tear out and can not draw the tonsil out. In such cases the pillars must be widely spread with double tenacula by the assistant while the patient half reclines on an operating chair. All the tonsil thus becomes visible and may be cut away piecemeal, including the velar lobe, with the Rhodes punch forceps and the Hartmann-Grünwald nasal punch for smaller pieces. In the great majority of cases, however, the cicatricial tonsil can also be cleanly excised from its bed with the knives as described.

When the tonsil excision is finished the tonsillar fossa appears as a deep hollow, showing the direction of its muscular fibers, and no vestige of the tonsil is visible in it. All of the mucous membrane of the palate and pillars, including the delicate fold of the plica triangularis, remains intact and the smooth wound surfaces left by the knives heal rapidly. After a week nothing of the deep hollow, seen right after the operation in the place of the tonsil, appears, the pillars coming together and collapsing into the fossa, so that no trace of the operation remains except absence of the tonsils.

In ordinary cases the time needed for the operation does not exceed five to ten minutes for each tonsil, but a longer time is required for cicatricial tonsils. The knives must be kept very sharp, for blunt instruments are not suited for dissection, and a case has just come to my knowledge in which a good operator tore through the anterior pillar with a dulled separator and his finger in "enucleating" a tonsil by blunt force, a method of operating involving objectionable violence.

SUMMARY

The most satisfactory and perfect method for the removal of all varieties of diseased tonsils is their dissection from the tonsillar fossa with knives of suitable form.

Tonsillotomy with the tonsillotome or snare, cautery dissection and the attempt to cause shrinkage of the tonsil by galvanocaustic slitting of the crypts are timid and unreliable methods which should be abandoned.

There is less danger of prolonged hemorrhage from the rational excision of the tonsil which I have described in this paper than from the usual methods of its removal.

Not only tonsils which act as obstacles in the throat because of their size, but all varieties of chronically diseased tonsils should be completely dissected out.

34 Washington Street.

Infantile Paralysis.—E. H. Bradford and R. Soutter, in the *American Journal of Orthopedic Surgery*, state that the objections to arthrodesis in this condition are that it necessitates a mutilation and loss of function, and that in young children in whom the ends of the bones to be united are largely cartilaginous, it involves a considerable destruction of tissue without preventing, through the late growth of the limb, a recurrence of the deformity. Arthrodesis, however, finds its place in cases of flail joint in which all muscles are paralyzed, and when successful enables the patient to dispense with apparatus.

HEREDITARY HYPOPLASIA IN MAN, DUE TO DEGENERACY

THE UNDERLYING BASIS OF THOSE CASES HAVING A HEREDITARY ORIGIN, AND THE RELATION OF THIS UNDERLYING CAUSE TO THE FUNCTIONAL NEUROSES, TUBERCULOSIS, INFECTIONS AND IMMUNITY *

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It is my desire to bring before the profession what I believe to be the primary cause of many groups of morbid conditions heretofore considered as being separate, or as having a very loose relation one with the other.

It is known that the impregnated ovum has within it potentially the whole man or the whole woman; that is, body, mind and spirit. It has within it potentially all that constitutes temperament in the adult and also that which is spoken of as heredity as distinguished from environment, which last, however, as a directing force is largely made up of the heredity of the mother.

In order to lend directness and lucidity to this presentation of the subject, I will state here that the factor, or underlying cause, of the various morbid conditions which will be considered later is the degeneracy of the particular line of life active through the person of either the father or the mother, or through both, conveyed by the spermatozoon, or by the ovum, whereby the impregnated ovum, potentially the new individual, fails to receive from his progenitors that as yet unexplained something which brings it about that this unicellular organism shall in due time become evolved into a normal human being.

When the defect in the ovum is very great in degree the resulting individual is very abnormal. Without stating it as a fact, I will suggest that this is the explanation of certain abortions and of certain monsters under the so-called congenital abnormalities of structure, while others doubtless are due to the environment of the ovum while yet in the womb of the mother.

This is the explanation of idiocy, imbecility and dulness of intellect in the group of cases not caused by accidental influences acting through the mother during pregnancy.

It is the explanation of what happens when a subnormal child goes to school. He either has a fairly good body with a dull intelligence (the microcephalic type) so that he does not learn his lessons so easily as his fellows; or, on the other hand, he is unusually bright, but has not the physique to withstand the pressure even o childlife, and so that it is said the child is all brain, but has a very poor body. Between these types ar those of the so-called nervous children—that is, thos who have an unstable nervous system.

When the subnormal girl reaches puberty, thos changes which convert the girl into a maiden fail t take place at or about the eleventh year. At this perio the neck of the normal girl loses its flatness, such as boy has, and it is no longer possible to see the sterno cleido-mastoid muscles. This is due largely to th development, physiologic hypertrophy, or evolution, o the thyroid gland, aided somewhat by the increase i the thickness of the adipose tissue of the neck. The sub normal girl retains the body form of the child, wherein girl and boy are very much alike in their figures. The bones fail to develop, the hips fail to broaden, and the imbs, the body and the face do not attain the rotundity which characterizes the woman as distinguished from he man. The breasts do not develop, and in extreme ases the pubic hair is late in growing. In other words, s it is stated, puberty is delayed. The body retains he form of a neuter—that is, of a child. The pelvic rgans do not develop, the vagina remains more like hat of a girl, and so do the uterus, Fallopian tubes nd the ovaries. It is equally true of the ligaments of he womb. This failure in development may be complete or may be partial, and the least manifestation of is the so-called pinhole os of Marion Sims, assoiated, as it is, with narrowness and anteflexion of the rvix. Puberty in the subnormal arrives, when it does rrive, not at 13 in this latitude, but at from 14 to 20, pending on the original defect in the ovum, aided, it ay be, in particular cases, by the environment of the ild after its birth. Likewise, it will be found in each the groups of cases that the condition may, as it is id, be acquired, rather than due to the causes of hich we are treating. That is, it may be due to the seases of a nutritional character, to the influence of ute disease, such as typhoid fever, or to some accident ofoundly influencing the nervous system. Heretofore has been said that these conditions are either connital or acquired.

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* Read before the Southern Surgical and Gynecological Societ St. Louis, Dec. 16, 1908.

After marriage such subnormal girls are relatively rile. Some do not become pregnant; they torment ir husbands and worry their doctors, and then comes rvous prostration from worrying over the situation. hers become pregnant, and the womb is imperfectly veloped, resulting either in abortions, in abnormal bors, or in lacerations; many of these women have erperal infection. Then comes nervous prostration m having had this experience. Such women are ntally unstable and everybody says they are peculiar. ey are not like other women; that is, they have hyposia of their entire bodies. It is not merely arrested elopment of the pelvic organs, but arrested developnt of the body in general. Their bones and their scles, their hearts and their arteries, and, most of their nervous system—central, spinal nerves and pathetic—are imperfectly developed; that is, organs parts are in a state of hypoplasia, or arrested evolu-

uch women very often have retrodisplacements, n they do not have anteflexion, and all have poor ments; round ligaments and uterosacrals, and the nd ligaments, and the Fallopian tubes, and the ies likewise are imperfectly developed—are in a of hypoplasia.

any of these women have, at about the age of 11, t is called chlorosis, which is a part of this general ation—it belongs in this group. Even Virchow ed the point. He recognized the fact, but did not the explanation. He said that chlorosis was incur, because dependent on hypoplasia of the heart; eas the truth is that hypoplasia of the heart is a incident in the general situation. Heretofore it been said that puberty is arrested because of malition resulting from chlorosis, whereas the truth at the two have the same primary cause.

was stated that many of these women have puerl sepsis. This is mentioned here separately, but will be taken up later in connection with other infections.

This principle explains all the cases of displacement of the uterus not due to accidental causes acting on normal individuals.

Now comes the loose kidney, the so-called nephroptosis. It has been known that such patients usually are queer, that they have many nervous symptoms. Men who are routinists and who have operated on these patients indiscriminately have found that many of them are no better after nephropexy. Others who were more studious and thoughtful, who have taken the trouble to differentiate the cases into groups, those having direct local symptoms, those having reflex symptoms, those having hysteria, and those having nervous prostration, have found that nephropexy cured the patients in the group having local symptoms and the group having reflexes, and so they have restricted their operations to these two groups and have advised that the patients in the other two groups, namely, the hysterics and the neurasthenics, shall not be operated on; or, if operated on, that these nervous disorders shall receive appropriate treatment. The explanation is that the two groups, those having direct and those having reflex symptoms, are instances of acquired nephroptosis in persons of normal development, almost without exception; whereas the other groups are chiefly made up of the patients primarily defective. Hence the mechanical cure of the local condition cured the symptoms in two groups and could not alter the primary basis of the trouble in the other two groups. In practice this will be somewhat mixed, as the groups will overlap each other. Some patients primarily defective will have local symptoms, and operation will relieve the local symptoms, and some patients having acquired nephroptosis as the result of malnutrition due usually to acute disease, less often to long-acting causes, and rarely to traumatism, will develop neurasthenia; hence operation in these cases will cure only the local or reflex symptoms, even in patients primarily normal, and will not influence for good, or will make worse, those having hypoplasia from arrested development

My work as a gynecologist has brought me in relation more particularly with hysteria, neurasthenia and reflex neuroses. It is probable that such conditions as epilepsy, catalepsy, hysteria, insanity, exophthalmic goiter, etc., have the same basis in degeneracy as those conditions already considered.

As showing the relation between the two groups of cases already studied, it was two gynecologists, Edebohls and myself, who worked out these facts. It has long been observed—and this idea was especially elaborated by Harris—that those having loose kidneys have a peculiar body form; this body form is the same as that which has been discussed in connection with delayed puberty and is due to general hypoplasia. It is the form of the child—the neuter. Harris failed to recognize the underlying cause of this body form. Glenard long ago recognized that dropped stomach and dropped intestines were associated in certain cases with dropped kidneys, and as a result of his teachings, which represent a half-truth, there came confusion in the study of nephroptosis, because the underlying cause of each was not understood. His teaching failed to take into consideration the fact that certain cases are developmental in origin and that others are acquired; hence the confusion.

This group of visceral ptoses, which includes stomach and intestines, the kidneys and the liver and the spleen and the uterus, when not acquired, are all due to developmental causes—to a primary defect in the ovum. But this is not all, because they have general hypoplasia; the liver cells and the cells of the gastric and of the intestinal glands and of the pancreas all feel the influence of the primary defect in the ovum. In addition, the nervous system suffers the consequences of this primary defect, and so we have so-called nervous indigestion, which is merely the outcome of general hypoplasia, when it is not reflex in origin. It has been known for centuries that the consumptive has a peculiar body form, speaking broadly; he or she is not erect; there is a general appearance of lassitude and languor, due to lack of tone and to poor nutrition of the ligaments and of the muscles and of the fasciæ of the body. The form of the vertebral column is altered, its curves are changed. This change lessens the capacity of the chest and alters the configuration of the abdominal cavity. To speak first of the abdominal cavity: This change in form alters the direction in which intra-abdominal pressure exerts its force. Added to this is the lack of tone in the muscles of the abdomen, and these two factors, acting in concert on the viscera of the abdomen and pelvis, with their suspensory ligaments and the other structures which directly support them, themselves feel the influence of the primary defect in the ovum and so have lax tissues, which yield insufficient support—bring about visceral ptosis. The result in the chest is that, owing to the abnormal configuration of the bones, there is less room for the lungs, and, owing to the hypoplasia of the ribs and of the muscles of respiration and of the nerves and nerve centers which control respiration, there is defective respiration. These factors, together with the hypoplasia of the lung tissues, make this group peculiarly susceptible to the invasion of the *Bacillus tuberculosis;* and so it has long been recognized that such people—that is, those having such a configuration of their bodies—are liable to this disease—consumption, or tuberculosis.

It is noted above that the women belonging to this group are peculiarly liable to the development of puerperal infection. I have long observed that these women are especially liable; also that those on whom I have operated for dropped kidney, and the nervous group of which we have been speaking, have been especially liable to develop infection of the urinary tract from catheterization following operations. Now we see that the same group, as has been known for years, are peculiarly liable to develop consumption. What is the explanation? We must go back to the primary defect in the ovum which results in what was formerly called low tissue resistance to infection, or, as it is now stated, a low opsonic index; that is to say, that unknown something, in the blood plasma, which enables the individual through the action of the so-called opsonins to lessen the virulence of the infecting organism. Is not this, in part, the explanation of the nature of infections, of the nature of the loss of relative immunity, of the fact that some are susceptible to the actions of infectious organisms and succumb, and that others who are normal, or who are more normal than those just mentioned, are able through their opsonins to overcome the infecting organisms and thus to recover?

It was first noted by Edebohls that appendicitis of the chronic type, especially, is very common in association with loose kidney. He attributed it to the mechanical influence of the dropped kidney on the vessels of the appendix. His observation was correct, but is not his explanation erroneous? Is not the true explanation the same as that of all of the other groups?

It has long been known that those belonging to the groups discussed are queer people. Their minds are unstable and do not work like others. They do not think soundly or reason accurately, as a rule, and their judgment is apt to be bad. In other words, intellectually they are defective. Likewise the moral perversions belong peculiarly to this group. Thus in this group also are the hysteries, etc., and they are all prone to develop neurasthenia. What does this mean? Hypoplasia of the nervous system due to a primary defect in the ovum. Does not this make the whole subject simple and easy to be understood?

Now, just as with the displacements of the uterus and with the displacements of the kidney, so it is with the chest cases, and with the nervous cases; we can have acquired troubles due to the environment of the individual who is normal, or who is only slightly defective, and the two groups, the cases primarily due to heredity and those primarily due to environment, can be differentiated. In practice the prognosis in one group is good and in the other group must be guarded, is less good, or is bad. The line of treatment must be different in each group. In the acquired cases all that is necessary is to remove the cause and to remove or to cure the particular trouble by therapeutics, medical or surgical, and then the previously normal individual becomes well. In the other group, the cases due to hypoplasia, if in the case of an adult, the cause can not be removed. It lies back in the ancestors who can not be reached. So here we must get at the fringes of the question instead of at its center, fundamentally. W can cure by therapeutics, medical, hygienic or surgical, the secondary results of this primary defect; then along the lines of nutrition, and along the lines of hygienic living, we can improve the condition of the individua until he is well enough to say that he is well again But that individual can never do a full man's or a ful woman's work. When the strains and stresses of lif come on him, or her, comes the breakdown and nervou prostration.

And this is not all. This explains what we hear s much about, namely, the inadequate results attained b certain specialists, the kind who are mere routinists who are superficial men—in other words, who are no experts—those who have not only a narrow field, bu also have a shallow education, and who have selected specialty, not that they may get at the root of the questions which come before them for solution, but in ord that they may have an easy time, and not be bothere with too many problems, and so have not gone to th foundations of medicine, which are as broad as natura and physical and mental science, which is necessary fo the expert, who is a true specialist. So when case belonging to this general group (in which are represented many functional conditions or neuroses, involving particular specialties) come to these superficial o false specialists, the treatment takes the form of th useless spectacles, the nose-washes and the blowing o air through the respiratory passages, the silly use o tampons as a routine, or the painting of the os wit iodin, or the mere routine employment of the rest-cu without understanding, and the use of electricity for th titillation of the nervous system—the playing on th mind by causing the vibrator to touch the body, o what is called by such men "psychologic therapeutics," practiced by sending sparks through the patient from Leyden jars. Such men have brought specialism into disrepute among the unthinking, who have failed to recognize that such men are not specialists—that is, experts—but narrow men, with a shallow education, who neither know, nor can see, the truth, when it comes before them; and so it comes that all this routine practice, based on ignorance and incompetence, not only does no good, but wastes the patient's money and brings medicine into disrepute. The truth is that in the diseases belonging to each specialty the same factors are t work, and the explanation of the failure to get good esults is that doctors have not separated the cases evelopmental in origin, due to a defect, primary in the vum, from those cases in which the disease is acquired, n a normal or relatively normal individual; or, to use e usual terms, they have confused direct and reflex mptoms with hysteria, nervousness and neurasthenia.

This subject (degeneration or hypoplasia) has long ccupied my mind, and already twenty years ago I ecognized the truth of it so far as it applies to the ure of women having delayed puberty. I appreciated e truth that this was developmental in origin (arrested evolution) and must be treated along nutritional d hygienic lines; but the word congenital was confusing, because one's mind was arrested in its processes the period of birth and did not go back to the beginning, to the ancestors, and to the influences of redity on the fertilized ovum—one's reason was lost the fog or mystery of the creation of a new being.

I was greatly aided in the solution of the problem applied to this group by the late Harrison Allen, the st—more's the pity—of what may be called the naturalist school of physicians. He was really a great ientist, although he was known as a rhinologist, the e who laid the foundations of the modern surgery of e nose and throat; but he had the broadest of training. He was a great craniologist, one of the most rned in this field in the world. He had been a general surgeon and had given it up because the field was t inviting to a man of his type of mind. The field s too broad and, therefore, the tendency was to make practitioners shallow. The human mind is not at enough to go to the bottom of many things; so time Allen, having a philosophical mind, appreciated the great truth, that a stream of given volume st be narrow if it is to become deep. And so after ing the foundations of his career very broadly, he tricted his activities within a reasonable compass.

was puzzled, as a young gynecologist, by the condition known as "delayed puberty." I saw many cases it in my dispensary work, where, naturally, the decadent are numerous. I recognized that such patients e peculiar people, not like others; also, that I had been able to do much for them. I talked with Dr. en and he told me that he thought that it would be interest if I should refer to him a number of such ients to study from the standpoint of a student of ural science. I did so, and he reported his findings about twenty of them. The report was that their ous systems were undeveloped, their frames as much men as like women—that is, they were neuters—; their crania were undeveloped, that they had high-hed palates, that their vocal chords were ill developed, and that such people could not be singers. He recognized the fact that their nervous system was developed, but he stopped with birth and called the condition congenital. But it is evident that the only way to do anything with these people, practically, is along the lines of nutrition and hygiene, and so for twenty years I have treated this group, and then the dropped kidney group, along these lines. The word "congenital" was the stumbling-block. Dr. Allen and I each recognized that the trouble was developmental, and a hypoplasia, but we thought that the trouble was primary in the nervous system and exerted its influence through the trophic nerves, those controlling nutrition, resulting in malnutrition and arrested development.

I have long noticed that in this group of women it is very common to have leucorrhea, and have taught that this, when the discharge is thin in character, comes from the endometrium, and is due to malnutrition and not due to local disease. I failed, however, to appreciate what I believe is the fact, namely, that this is just the same condition as that previously discussed, that it is due to a hypoplasia of the cells of the endometrium so that they fail to functionate normally and are subject to degenerative changes in structure. Is it not the underlying cause of so-called glandular hypertrophy of the endometrium, and is not this the same pathologic condition found in the throat and called adenoids and diseased tonsils, and does not this theory explain this group of debilitated women, and also all the children who are not vigorous, and who get adenoids and diseased tonsils and become mouth-breathers?

Now how are we to differentiate the defective children, those in whom puberty is delayed, those with visceral ptoses, with consumption, with neuroses of hereditary developmental origin, from those in whom it is acquired? By eliciting the family history and by looking for the stigmata of degeneracy, particularly, because this is the easiest, for the high-arched palate of the degenerate. All the other stigmata of degeneracy are as significant, but they are less easily recognized.

It has been only recently that the truth which lies behind all these isolated facts, so long known by many, came to me through the correlation of these isolated truths, whereby one obtained the premises, the proper point of view, from which to see the truths above noted, and on which to reason, and then the conclusion became inevitable that the real basic nature of all these apparently separate groups of morbid conditions lies in the defective ovum due to heredity and to the degeneracy. Now here lies the explanation of that ancient proverb, that the sins of the father are visited on the children to the third and fourth generation — not because the Almighty is revengeful, but because this is Nature's law and is, therefore, inevitable.

1509 Locust Street.

Tuberculin Reaction in Eye Diseases.—P. A. Callan (*New York Eye and Ear Infirmary Reports*, July, 1908, xiii, 18) calls attention to subnormal temperature within a few hours after injection of tuberculin. The reduction varied from 1 to 2 degrees F.; and was quickly followed by a rapid rise culminating at the maximum within twelve hours. Some patients suffered a great deal from the effects of tuberculin. Not unfrequently they complained of a chilly feeling, severe headaches, nausea with pains in various parts of the system; and generally immediately most of them complained of a feeling of malaise and general discomfort. While the doses of Koch's tuberculin given for diagnostic purpose were not large, he reports two patients who, in his opinion, were made worse by them. This subnormal temperature might be more frequently discovered if the temperature were taken within one hour after the injection.

Clinical Notes

PROPHYLACTIC EFFECT OF ANTITOXIN ON THE CHILD IN UTERO

DAVID H. RANSOM, M.D.
CLARKSTON, WASH.

Two years ago I was called to treat a child supposed to be suffering with tonsillitis. I found the child with an unmistakable diphtheritic membrane in its throat. A second child also complained of sore throat and was found to have a membrane on the uvula. The mother, who expected to give birth to another child in a few days, also had a membrane in the throat. The diagnoses were all confirmed microscopically later. The first child had a severe attack and three weeks later died from nephritis. The second child and the mother were not severely ill, as I injected antitoxin at once in all cases and their illness had been of but twenty-four hours duration at the time of the injection.

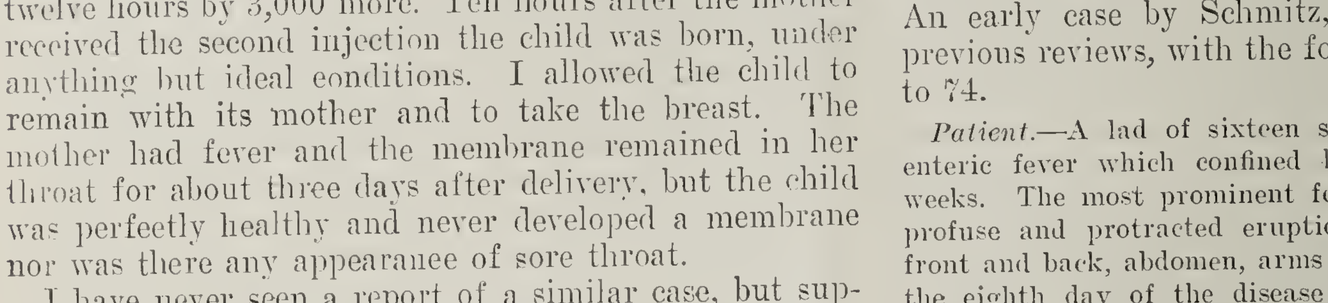
I administered 4,000 units to the mother, followed in twelve hours by 3,000 more. Ten hours after the mother received the second injection the child was born, under anything but ideal conditions. I allowed the child to remain with its mother and to take the breast. The mother had fever and the membrane remained in her throat for about three days after delivery, but the child was perfectly healthy and never developed a membrane nor was there any appearance of sore throat.

I have never seen a report of a similar case, but suppose that the child must have obtained a prophylactic dose of the antitoxin through its mother's blood.

AN IMPROVED TONSIL SNARE

WILLIAM A. MARTIN, M.D.
SAN FRANCISCO

The value of a tonsil snare depends on several qualities. First, it should carry a loop large enough to pass over the handles of the tonsil-seizing forceps of ordinary size. Second, one should be able to tighten the loop quickly to any desired extent with the use of one hand. Third, one should be able to employ a slow and powerful tension at any moment without the aid of the second hand.



An Improved Tonsil Snare.

From designs which I furnished some time since, a snare has been perfected which embodies these qualities without being too complicated. The wire is threaded through a stylet which has a ratchet on one side. The loop can be tightened by pulling on the rings as with the common pattern of snare, or it may be tightened by revolving the rings (there being a cogwheel on the bar which joins the two rings that acts on the ratchet). The friction clutch A holds the carriage firmly while the ratchet is being used. The loop can be enlarged or released at any time by simply pushing the friction clutch A forward or by releasing the catch B and reversing the direction of the rings, which pushes the ratchet stylet forward in the canula. This permits the same loop to be used repeatedly. The instrument is made of steel, is light and strong, and will bear the closest scrutiny as to workmanship.

TYPHOID SPINE *

FRANCIS W. WHITE, M.D.
Demonstrator of Clinical Medicine, Jefferson Medical College
PHILADELPHIA

In 1889 Gibney[1] of New York described a condition of the spine following enteric fever, of which he had 4 cases, to which the term typhoid spine was applied. From that time until 1902 Lord[2] found that 26 cases had been reported, and in 1905 Fluss[3] noted 42 cases of the same condition. Silver[4] in 1907 reported a case and also reviewed the literature on the subject to that date, collecting in all 67 cases. Since then 2 cases have been reported by Myers,[5] 1 by Peltesohn[6] and 2 by LeBreton.[7] An early case by Schmitz,[8] which was overlooked in previous reviews, with the following case brings the total to 74.

Patient.—A lad of sixteen suffered from a mild attack of enteric fever which confined him to bed a little over four weeks. The most prominent feature of the condition was the profuse and protracted eruption of rose spots on the chest, front and back, abdomen, arms and legs. They appeared about the eighth day of the disease and persisted until the latter part of the third week. Convalescence was rapid, and he was able to return to his work in a short time.

Development of Complication.—About six weeks after being up from the attack of typhoid fever there suddenly developed severe pain in the lumbar region. This came on after a hard ride on a bicycle. Though suffering constantly, he pursued his ordinary duties for about two weeks but was then forced to give up and take to his bed, where he remained for a week.

The pain at this time was located mostly in the lumbar region, where, on pressure over the body of the second lumbar vertebra, it became excruciating. It was referred in a lesser degree to the right side and downward toward the crest of the ilium, also to a still less degree to the left side in the same position. Pressure in these regions elicited some tenderness which seemed to be localized, while if pressure was exerted on the lateral aspects of the iliac crests no pain could be produced in the sacroiliac symphysis; no tenderness was present in the last named region. The patient also complained of a pain which encircled his body like a belt at the waist line. There was a slight degree of anesthesia on the right side below the anterior superior spine of the ilium, which extended downward to the symphysis of the pubes. There was no deformity of the spine, nor has any occurred since. Swelling and redness were both absent during the entire attack of the spinal ondition, although his temperature ran between 101 and 102 degrees.

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* Read before the Philadelphia County Medical Society, Oct. 28, 1908.

[1] Gibney, V. P.: Tr. Am. Orthop. Assn., 1889, ii, 19.

[2] Lord, Frederick T.: Boston Med. and Surg. Jour., June 26, 1902, p. 689.

[3] Fluss, Karl: Centralbl. f. d. Grengeb. d. Med. u. Chir., viii, 645, 730, 817.

[4] Silver, David: Am. Jour. Orthop. Surg., October, 1907, p. 194.

[5] Meyers, T. Halsted: Am. Jour. Orthop. Surg., October, 1907, p. 180.

[6] Peltesohn, S.: Ztschr. f. Orthop. Chir., xix, 239.

[7] LeBreton, Prescott: Two Cases of Typhoid Spine, The Journal A. M. A., Nov. 2, 1907, xlix, 1529.

[8] St. Petersburg med. Wchnschr., 1901, p. 254.

The pain was exceedingly severe, even when the spine was in he most comfortable position, and rendered the patient quite helpless. Even after getting up from the above acute condition he was unable to dress or undress, as any movement of the spine either forward or laterally caused him to scream from pain. Almost immediate relief could be obtained by allowing he patient to support himself with his hands on the back of a hair, his legs being flexed and the toes lightly touching the floor. The pain could also be relieved to a great extent by an xaggerated erect posture, thus removing the superincumbent weight from the bodies of the vertebræ and placing it on the posterior portions of the spinal column.

Treatment.—The use of opium and at times the above decribed positions relieved the pain to a considerable degree, but or permanent results fixation of the spine by mechanical means was advised. Dr. Rugh was asked to see the case, conurred in the diagnosis, and applied a plaster jacket while the atient was extended to full length by means of a tackle and ulley arrangement, the feet of the patient being allowed to ouch the floor sufficiently to maintain steadiness and to bear a light part of the body weight.

Course of Disease.—Two days after the cast had been aplied the patient weighed 119 pounds, and in about a week he ad gained five pounds. The pained expression on his face disppeared, the appetite improved, and sleep became more restul. There was no pain except when the patient inadvertently irred himself, as by stepping down heavily or seating himself uddenly. The cast was worn constantly for about eight weeks, nd then continued for a couple of weeks longer as a corset, eing applied in the morning and retained in place by means tapes passing entirely around the chest, and removed on tiring.

He made a complete recovery, there being no recurrences of ain, and when seen a year later he was in perfect health, his eight being 153 pounds.

Neither during his illness nor since have any nervous sympms been observed; nor have any special nervous conditions en noted in other members of the family.

2025 Chestnut Street.

ERMATITIS VENENATA DUE TO A PROPRIETARY HAIR-DYE

ALFRED SCHALEK, M.D.

OMAHA

I was called to see Mrs. E. W., November 4. For a week e had been treated for supposed erysipelas of the face, thout benefit. The patient had a rapid pulse but normal nperature, the scalp and the face were much inflamed, of dusky red, edematous, with a few scattered bullæ. e eyelids were swollen and closed, the eyes injected, smartig and extremely sensitive to light. The patient complained a burning sensation (but no pain) and of general restlessss which had prevented her from sleeping during the last ree nights. Applications of mud poultices and some other k, sticky, ill-smelling "patent medicines" had succeeded in tting her hair into a felt-like mass and in making her idedly worse. I diagnosed the case as dermatitis venenata, ut was unable to discover the cause at that time. Under propriate treatment the patient recovered quickly and on vember 11, I discharged her cured. November 21, I received other urgent call to see her and found her in the same conion as the first time. Close questioning elucidated the fact at on the previous day she had dyed her hair with "Mrs. ter's Pure Walnut-Juice Hair-Dye, warranted not to conn lead, silver, opium, etc.," and shortly afterward felt a ning sensation in her scalp, which was followed in a few urs by her present condition. She also acknowledged that former similar experience followed closely on her first al of the dye.

A MODIFIED METHOD FOR THE SUBCUTANEOUS USE OF ARSENIC

A. A. HERZFELD, M.D.

NEW YORK

The hypodermic use of arsenic has long ago established itself as one of the best methods of administering this drug. The subcutaneous use of this medicament is preferable in all diseases in which a long-continued arsenic medication is indicated, particularly in those cases in which we have to deal with a pathologic gastrointestinal canal. The subcutaneous use of arsenic is preferable in certain affections of the skin, as in scleroderma, lichen ruber, and in a number of diseases of the blood, as in pernicious anemia pseudoleukemia, etc. The hypodermic method has the advantages, first, that the dosage is accurate; second, that the dose is smaller than that given by mouth; third, that it does not irritate the gastrointestinal mucous membrane; and, fourth, that toxic symptoms have rarely been noticed when the inorganic salts are used.

We are indebted to Ziemssen[1] for one of the earliest and best modifications of the method of hypodermic administration of arsenic. The disadvantages of the previous methods, which mainly consisted in the simple injection of liquor potassii arsenitis (Fowler's solution), or of Pearson's solution, were the following: First, these solutions decomposed very easily; second, they were highly irritating to the subcutaneous tissue, so that in certain instances abscesses and even gangrene resulted. In order to counteract these disadvantages Ziemssen employed a 1 per cent. solution of sodium arsenite and attributes the advantage of his preparation in the fact that "it does not cause any or very slight irritation." I have used Ziemssen's solution in a number of cases, and while the results were excellent, I have found that the injections were attended with considerable pain, so much so, that in one case the patient avowed that "the cure was worse than the disease." I attributed the irritating effects of this solution to its strong alkalinity. In order to counteract the strong alkalinity I modified Ziemssen's solution as follows:

One gram of arsenious acid and 2.25 c.c. normal soda solution are boiled in 100 c.c. of distilled water until a clear solution results. This solution is filtered and enough distilled water added to make the filtrate weigh 100 gm. This 1 per cent. solution of sodium arsenite is slightly alkaline. The solution is kept in quantities of 15 c.c. in small sterilized Florence flasks, which are closed by sterile cotton stoppers. When alkaline solutions are kept for a long time in ordinary glass bottles a slight turbidity and sediment occur, due to the action of the alkali on the glass.

I tested the alkalinity of this solution in comparison with Fowler's and Ziemssen's and I found that 5 gm. of Fowler's solution required 1.2 c.c. of normal sulphuric acid solution to neutralize the alkalinity, and 5 c.c. of Ziemssen's solution required 0.48 c.c., while my modification required 0.23 c.c. of normal sulphuric acid solution. Litmus was used as indicator.

I have employed these injections in a number of cases and found that they are nearly painless; at the most they cause a slight burning, which sensation promptly disappears. I have never seen an abscess result from an injection. The injections must be made with all aseptic precautions. After the injection an alcohol dressing is advisable in order to counteract any possible infection. I begin with an injection of 0.25 c.c. and gradually increase the strength to 1 c.c. daily (0.01 gm. sodium arsenite). In one case of pernicious anemia I injected 2 c.c. (0.02 gm. sodium arsenite) every second day, without causing any toxic symptoms. Clinically the results with the modified solutions were very gratifying. The injections are made on the upper arm or between the shoulder blades.

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[1] Deutsch. Arch. f. klin. Med., lvi, 124.

Despite the favorable reports in regard to the treatment of certain skin affections and syphilis by the hypodermic use of atoxyl and the cacodylates, which contain, respectively, 37.7 per cent., 35 per cent. of pure arsenic, these organic and less poisonous combinations of arsenic have not proved nearly as efficacious as the conventional inorganic arsenic preparations in the more aggravated skin lesions, and especially in Hodgkin's disease and pernicious anemia. Another objection to the hypodermic use of the organic arsenic combinations in these diseases is found in the fact that the dose has to be a large one to be of any therapeutic use, and this circumstance frequently has caused severe arsenic intoxications with serious consequences, as the literature of the last year goes to show.

224 West Twenty-fourth Street.

AN UNUSUAL COMPLICATION OF THE OPERATION FOR CONGENITAL DISLOCATION OF THE HIP

LEONARD W. ELY, M.D.

NEW YORK

The following case seems interesting on account of a rather infrequent complication:

Patient.—O. A., a girl of 8, was brought to the Roosevelt Hospital on Oct. 23, 1908, on account of a peculiar gait which had always been present since infancy. She had never suffered pain.

Examination.—Fairly well-nourished child, walking with a decided waddle. Heads of both femurs were dislocated, the right being fairly well developed, the left not so well. Well-marked lumbar lordosis was present. Length of right leg, 53.5 cm.; length of left leg, 53 cm.

Operation.—About November 23 the child entered the hospital and shortly thereafter was put to bed with extension of thighs at a right angle to her trunk. On December 7, under ether anesthesia, the Lorenz operation was done on both hips. The adductors were broken down rather easily, and reposition was accomplished on both sides without difficulty. The stability on the right side was rather poor, but on the left good, The head on this side was prominent and in its normal place under the femoral artery. In order to prevent relaxation, the thighs were held in extreme abduction while the dressing was put on, abduction being carried well behind the plane of the body. During the application of the plaster, the house surgeon, who was holding the legs, called attention to the condition of the left leg and foot. They were bluish-red and pulseless. This was considered to be due to the constriction of the dressings at the knee, and they were loosened at that point. As the circulation in the limb had not improved, however, by the time the plaster had been applied, the cause of the difficulty was sought. No pulsation could be felt in the popliteal vessels, nor at any point below the plaster, and the foot was becoming darker and rather cold. Next the plaster was cut away over the head of the femur to relieve pressure there. The femoral artery did not pulsate. Then all the plaster was removed from the affected limb, still without producing any improvement whatever. Not until the hip was redislocated did the circulation start up.

In describing a case of gangrene after reduction of one of these hips Lorenz was wont to ascribe it to a compression of the femoral artery between the plaster and the prominent head of the femur, and this explanation has always been accepted as the correct one, as it certainly would be the most obvious. In this case, at least, if the plaster had been left on and any accident had occurred, we probably should have considered it due to this cause. In view of the facts, however, some other theory must be entertained. Evidently the dressing had nothing to do with it. We are inclined to think that the head of the superabducted femur (that is, superabducted from a position of right-angled flexion) compressed the femoral artery against Poupart's ligament and thus shut off the blood supply.

Whatever theory is entertained, this case demonstrates the necessity of watching carefully the circulation in a leg after the reduction of a congenital dislocation, both at the time of operation and afterward.

THE POSSIBILITIES OF INFECTION FROM TABLE UTENSILS AT SANATORIA*

J. WOODS PRICE, M.D.

SARANAC LAKE, N. Y.

In the following experiments forks, spoons, teacups and milk glasses in constant use at the Reception Hospital, Saranac Lake, were used. This institution receives patients suffering with pulmonary tuberculosis, a large majority of whom are in an advanced stage of the disease, and some of whom are in the last stages.

The experiments were made without the previous knowledge of the nurses or maids of the institution, and several months apart, to avoid the possibility of the dishes receiving an unusually good washing.

For the first experiment thirty forks and twenty-five each of spoons, cups and tumblers were selected immediately after breakfast, and after ordinary good washing but not sterilization, the modus operandi of which was as follows: The utensils were first thoroughly cleansed with a mop or cloth, with soap and water as hot as the maid's hand's could stand, and then rinsed in running water as hot as it could be delivered through a pipe leading from a tank containing boiling or almost boiling water, and then dried with a cloth.

In order to obtain the material for the experiment the articles selected were, after the usual washing, well rubbed with a sterile 0.5 per cent. sodium bicarbonate solution by means of sterile cotton swabs on glass rods and these washings used for the inoculation of guinea pigs. The washings were taken at once to the laboratory and distributed among fifty-six guinea-pigs by subcutaneous injection into the right groin, 0.75 c.c. to each pig, and with the use of sterile syringes. The distribution was as follows:

Washings from forks, 14 pigs
Washings from spoons, 14 pigs
Washings from cups, 8 pigs
Washings from tumblers, 8 pigs
Mixed washings of cups and glasses, 6 pigs.
Mixed washings of forks and spoons, 6 pigs.

One animal died on the second day after the inoculation, and thirteen others from time to time up to th forty-first day, when all living animals were killed. A autopsy was performed on each animal at the time of its death or when killed, and all were found to be free of tuberculous infection. Smears were made on slides from the spleens and right inguinal glands of all those pigs killed on the forty-first day, and examined microscopically for tubercle bacilli, and found to be negative in every instance, nor could tubercle bacilli be demonstrated in stained specimens of the centrifugalized washings before inoculation.

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* Read before the International Congress on Tuberculosis, Washington, D. C., Oct. 1, 1908.

In the second experiment five articles of each sort were selected immediately after use and before washing of any kind, and swabbed with the 0.5 per cent. sodium bicarbonate solution as described above. These washings, which were very cloudy with particles of food, were immediately on arrival at the laboratory injected into eight guinea-pigs in the same manner as in the first experiment, the washings of each set of articles being divided between two pigs.

All these animals lived until the forty-first day, when hey were killed and autopsied, and all, excepting the wo inoculated with the washings from the milk glasses, were found to be tuberculous. It was an easy matter o demonstrate tubercle bacilli on slides made from the glands and spleens of these pigs, though no tubercle acilli had been found in a casual search of smears made from the washings previous to inoculation.

The third experiment was a repetition of the first, ut with the use of only six each of the utensils and welve pigs, the washings from the different articles eing distributed among three pigs. This test was made eight months later, when the dish-washing was eing done by a new set of maids, but under the supersion of the same corps of nurses. The result, hower, was the same.

It is fully realized that two experiments are not sufient for definite conclusions, and that sterilization of ting utensils by heat or boiling, when possible, is not be discouraged; at the same time when the dishashing is thorough the danger of infection from this urce does not seem to be very great.

My thanks are due to the Saranac Laboratory and e Reception Hospital for facilities placed at my dis- sal for the experiment, and to Dr. Baldwin, who sug- sted it.

21 Main Street.

CONGENITAL INSUFFICIENCY OF THE PALATE *

G. W. STIMSON, A.B., M.D.
ATLANTIC CITY, N. J.

My attention was first directed to this condition by kuen of Philadelphia, who exhibited a similar case ore the College of Physicians and Surgeons about a r ago. As far as I have been able to discover, there been no reference made to it in medical literature to the present time.

atient.—L. C., white, female, single, aged 18, referred to by Dr. Mary Townsend, of this city, consulted me Oct. 22, 8. Practically her entire complaint was a marked defect peech, which she said had existed ever since she began to ; it was that alone which prompted her to seek medical ce. There was slight nasal obstruction and some post-l "dropping," but these were not troublesome enough to e any complaint in themselves. There was no history of diphtheria or other serious illness; in fact, with the exception of measles at the age of 14, which clearly had had no effect on the condition under consideration, the patient had always enjoyed good health. The family history was negative.

Examination.—The palatal reflex was absent, and the free edge of the soft palate hung so far away from the posterior pharyngeal wall that a postnasal examination could be made with a large laryngeal mirror with perfect ease. Sensation was unimpaired. Occasionally small amounts of tea and coffee come through the nose, but apparently not often enough to be troublesome. The following points were further evidence of faulty development: The uvula was short and bifurcated. The palate, while not extremely high, was undoubtedly more highly arched than the average normal one. On palpation with the finger in the mouth, or on inspection while lifting the velum upward and backward with a blunt probe, it was seen that the posterior edge of the hard palate at the point of its attachment to the soft one, presented the shape of a long narrow letter V with the apex located well forward, and that the soft palate was abnormally short and not of sufficient length to reach the posterior pharyngeal wall. Incidentally, there was a hypertrophic rhinitis with a marked hypertrophy of the tips of the lower turbinals posteriorly, with mucoid degeneration of the mucous membrane covering them.

In normal voice-production when any sounds except those of *m, n,* and *ng* are spoken, the soft palate is made tense by the tensor palati muscle and lifted upward and backward by the levator palati until it comes tightly in contact with the posterior pharyngeal wall, thereby shutting off all communication with the nasal cavity and causing the oral cavity to be used as the chief resonating-chamber. But, when the sounds *m, n* and *ng* are produced, the soft palate hangs uncontracted, the communication with the nasal cavity remains intact and the latter plays the chief rôle as a resonating chamber.

In this case, so far as results are concerned, the palate is constantly in a state comparable to that of a normal individual during the production of these three sounds; that is, it is "insufficient" to shut out the nasal cavity as it should in the production of all other sounds, thereby allowing it to participate strongly as a resonating chamber not only in the production of the sounds of m, n and ng as it should under normal conditions, and which, as would naturally be expected, she can say as plainly as anyone, but also in the production of all other sounds as well, a distinctly abnormal condition, thus imparting a strong nasal "twang" to her speech and causing her to talk through her nose.

In the development of the normal embryo, at about the fifth week the first visceral arch divides into an upper part, the maxillary arch, and a lower portion, the mandibular arch. The maxillary arches of the two sides unite at their anterior ends with the intervening nasofrontal process to form the upper boundary of the buccal cavity; the mandibulars to form the inferior boundary. In the fetus the palate process of the superior maxilla advances toward the median line until it meets and unites with its fellow of the opposite side. The horizontal plate of the palate bone develops similarly and very shortly after and thus is produced the hard palate. The two halves of the hard palate unite first in front, their union being completed about the twelfth week. Ordinarily it is stated that if union is incomplete the anomaly of cleft palate results.

In this case while union has apparently been practically complete and the patient has been fortunate enough to escape the greater evil of cleft palate, still development has not gone on to the perfection of completion (as is evidenced by the V-shaped posterior edge and the high arch of the hard palate, the short soft pal-

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Read before the Atlantic County Medical Society, Dec. 4, 1908.

ate and the short and bifurcated uvula), but has been arrested in a stage which presents the above clinical picture, a condition to which Makuen very aptly gives the name of "congenital insufficiency of the palate."

100 St. Charles Place.

IMPORTANCE OF URINE EXAMINATION IN SUSPECTED TYPHOID FEVER

CALVIN C. MARSHALL, M.D.
PITTSBURG, PA.

History.—I was first consulted in the case of Miss B., aged 19, November 29. She had headache, general malaise and loss of appetite, November 15, and these symptoms lasted for a week. At that time she was constipated and took two ounces of sodium and potassium tartrate. She then suffered from foul smelling diarrhea which persisted for three days and was followed by constipation. About November 22 the headache disappeared, though the general malaise remained, and that evening she had several chills, followed by a rise in temperature, for which she took three grains of quinin three times a day. Pain in the abdomen appeared November 26, and seemed to follow the transverse colon. It was of gradual onset and she applied a mustard plaster but without result.

Examination.—The patient was somewhat emaciated and very weak. The pupils were slightly dilated; the sclera was clear. The tongue had a heavy gray coating with a brown crusted center. The tip and edges were clear and red but not glazed. The breath was very foul. Temperature was 101 F., pulse 88. Chest examination was negative.

Abdomen.—The abdomen was very muscular, flat, and somewhat rigid. There was no gurgling. The patient complained of pain and tenderness in the region of the transverse colon; neither of these could be localized. Percussion and auscultation revealed nothing of value. The bowels had not moved for three days and the patient stated that the urine was darker than usual.

Diagnosis.—A fellow worker was in the hospital with typhoid and I made a provisional diagnosis of typhoid and told the patient to save a specimen of the next morning's urine. I examined the urine and found it loaded with bile. I again examined the abdomen and was able to palpate a distended gall bladder beneath the edge of an exceptionally large rectus muscle. There was localized pain and tenderness and I then made a diagnosis of cholangitis. Under appropriate treatment the condition cleared up in a week.

Had the urine not been examined in this case the patient might easily have been treated for typhoid, as there was no jaundice and the color of the stools was not noted. Had this been done, cholecystitis would probably have developed with its serious results for the patient. This case should emphasize the necessity for examination of the urine in all cases of typhoid or suspected typhoid.

439 Jucunda Street.

Therapeutics

INDIVIDUAL TENDENCIES

In this era of materialism the aversion to accepting anything as a fact, unless it can be occularly, aurally, chemically, microscopically or bacteriologically demonstrated, has relegated the "temperaments," diatheses, and even atavistic heritages, into the realm of oblivion. Sir Dyce Duckworth, in an address reported in the *Lancet*, March 7, 1908, calls the attention of the profession to the consideration of the factor of inheritance in the treatment of disease. For several years teachers of therapeutics have been endeavoring to teach the necessity of individualizing the patient, but even they hav
forgotten the necessity for also individualizing the fam
ily. Such individualization is not only of special ad
vantage in the treatment of chronic conditions, but i
also of advantage in the treatment of acute disease.

There is no more doubt that an individual inherit
family weakness and family strength, or, if the phras
is preferred, family tendencies, than there is that h
inherits the features and general physique of his parent
and grandparents. While it may be going a step back
ward to speak of temperaments, we certainly should con
sider, as pointed out by Duckworth, the tendencies o
the individual which may be enumerated as "arthritic,'
scrofulous or lymphatic, nervous, and bilious." Thes
tendencies are often recognizable by the general appear
ance and physical findings but if not can almost alway
be developed by a careful investigation into the famil
history of the patient.

It should be the rule of the physician to inquire int
the family history as carefully with every new patien
as is required in an insurance examination. The dis
covery of instances of arteriosclerosis, cardiac disturb
ances, rheumatism, gout, or other joint disturbances i
a family would show the arthritic tendency. The dis
covery of glandular disturbances, tuberculosis, pneu
monias, adenoid and tonsillar disturbances, and anemias
in a family would show a tendency to "scrofulous" an
lymphatic conditions which so frequently precede tuber
culosis. While the word scrofulous has come into dis
use and it may be a step backward to use it, Duckwort
believes that it may be applied to the condition of chil
hood so long recognized under that name. With in
stances of neuroses and neurotic conditions, perhap
mental aberrations functional cardiac disturbances an
nerve disturbances in the family, the patient will prob
ably be neurotic and all symptoms should be considere
accordingly. If the family shows a series of digestiv
troubles, liver, stomach, intestinal and kidney, the ol
term of "bilious temperament" or tendency may not
misapplied, if it is thoroughly understood what it sig
nifies.

Duckworth well says "the physiologist has a dog
a guinea-pig, or some definite organ of an animal, bu
rarely a man before him. The problems are not th
same, and never can be. The personal factor, then, d
mands careful study from the physician, for men ar
women are not so many wooden ninepins turned in
lathe as some would have us believe. We have to reck
with seed and soil, not with seed only. Surely we ha
an exquisite analogy here in the sister vegetable kin
dom which can not be ignored, viz.: the soil is as im
portant to consider as the seed."

It is obviously certain that some families are predi
posed to rheumatism and gout, for instance, and mem
bers of other families may be subjected to the same co
ditions and opportunities of infection (if we belie
that rheumatism is an infection) and still not be a
flicted with these diseases. Thus it seems evident th
there is a something present in one individual that w
combat certain conditions and diseases which is n
present in another individual who is really sufferi
from a predisposition to conditions of certain typ
These predispositions or tendencies are perfectly evide
in tuberculosis, the omnipresent tubercle bacilli bei
constantly killed in certain individuals and readily
ing and thriving in others. Other persons with sic
ness, debility, overwork and mental worry readily
come nervous and mental wrecks, while an individu

from another family suffering from the same series of conditions never loses his mental or nervous caliber; again an instance of family tendency. Still other individuals, and whole families, are subject to digestive disturbances of all kinds, and are continually deciding what they shall eat, when they shall eat, and how they shall eat, while members of another family hardly know what is means to have digestive disturbances.

It, therefore, is of vital importance to the patient that his physician should know and recognize the diathesis or predisposition to certain types of disease that he has inherited, so that whatever treatment his present condition may call for, the tendency to the family weakness may be at the same time properly combated.

To be specific, a patient who has had a uric acid colic, or who has slightly increased blood pressure, or slight hooting pains in the joints, and whose family shows a endency to gout and arthritic troubles, should not be dismissed as soon as his present condition is improved without an arrangement of his diet and life that will prevent, at least, the immediate development of a more serious condition.

A patient with pneumonia whose family shows a tuerculous tendency should not be dismissed from profesonal care as soon as the lung has apparently recovered. uch a patient should have a prolonged rest and fresh r cure, after he has apparently recovered, and should e carefully watched for months.

Again, a patient who has sleeplessness, who is overorking mentally, whose family is neurotic, and who omes for treatment on account of loss of appetite and general debilitated condition, should not be dismissed soon as he has improved in the conditions for which sought aid without most careful advice as to the cessity for vacations, the necessity for more hours of eep, the avoidance of too much tea, coffee, alcohol, tocco and narcotics. Such a patient should be carefully vised of the dangers of taking nostrums and "painops" and any hypnotic. Such patients to whom pain not only really more intense than in other individls, but whose pain is always exaggerated, become ofitable prey for the exploiters of quack medicines and ack treatments of all kinds.

Lastly, a patient who has recurrent "bilious attacks," other attacks of acute indigestion, and whose family ows a tendency to gastrointestinal and other abdoml disturbances, should not be lightly dismissed as n as the acute condition has been overcome. He uld be carefully advised as to his diet and the care his stomach and bowels, and the avoidance of reted excesses.

n other words, a careful study into the family his- of a patient offers the opportunity to exercise the hest aim of the medical profession, viz.: such theratic advice as will prevent disease.

WATER AS A DIURETIC

r. T. C. Holloway, in the *Kentucky Medical Jour-* April, 1908, calls attention to the neglect of the er drinking of water, both in acute and chronic litions.

e points out that as a routine examination of pats whose condition we do not thoroughly understand, amount of urine passed in twenty-four hours and specific gravity of the twenty-four hours' output ld be known, as well as the less frequently emitted nination for albumin and sugar. If the urine were frequently examined during simple acute processes the profession would be surprised at the frequency with which disturbances of the kidney functions are found. All too frequently, when an insufficient amount of urine is passed, more or less irritant diuretics are given when simply an increased amount of water is needed.

A caution should be noted here, that with real nephritis, or with an insufficiency of the heart, or a failure of the circulation, or when there is edema, large amounts of water should not be drunk. On the other hand, in conditions in which water should be administered both as a diuretic and to dilute all the excretions, it is not sufficient for the physician to direct a patient to "drink plenty of water," but he should specify the amount of water he wishes taken during the twenty-four hours.

Especially is it necessary, during acute infective processes in children, to urge their drinking plenty of water, perhaps as lemonade, orangeade, or barley water; but water in some form should be freely given.

Holloway urges the necessity of having pregnant women drink water in larger amount than they generally do, as tending to prevent the toxemias that so readily occur from the retained products of metabolism.

Also in the preparation of patients for operation, the free administration of water during the forty-eight hours preceding the operation is a great help in clearing the body of refuse products of nitrogenous metabolism, and puts the patient in better condition to withstand the anesthetic and the shock of the operation.

NOT RHEUMATISM, BUT FLATFOOT

A man, 47 years of age, whose business required him to be on his feet a greater part of the day, complained of pains in his ankles, calves of the legs, knees, and thighs, from which he had suffered for two years. He had been treated for rheumatism, for gout, and for "uricacidemia" by different physicians, and had even taken a trip to California, where he remained for nearly three months. No treatment had been of any benefit, and even the California trip, on which he had gained twelve pounds in weight, had not prevented his leg aches.

Examination showed that the man was well; he did not have inflammatory rheumatism, chronic rheumatism, gouty rheumatism, uricacidemia; he had no spinal cord trouble, no locomotor ataxia, no specific history, no circulatory trouble, no edemas, no varicose veins, no toxemias, no metallic poisonings; he did not smoke, and therefore had no tobacco poisoning; any one or all of which might cause pain in his legs. When he was made to stand barefooted on smoked, glazed paper it was seen that he had partially lost the arch in both feet; in other words, he had become partially flatfooted, or weak-footed, as it may be better termed.

The loss of the plantar arches was the cause of such loss in the perfect transmission of the weight as to produce straining of the different muscles and tendons of the legs, and would account for his suffering. He was ordered inside shoe supports for these broken arches, and these relieved him of further trouble.

Operations on the Neck.—D. B. Delavan, in *Annals of Otology, Rhinology and Laryngology*, directs attention to the fact that operations for the removal of new growths of the neck in which the necessary dissections approach the vicinity of the recurrent laryngeal nerves may easily be attended with injury to them, as also may attempts at the extirpation of diseased lymph nodes lying near to the larynx or trachea.

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 13, 1909

DR. WILEY AND BENZOATE OF SODA

The referee board appointed by President Roosevelt to review some of the decisions made by the Bureau of Chemistry, according to press reports, has reversed the findings of Dr. Harvey W. Wiley regarding the harmfulness of benzoate of soda as a food preservative. The first question to engage the attention of this board was that dealing with the influence of sodium benzoate on the nutrition and health of man; the larger—and to the public, the more important—question as to the fraud which the use of this chemical permits manufacturers to impose on the consumer, has not yet been dealt with. Briefly stated, the referee board—the scientific attainments and unimpeachable reputation of whose personnel requires that its decisions be given the most thoughtful consideration—has, in a series of experiments on "poison squads" extending over a period of four months, reached results diametrically opposite to those arrived at by Dr. Wiley in a similar series of experiments which he conducted for nearly a year.

This decision of the board leaves the question of the physiologic action of sodium benzoate on the community practically where it was before; that is, that while the substance is known to be a bacterial poison, its deleterious action on the human organism is, in the words of the Scotch verdict, "not proven."

It is greatly to be regretted that the public announcement of the decision of the referee board should not have been so worded as to make clear to the public mind the limitations of the question under consideration. There is some danger that to the public the decision will mean that Dr. Wiley's work is discredited, when as a matter of fact it means nothing of the sort. The point that the board's report emphasizes is that under the conditions of the experiments—which consisted in giving healthy young men certain definite quantities of sodium benzoate for a period not exceeding four months—the preservative is without deleterious action and is not injurious to health. To assume from these findings that the use of benzoate of soda in foodstuffs is therefore beyond criticism is absolutely unwarranted, and there is little doubt but that the board itself would be the last body to sanction such an assumption. Neither is there the slightest ground for assuming from the experiments that benzoate of soda in milk used by infant and invalids is not deleterious or injurious.

Benzoate of soda is incorporated in foods for one—or both—of two reasons: to take the place of cleanlines and care in preparing, or to permit the use of inferio products. The use of sodium benzoate is unnecessary this has been proved for years by some of the higher grade manufacturers of preserves and catchups, an for centuries by the housewife. But when the chemica preservative is not used, cleanliness, care and wholesom raw products must be. Those manufacturers, therefor who would market stale meat for fresh, who would substitute canners' waste for fresh whole fruit, who loo on clean factories and careful methods as a needless expense, are the ones to whom the use of benzoate of sod appeals.

Of course the findings of the board have been received with rejoicings by those who have wanted to "ge Wiley's scalp." "Now Wiley will have to resign, "This ends Wiley's drastic rulings," are samples of expressions that are coming from press agents of manufacturers of inferior foodstuffs and of preservative The fact is, the fight on Dr. Wiley, and the powerfu efforts that have been made to discredit his work an to have him officially destroyed, are solely on account o the "interests" he has offended. This he has done b opposing the "bleaching" of flour by which inferio grades would be "doctored" so as to be sold as fi grade; by objecting to the artificial "greening" o canned vegetables by means of copper salts; by insis ing that alcohol mixed with burnt sugar and pru juice shall not be sold as whiskey; by requiring th the "patent-medicine" manufacturers shall tell th truth on the labels; in fact, he has offended in that h has brought the people of this country to a full real zation of the amount of sophistication and adulteratio that exists, or did exist, in the food products industri of the country. As an example of the opposition whi the chief chemist has met, a self-styled "food expert who sometimes signs himself H. H. Langdon and som times H. L. Harris, and who has done the "press agen work of the Pacific Coast Borax Co., has attempted f years to vilify and belittle both Dr. Wiley and the wo of his department. There is no doubt that as soon the matter can be prepared, such discredited journ and papers as will accept his "reports" will publi Langdon's highly colored "original articles" based false interpretations of the findings of the refer board.

Possibly Dr. Wiley may have overstated or overe phasized the toxicity of some of the preservatives th have been used in foods, but if he erred he did so the interest of the public's health instead of to benefit of the dishonest manufacturer's pocket-bo While this may be a heinous offense in the eyes of "interests" affected, the American people will entert another opinion. As one paper, in speaking of the canners who are anxious to have the ban removed from benzoate of soda, says: "They would like to market stale meat, decayed fruit and half-cooked provender. And if they can turn the public off the scent of these by keeping our thoughts on the preservative instead of on the stuff preserved, they will soon be paying high dividends."

It is to be hoped that Dr. Wiley will be in no way discouraged and will remain at his post and continue o hew to the line. He is a government official of a type hat happily is becoming more common—one of those men who appreciate that they represent the public and hat they are expected to look after the interests of the ublic and not the interests of any class. He has exosed fraud connected with "patent medicines" and ith the pharmaceutical business; with fruit and food-unning interests, and to him more than to any other ndividual or body must the credit be given for the naonal Food and Drugs Act. No wonder he is so corally hated by those who heretofore fattened at the pense of public health and well-being. But the merican people are with Dr. Wiley and emphatically prove of his work.

The case against benzoate of soda, from the standint of the man in the street, has been well summed by Federal Judge Anderson in a suit brought by me manufacturers to enjoin the State Board of ealth of Indiana from enforcing that portion of the re food law relating to the use of this chemical: "I impressed with the proposition that this stuff, benzate of soda, is put in there for reasons that make its hibition reasonable and proper—to cover up carels methods of manufacture. Dirt and insanitary conions can be concealed by putting this stuff in. It not necessary to put it in if the materials are propey handled. If its use conceals the fact that proper thods have not been used, a rule of the State Board Health prohibiting its use is reasonable."

ANTIGENS AND ANTIBODIES

he discovery that the animal body reacts to the induction of certain kinds of substances by the forma of new antibodies with specific action is one of the t important events, not only in modern medicine, in general biology as well. Substances that cause bodies to form are called antigens. One outstanding acteristic of all the phenomena is that the anti reacts with the antigen in each partic case in a more or less specific manner. One may that each antigen gives rise to its own antibody; antibody usually, however, has some effect also on tances related to the antigen concerned, and this effect is the more marked the closer the relation. For the purpose of this general discussion it is ient to point out that whether substances other than proteins can cause antibody formation is not yet settled. Concerning the antigenic power of protein-containing substances there is no question. Bacteria, bacterial products, serum, blood corpuscles and other cells, and certain vegetable and animal toxins, constitute at present the best known antigens. Exhaustive discussion of all these antigens and the corresponding antibodies is, of course, out of question in this place, but some of the general features may be considered.

In the first place, we have the question whether certain antibody effects are produced by one antibody or by more than one. The problem is best illustrated by a concrete example: When a suitable animal is injected with a quantity of dead bacteria, e. g., typhoid bacilli, or with a quantity of alien red corpuscles, the blood fluid of the injected animal soon acquires the power to agglutinate, to opsonify, to cause lysis of, and to produce precipitates with extracts from, the kind of bacteria or corpuscles injected, as the case may be. If the blood fluid possessed any or all of these properties before, they become greatly increased as a result of the injection. The question is, are all these effects produced by one or by several antibodies? The indications are that there are different antibodies, first, because there appear to be different antigens. Thus treatment of cholera vibrios with chloroform removes their agglutinogenic power while the lysinogenic power is retained. Then again the different antibody effects may not be produced in equal degree proportionately by the serum of the injected animal as would be expected if they were owing to one and the same antibody; on the other hand, the agglutinating and opsonic power may be increased greatly while the lytic power may not be increased at all, and this naturally speaks in favor of different antibodies and different mechanisms of antibody formation.

There are also certain bacteria that apparently are devoid of the power to produce lysin at the same time as they are insusceptible to lysis, while they contain the antigen that produces specific opsonin and are readily susceptible to opsonification. Streptococci, pneumococci and tubercle bacilli are examples. In this case the claim has been made that lysins may be present in the serum of the injected animal but not be demonstrable because of the physical state of the bacterium which makes it refractory to lysis. As yet this claim is without any real basis of support and the facts stated harmonize well with the conception that lysis, opsonification, etc., depend on different antibodies for the new production of which distinct antigens are required.

In the second place, the animal body responds to the action of antigens in a fairly typical and regular manner. The course of antibody formation after introduction of antigen was first determined accurately in the case of animals immunized with various toxins, more particularly tetanus and diphtheria toxins. Omitting certain other unimportant and historical details, suffice it to say that the introduction of a single dose of active antigen into a suitable animal, the blood of which has a stationary antibody content (either normally, a common occurrence, or as the result of immunization at such time previously that a steady level has been reached), then there is first a fall in the antibody in question lasting a day or two and called the negative phase; this is then followed by a rather rapid rise above the normal or previous level, the high point being reached usually between the eighth and twelfth days, sometimes earlier in animals previously injected; a rather sharp fall now commonly takes place, but the curve is still far above normal, to which line the return is gradual and sometimes prolonged. This may be called the normal antibody curve, as it seems to answer for practically all antibodies that are formed anew under conditions that are fairly comparable, and this would indicate that there exist in the animal body well-ordered mechanisms for antibody formation. The specificity of the antibody being marked, even the fall is limited to the antibody for the antigen injected, it may be inferred that either there are many similar yet distinct mechanisms in the body or, if it concerns one general mechanism, that the kind of product delivered will depend on the nature of the stimulus or antigen.

Finally, it may be stated that in the acute, self-limited diseases, like pneumonia, erysipelas, diphtheria and others, the course of antibody formation in the typical attack with prompt recovery corresponds to that following a single introduction of antigen, at least so far as the opsonin is concerned. Viewed from this standpoint, the attack is an immunization, the regular progress of which, however, is subject to deviations when the infection is especially severe and complications arise.

WEIR MITCHELL AT EIGHTY

On next Tuesday, Feb. 15, 1909, the veteran American physician and author, Dr. S. Weir Mitchell, will reach his eightieth year. In congratulating him the medical profession at the same time felicitates itself on the greatness and versatility of the achievements of one whose name is as a household word among us.

Two facts in Dr. Mitchell's career stand out with prominence: first, that success in any field need not be despaired of because it delays its appearance until well into middle age, provided only that the waiting period has been devoted to an apprenticeship of earnest and faithful work; second, that there is no essential incompatibility between sustained literary activity, on the one hand, and high professional distinction in science, with successful medical practice, on the other. In illustration of the first point it is worthy of note that, while to a considerable circle Dr. Mitchell's literary work had been known for many years previously, it was not until the publication of his novel "Hugh Wynne," in 1897, that he first achieved an enviable recognition in the world of letters. Yet his first published work, a volume of short stories, appeared in 1880—and even that had been preceded by contributions to the magazines for nearly twenty years—and was followed with remarkable regularity by other publications.

As regards the second point, the medical profession in many countries has furnished men of attainments and eminence in literature and art; but, for the most part, their services have been lost to medicine in direct proportion as they have been gained by literature and art. In Dr. Mitchell, however, we have a conspicuous example of the fact that not only a passive interest, but an active pursuit, of science and literature can coexist with benefit to both. His contributions to medical science, and more particularly to neurology, have been both numerous and weighty, reaching on the one side to the arcana of medical science, and on the other to the most practical applications, which are typically represented in what is known all the world over as the "Weir Mitchell treatment" for nervous breakdown. Dr. Mitchell's science has undoubtedly been broadened and rendered more human by his worship at the shrine of the Muses, as his literature has been enriched by excursions into fields demanding for their portrayal a degree of scientific observation that could not have been available at the hands of one of lesser scientific and professional attainments. And the remarkable thing is that Dr. Mitchell has not devoted so very much of his time to pure literature. It has been the regularity and the quality of his application thereto, rather than its quantity that has enabled him to achieve such a considerable measure of distinction. He has always regarded this form of mental exercise as a diversion from the grind of professional labor, writing only during the ample vacation he allows himself in the summer, and never permitting literary pursuits to interfere with professional work and practice and the duties in connection with the Carnegie Institution, the University of Pennsylvania, etc., to which the winter is entirely devoted.

Best of all, however, is the fact that to-day, at the age of 80, he is still in harness, and, so far as can be seen with no diminution of either activity or powers. It is truly remarkable that a man keeping up in active practice should have accomplished what Dr. Mitchell has accomplished after reaching what is usually regarded a the retiring age. He was 68 when he gave us "Hugh Wynne," a novel that placed him among the first o American novelists; but he has since written "François," "Dr. North and His Friends," "Circumstance," "Constance Trescott," "Autobiography of a Quack," and, within a few weeks, his latest novel, "The Red City," besides many short stories, essays and poems.

THE JOURNAL, on behalf of the medical profession o the United States, extends to Dr. Mitchell greeting and felicitations on his eightieth birthday, with th hope that he may yet have before him many hale an happy years.

HEART HYPERTROPHY AND NEPHRITIS

Heart hypertrophy in nephritis seems always to offer
oblems that defy the pathologist, in spite of the
undant material that is always at hand for his study.
ɔt only do we lack definite knowledge of the cause of
e increased blood pressure which leads to the hyper-
phy, but we have no consistent data as to just what
t of anatomic changes must be present in the kidney
order that heart hypertrophy may result. While the
ssical text-book dogma that parenchymatous neph-
is leads to edema without heart hypertrophy and that
erstitial nephritis leads to hypertrophy with little or
edema is correct in a considerable proportion of
es, yet the exceptions are so abundant as to make
rule of little value in explaining the relation of
al changes to heart hypertrophy. Hypertrophy ac-
ıpanying typical parenchymatous nephritis is by no
ıns rare, while even more common is the occurrence
ıdvanced interstitial changes without hypertrophy.

ores[1] has made a systematic study of the occurrence
absence of hypertrophy in advanced interstitial
hritis, and finds that the failure of hypertrophy is
ally observed when the kidney shows the changes
racteristic of that form of nephritis commonly
wn as the secondarily contracted kidney. In the
cal red granular kidney hypertrophy is seldom miss-
but even here there may be exceptions.

ne hypothesis which has found considerable favor
hat the degree of cardiac enlargement depends on
extent to which the glomeruli are involved, but
s was unable to confirm this. It is, indeed, a strik-
fact that in amyloid kidneys, in which the glomeruli
most extensively involved, hypertrophy is almost
riably absent or slight, even when the amyloid
ıges are accompanied by a considerable degree of
ective tissue increase and contraction. In the sec-
rily contracted kidney, glomerular fibrosis is usu-
marked, although heart hypertrophy is commonly
t or lacking. Equally inconstant is the relation
een the amount of destruction oft parenchymatous
e and the cardiac involvement.

ıe total failure to correlate in any constant and
ite way the anatomic changes in the kidney with
eart hypertrophy leads only to the assumption that
ause of the increased blood pressure must be formed
cumulated independently of the structural altera-
in the kidney, and, therefore, presumably outside
idney. It may well be that the substances which
bnormally present in the blood in nephritis and
cause the increased blood pressure are quite dis-
from the poisons that cause the kidney changes,
hese both may be quite different again from the
a or poisons that cause uremia; such a view is at
in agreement with the manifest lack of correspond-
in the relative intensity of these three features in
of interstitial nephritis.

ENTEROGENOUS CYANOSIS

Enterogenous cyanosis was first described by Stokvis[1] of Rotterdam in 1902. The case he reported was that of a soldier who had cyanosis of four years' duration associated with chronic diarrhea. On spectroscopic examination of the patient's blood Stokvis recognized the spectrum of methemoglobin and attributed the cyanosis to the presence of this substance in the blood. In the same year Talma of Utrecht showed that the methemoglobin of enterogenous cyanosis was intracorpuscular, as distinguished from that of drug poisoning in which the methemoglobin may be found in the blood plasma. Three years later van der Bergh distinguished, for the first time, between enterogenous cyanosis due to methemoglobin and that due to sulph-hemoglobin. Solutions of sulph-hemoglobin and methemoglobin both show spectroscopically an absorption band in the red. The two bands, however, are in different positions and that of methemoglobin disappears on the addition of ammonium sulphid to the solution, while the band of sulph-hemoglobin persists. In the following year van der Bergh and Gutterinck demonstrated the presence of nitrites in the corpuscles of patients suffering from methemoglobinemia. Since nitrites are capable of converting oxyhemoglobin into methemoglobin it is probable that the methemoglobin owes its existence to the presence of nitrites in the red blood corpuscles. In a case of methemoglobinemia reported by Gibson and Douglas, a bacillus resembling the colon bacillus was obtained from the blood culture. West and Clarke, who studied a case in which the blood culture was sterile, point out the fact that this single observation of an organism in the blood should be verified before too much meaning is attached to it. In all, thirteen cases of enterogenous cyanosis have been reported, five of these being due to sulph-hemoglobin and eight to methemoglobin, though the first four cases described as methemoglobinemia were reported before van der Bergh's discovery of sulph-hemoglobinemia and may have belonged to the sulph-hemoglobin group. All the cases which were certainly methemoglobinemia were characterized by cyanosis of from three to eight years' duration, weakness, diarrhea, and in three out of the four cases, headache. In three instances nitrites were demonstrated in the blood. The cases of sulph-hemoglobinemia have been characterized by cyanosis sometimes associated with headache and weakness and always with constipation.

Medical News

DISTRICT OF COLUMBIA

Measles Epidemic.—During January, 1,210 cases of measles were reported to the District board of health, and during the last week of the month a daily average of 42 new cases developed.

Transplantation of Knee Joint.—The daily press of last week gave sensational accounts of the alleged transplantation of a leg by Dr. George Tully Vaughan. Dr. Vaughan reports

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Verhandl. deutsch. path. Gesellsch., 1908, xli, 187.

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1. For the literature consult: Stokvis: von Leyden's Festschr., 1902, i, 597; Nederl, Tijdschr. v. Geneesk., 1902, ii, 678.
Talma: Berl. klin. Wchnschr., 1902, xxix, S., 865; Nederl, Tijdschr. v. Geneesk., 1902, ii, 721.
van der Bergh: Deutsch. Arch. f. klin. Med., 1905, lxxxiii, 86; van der Bergh and Gutterinck: Berl. klin. Wchnschr., 1906, S. 7; Gibson and Douglas: Lancet, London, 1906, i, 72; West and Clarke: Lancet, London, 1907, i, 272.

that the case was not intended for publication, even in medical journals, until the results had been ascertained. The operation consisted of the exsection of a tuberculous knee joint from a man, including the lower end of the femur and upper end of tibia without the patella, replacing these structures with the corresponding length of knee-joint obtained from a recent corpse. The bones were united with iron wire and part of the periosteum and fascia were united with catgut sutures. The operation was done January 24, and the patient is reported as doing well so far. The joint removed was suppurating and this has continued, but with signs of cessation. Dr. Vaughan states that, of course, it is too early to call the operation a success.

GEORGIA

Ultimatum to Insurance Companies.—The physicians of Elbert county, with one exception, have agreed that, beginning March 1, they will not make examinations of any kind for any insurance company for less than $5.

New Medical Staff.—The new medical staff of Grady Hospital, Atlanta, consists of six appointees from the Atlanta College of Physicians and Surgeons, six from the Atlanta School of Medicine, six from the city at large, and an associate medical board of four members.

Personal.—Drs. Samuel S. Gaulden, Quitman, and John L. Walker, Waycross, have been appointed members of the State Board of Medical Examiners.——Dr. William C. Lyle has been elected city chemist and bacteriologist of Augusta.——Dr. Walter C. Bryan, Douglas, is said to have given up the practice of medicine to enter the Atlanta Law School.

Medical Legislators.—There have been elected to the senate of Georgia the following practitioners: Drs. J. L. McClain, Glennville, from the second district, and Robert Y. Rudicil, Summerville, from the forty-second district. The following physicians are members of the house of representatives: Drs. George L. Paulk, Allapaha; W. E. Beacham, Pinehurst, George Brown, Atlanta; Albert S. J. Stovall, Elberton; O. O. Simpson, Norcross; Lamartine G. Hardman, Commerce; H. L. Culberson, Lincolnton; Samuel A. Brown, Eton; William T. Rogers, Coleman; Augustus R. Wright, Brooklyn; James L. Kennedy, Manassas; William H. Hendricks, Tifton; James F. Johnson, Hiawassee; T. N. Berry, Blairsville; James W. Smith, Monroe, and John H. Alley, Nacoochee.

Sanatorium Board Named.—The following physicians have been named by the governor as members of the board of trustees or managers for the State Sanatorium for the Treatment of Tuberculosis: First district, Dr. P. S. Clark, Darien, McIntosh county; second district, Drs. Everett Daniels, Moultrie, Colquitt county, and Robert C. Woodard, Adel, Berrien county; third district, Dr. Charles H. Richardson, Montezuma; Macon county; fourth district, Dr. Henry R. Slack, Lagrange, Troup county; fifth district, Dr. Thomas R. Whitley, Douglasville, Douglas county; sixth district, Dr. Marcus F. Carson, Griffin, Spalding county; seventh district, Dr. Charles F. McLain, Calhoun, Gordon county; eighth district, Dr. William I. Hailey, Hartwell, Hart county; ninth district, Dr. Jeff Davis, Toccoa, Stephens county; tenth district, Dr. William B. Crawford, Lincolnton, Lincoln county, and eleventh district, Drs. Judson A. Butts, Brunswick, Glynn county, and Wade H. Born, McRae, Telfair county.

ILLINOIS

To Select County Officer.—An examination for chief of the medical staff of the Dunning institutions will be held March 2 and 3 at the Cook County Building, Chicago. The salary is $2,500, with board, room and washing.

Exonerated on Murder Charge.—In the Franklin County Circuit Court in Benton, February 2, Dr. Benjamin F. Brayfield, Mulkeytown, was exonerated of the charge of causing the death by poison of Reuben F. Parrish, of that place.

Verdict Against Physician.—In the suit for $25,000 damages, brought by Edward L. O'Neil against Dr. Lars P. Jacobson, Kankakee, in which malpractice in a case of varicocele was claimed, the jury is said to have rendered a verdict in favor of the plaintiff and awarded $400 damages.

Chicago

Money for Charity.—In the recent entertainment given at the Colonial Theater for the benefit of the Chicago Charity Hospital, over $1,500 was netted.

Contagious Disease Situation.—The contagious disease mortality is at present lower than during the corresponding period of last year. There were 25 deaths during the week ended February 6, from diphtheria, scarlet fever, measles and whoopin cough, which compares favorably with 29, the number reporte for the preceding week, and 28, the number for the correspond ing week of 1908. During the week 19 fewer cases of diph theria and 15 fewer cases of scarlet fever were reported, bu an increase of 45 cases of measles was noted. Two unvac cinated children suffering with smallpox were removed to th Isolation Hospital.

American School Hygiene.—The third congress of the Amer ican School Hygiene Association is to be held in Chicago Fe ruary 22-25. The meeting will be held with that of the Divis ion of School Superintendents of the National Educational A sociation. On the first day there will be a meeting of th executive committee and the council. On February 23 th president, Dr. Henry P. Walcott, chairman of the Massach setts State Board of Health, will deliver his annual addres and the Committee on the Status of Instruction in Hygien in the Schools and Colleges of America will make its repor and during the three days of the active meeting many pape will be presented by prominent educators and profession men, dealing with school hygiene, prophylaxis and medical i spection.

Darwin Centenary.—Darwin anniversary addresses are bein given under the auspices of the Biological Club of the Unive sity of Chicago. The lectures are open to the public, and th following are the remaining lectures of the course:

February 17.—"Variation and Heredity." Prof. W. L. Towe
February 18.—"The Interpretation of Environment." Prof. C. Cowles.
February 24.—"Darwinism and Political Science." Prof. C. Merriam.
February 25.—"Human Evolution—Physical and Social." D George A. Dorsey.
March 3.—"The Influence of Darwinism on Psychology." Pr J. R. Angell.
March 4.—"The Theory of Individual Development." Prof. R. Lillie.
March 10.—"The Evolution of Religion." Prof. Shailer Ma hews.
March 11.—"Darwinism and Experimental Methods in Botany Prof. D. T. MacDougal.
March 17.—"Evolution in Language and in the Study of La guage." Prof. C. D. Buck.
March 18.—"Selection, Mutation, and Orthogenesis." Prof. O. Whitman.

KANSAS

Election.—At the annual meeting of Edwards County Me ical Society the following officers were elected: President, I Elmer E. Haynes, Lewis; vice-president, Dr. Prince A. Pe son, Kinsley; secretary, Dr. C. W. Rairdon, Lewis; treasur Dr. W. P. Stollenberger, Kinsley; delegate to the state m ical society, Dr. Monroe De Tar, Kinsley; censors, Drs. Will Borst, Belpre; C. W. Rairdon, Lewis, and Prince A. Pears Kinsley.

MAINE

Fire in Hospital.—On January 17, with a temperature f below zero in a raging blizzard, the Trull Hospital, Bid ford, was destroyed by fire. By the exertion of the nurses a house staff, the fifteen patients were removed without casual The loss is estimated at $40,000.

Personal.—Dr. Horace K. Richardson, Bradford, has rec ered from his operation for appendicitis and resumed pr tice.——Drs. Paul S. Hill, Fitz E. Small, Clarence F. K dall, H. Willis Hurd, Eugene D. O'Neil, Biddeford, and Laura M. Black, Saco, have resigned as members of the st of the Webber Hospital, Biddeford.

Medical Society News.—At the January meeting of Ken bee County Medical Association, held in Augusta, it was vo to adopt the standard constitution. Drs. Luther G. Bunk Waterville, and Fred. E. Strout, Gardiner, were selected delegates to the state medical association, and Drs. Mathew Goodrich, Waterville, and Alton Sawyer and Wooster P. G dings, Gardiner, were elected censors.——At the fifty-fifth nual meeting and banquet of the York County Medical Soci held in Biddeford, the members of the Cumberland Cou Medical Society and the Clinical Club of Portsmouth, N. were the guests of honor. The old officers were re-elected.

MARYLAND

Personal.—Dr. J. Percy Wade, superintendent of the Ma land Hospital for the Insane, Catonsville, sailed for the M terranean and Egypt January 27.——Dr. Taylor E. Darby returned from the Canal Zone and will resume practice Barnesville.——Dr. Gordon T. Atkinson, Crisfield, form comptroller of the state, is ill with bulbar paralysis at University Hospital, Baltimore.

Antituberculosis Association.—At the meeting of the Mary-
nd Association for the Prevention and Relief of Tuberculosis,
bruary 4, Dr. H. Barton Jacobs, Baltimore, was re-elected
esident. The receipts for 1908 were $13,932 and the ex-
nditures $12,196. The tuberculosis exhibit was shown in
enty-five different localities during the year, and was seen
about 100,000. An average of four lectures was delivered
each place and twenty public addresses were also made. It
s decided that on account of the growth of the work a com-
ttee should be appointed to appeal to the city and state for
und for its continuance.

Baltimore

he Frick Collection.—The report of the Frick Collection, a
artment of the library of the Medical and Chirurgical Fac-
y of Maryland for 1908, shows that the collection now num-
s 3,368 volumes. During the year 152 volumes were pur-
sed, and 99 volumes were donated to the collection. There
e 4,358 readers during the year and 1,541 books were bor-
ed for home use. The receipts were $1,038.86, and there
a balance on hand January 1 of $830.36.

ersonal.—Dr. Alexius W. McGlannan has been appointed
f surgeon of the First Brigade, Maryland N. G., vice Dr.
e R. Trimble, deceased.——Dr. William Osler, who is now
Italy, expects to attend the dedication of the new building
he Medical and Chirurgical Faculty of Maryland, May 13
14.——Dr. William G. MacCallum, assistant professor of
iological physiology at Johns Hopkins Medical School, has
elected a member of the faculty of medicine of Columbia
versity, New York City, vice Dr. T. Mitchell Prudden.——
Thomas S. Cullen, Guy L. Hunter, Richard H. Follis,
ah M. Slemons, J. Staige Davis and Frank R. Smith have
appointed members of the executive committee of the
rd. Home and Infirmary .

MASSACHUSETTS

rsonal.—Dr. Francis H. Davenport, Brookline, has sailed
Europe.——Dr. George W. Dow has been appointed city
ician of Lawrence and Dr. Peter McKallagatt a member
e Lawrence board of health.

uncil Meeting.—At the meeting of the Council of the
achusetts Medical Society, February 3, Drs. John L.
e, Boston; Robert P. M. Ames. Springfield, and Charles
urant, Haverhill, were elected delegates to the American
cal Association, Dr. Frederick J. Ripley, Brockton,
nate; Drs. Leonard Huntress, Lowell, and John F. Cros-
Haverhill, delegates to the Maine Medical Association;
Henry Colt, Pittsfield, was elected delegate to the Con-
ut Medical Society; Drs. Godfrey Ryder, Malden, and
y S. Kilby, North Attleboro, were elected auditors for the
urer's accounts. The Committee on Ophthalmia Neona-
reported that it favored the distribution of circulars rela-
o the diseases, and it was voted to place these circulars
c hands of nurses, and to send them to all members of
ciety. It was voted to increase the number on the Com-
e on the Investigation of Contract Work, which is now
sed as follows: Drs. William A. Dolan, Fall River; J.
r Gage, Lowell; Charles E. Durant, Haverhill; Amasa
ine, Brockton, and John W. Spooner, Hingham. Dr.
e W. Gay, Boston, for the Committee on State and Na-
Legislation, reported that thirty bills of medical in-
had been introduced in the legislature. One of these
which is to combine the boards of registration in medi-
lentistry, veterinary medicine, pharmacy and embalming,
he appointment of one man with a salary of $1,500 per
to act as commissioner, is considered as against public
, and it was voted unanimously to send a remonstrance
legislature. Dr. Frank G. Wheatley, North Abington,
lected to fill the vacancy on this committee caused by
ath of Daniel D. Gilbert. Boston. At the suggestion of
mmittee on Pharmacy of the American Medical Asso-
the following committee was elected to consider the
ation of the next issue of the United States Pharma-
and prepare suggestions for the convention of 1910:
rank G. Wheatley, North Abington; William P. Bolles,
y; Maurice V. Tyrode, Boston.

MISSOURI

Board Election.—The secretary of the State Board of
of Missouri announces that at the election held Jan-
, in Jefferson City, Dr. Albert H. Hamel, St. Louis, was
president; Dr. Ira W. Upshaw, St. Louis, vice-presi-
nd Dr. James A. B. Adcock, Warrensburg, secretary.

nal.—Dr. Joseph W. Greene, Independence, has been ap-
secretary of the Jackson County Board of Health.——The office of Dr. Thomas N. Bogart, Excelsior Springs, was damaged by fire January 26, to the extent of about $4,000.——The house of Dr. Colburn H. Wilson, St. Louis, was damaged by fire January 30, to the extent of $3,800.——Dr. Francis B. Odell, Kansas City, has been made medical director of the Great American Life Insurance Company, vice Dr. Hal P. Wells, St. Louis, resigned.

Hospital Notes.—The directors of the German Hospital Association, Kansas City, announced at the annual meeting that it was practically decided that the present hospital buildings are to be substituted by new and more modern buildings at a cost of $75,000. During the year 782 patients were admitted to the hospital, 68 of whom were charity patients.——An agreement filed at the recorder's office, St. Louis, January 25, reveals the reason why the St. Louis Skin and Cancer Hospital will not erect its new building on Forest Park boulevard. The hospital is to receive $500 from the Forest Park Residents' Association, and in return therefor agrees not to build within the district.

St. Louis

Reprint Collections.—In 1906, Dr. George Homan, then president of the St. Louis Medical Society, laid before that society the suggestion that every member who had contributed papers on scientific subjects for publication in any medium should present to the society a complete set of his reprints, and should continue to present a reprint of any article published by him in the future. It was further suggested that if the project were well received by the members, its scope might be enlarged, and all prominent medical writers be invited to add their contributions. This proposition was at once acted on, and the collection has now attained considerable proportion. The report of the reprint collection of the St. Louis Medical Society for 1908 shows an array of titles on a wide variety of subjects, and by a large number of authors. The library committee desires the enlargement of scope foreshadowed in the original recommendation and will be glad to receive reprints from authors not members of the St. Louis Medical Society. These should be addressed to the Library Committee, 3523 Pine Street. St. Louis. The value of such collections is evident and the plan is worthy of imitation.

MONTANA

Society Meeting.—At the annual meeting of Park County Medical Society, held in Livingston, January 12, Dr. Byron L. Pampel, Livingston, was elected president; Dr. Frederick Cuttle, Hunters' Hot Springs, vice-president; and Dr. John B. Beeson, Livingston, secretary.

Personal.—Dr. Louis E. Safley, Livingston, has recovered from injuries received in a recent automobile accident.——Dr. B. Consler, formerly of Glendive, has been elected physician of Dawson county.——Dr. Lillian Miller, Billings, has been selected as physician of Yellowstone county.

Communicable Diseases.—Smallpox is reported to have broken out in the construction camp at Garrison.——Scarlet fever is said to be spreading rapidly throughout Anaconda. ——It is reported that there are at least twenty cases of scarlet fever in Great Falls, and a number of deaths have already resulted from the disease.

NEBRASKA

Personal.—Dr. Archibald L. Muirhead, Omaha, has been elected a member of the board of secretaries of the State Board of Health, vice Dr. George H. Brash, Beatrice.——Dr. G. L. Row has succeeded Dr. Frank E. Osborn as superintendent of the State Institution for Feeble-Minded, Beatrice.——Dr. Harry L. Wells, West Point, has declined the appointment of assistant physician at the State Hospital for the Insane, Norfolk.

Society Meetings.—At the annual meeting of the Elkhorn Valley Medical Association, held in Norfolk, January 19, the following officers were elected: President, Dr. Joseph M. Aikin, Omaha; vice-presidents, Drs. A. B. Tashjean, Norfolk, and Czar C. Johnson, Creighton; secretary, Dr. William R. Peters, Stanton, and treasurer, Dr. Walter H. Pilger, Norfolk. The midsummer meeting of the association will be held in Fremont.——The annual meeting of Johnson County Medical Society was held in Tecumseh, and the following officers were elected: Dr. George J. Rubelman, Tecumseh, president; Dr. J. L. Archerd, Cook, vice-president; and Dr. Albert P. Fitzsimmons, Tecumseh, secretary-treasurer and delegate to the state medical society.——Madison County Medical Society, at its annual meeting in Norfolk January 19, elected Dr. Alexander Baer, president; Dr. J. H. Mackay, vice-president, and Dr. Walter

H Pilger, secretary-treasurer, all of Norfolk.——At the annual meeting of Dodge County Medical Society, held in Fremont, January 15, Dr. Charles Inches, Scribner, was elected president; Dr. Daniel G. Golding, Fremont, vice-president; Dr. Hamilton N. Morrow, Fremont, secretary; Dr. Robert C. McDonald, Fremont, treasurer; Dr. Leander B. Smith, Fremont, censor; Dr. Charles R. Byers, Nickerson, delegate to the state medical society, and Dr. John J. Metzinger, Fremont, alternate.——Dr. J. Lue Sutherland has been elected president, Dr. Phelan vice-president, Dr. George Roeder treasurer, and Dr. B. L. McGrath, secretary of Hall County Medical Association.

NEW HAMPSHIRE

The State Sanatorium.—Work on the State Sanatorium for Tuberculosis, now being constructed at Glen Cliffe, will be completed by February 15. The original appropriation of $50,000 has been expended and the legislature has been asked for a second appropriation of $35,000. The work now in hand includes an administration building, power hourse, a ward to accommodate 20 patients, and provision for adequate water supply. The state owns 400 acres of land and has option on several hundred acres more for the use of the institution.

Personal.—Dr. Henry B. Quinby, Laconia, has been elected governor of New Hampshire.——Dr. Gustav Lafontaine has succeeded Dr. Joseph E. A. Lanouette as a member of the board of health of Manchester.——Drs. Elmer M. Miller, Woodsville, and Charles A. Fairbanks, Dover, are members of the state legislature and of the committee of public health of that body; Dr. Henry W. Boutwell, Manchester, is a member of the governor's council from the second district.——Dr. Jacob H. Gallinger, Concord, has been re-elected United States Senator for the fourth term.

Society Meetings.—Nashua Medical Association, at its annual meeting, elected the following officers: President, Dr. Alonzo S. Wallace; vice-presidents, Drs. Henry O. Smith and William E. Reed; secretary, Dr. Eva M. Locke; treasurer, Dr. Arthur L. Wallace; and historian, Dr. Charles B. Hammond.——Grafton County Medical Society, at its annual meeting, elected Dr. George W. Hazelton, Haverhill, president; Dr. Milton S. Woodman, West Lebanon, vice-president; Dr. George A. Weaver, Warren, secretary-treasurer; Dr. William T. Smith, Hanover, delegate to the state medical society; Dr. Charles R. Gibson, Woodsville, alternate, and Dr. Arthur T. Downing, Littleton, censor.——The eighty-seventh annual meeting of the Center District Medical Society and Merrimack Valley Medical Society was held in Concord January 12. The following officers were elected: President, Dr. John W. Staples, Franklin; vice-president, Dr. Arthur K. Day, Concord; secretary-treasurer, Dr. Pearl T. Haskell, Concord; delegates to the state medical society, Drs. Edmund E. Hill, Suncook, and Sibley G. Morrill, Concord: censors, Drs. Charles H. Dolloff, Concord, Anna M. Littlefield, New London, and Charles H. Quinn, Concord.

NORTH CAROLINA

Fire in Hospital.—The building temporarily occupied as St. Agnes' Hospital for Negroes, Raleigh, was seriously damaged by fire February 3. The 25 patients were all removed without casualty.

Coming Meeting.—The eleventh annual session of the Tri-State Medical Association of the Carolinas and Virginia will be held in Charleston, S. C., February 16 and 17, under the presidency of Dr. Albert Anderson, Raleigh, N. C. Dr. J. Howell Way, Waynesville, N. C., is secretary-treasurer of the association.

Personal.—Dr. Frank H. Russell, Wilmington, examiner in surgery for the North Carolina State Board of Medical Examiners, will locate at Thomasville, Ga.——Dr. Charles H. C. Mills, Charlotte, has returned after several months of postgraduate work in the east.——Drs. John K. Ross, Charlotte, and Julian G. Busby, Spencer, are taking postgraduate work in New York City.

Treatment of Tuberculosis in the City.—A suit of importance to those concerned in the treatment of tuberculosis was heard at Asheville recently, in which the right of a body of Roman Catholic Sisters to maintain a sanatorium for tuberculosis in the residential district of the city was questioned. The point at issue is whether or not residents or property owners of a district can prevent the establishment or maintenance of a tuberculosis sanatorium close to them, on the ground that infection may be communicated thereby. A temporary injunction was granted, and arguments will be heard later in regard to making the injunction permanent.

To Prevent Licensing of Illiterate and Irregular Practitioners.—The legislative committee of the state medical society will make vigorous effort to prevent the proposed licensing a number of irregular and illiterate practitioners by a spec act of the present legislature. It is claimed by the politi friends of the irregulars that they will practice in remo localities where regular practitioners will not care to pract nor reside. This specious argument has been used often w partial success before previous legislatures, especially wh the legislative committee of the state society was not on alert, but it is well understood that the mountainous secti of the state is especially well provided with physicians, a that these sections of the state are especially suited for tub culous patients.

Society Meetings.—At the annual meeting of the Fifth D trict Medical Society in Fayetteville, January 26, Dr. Willi T. Pate, Gibson, was elected president, and Drs. Arthur Croom, Maxton, and Joseph W. Halford, Chalybeate Sprin were re-elected secretary and treasurer respectively.——At December session of the Lenoir County Medical Society, h in Kinston, Dr. Claude L. Pridgen, Kinston, was elec president; Dr. J. W. P. Smithwick, La Grange, vice-preside Dr. Albert DeK. Parrott, Kinston, secretary; Dr. Richard Wootten, Kinston, treasurer, and Dr. James M. Parr Kinston, delegate to the state society.——Wayne County M ical Society, at its annual meeting held in Goldsboro, elec the following officers: President, Dr. R. E. Lee; vice-pr dent, Dr. Theodore L. Ginn; secretary-treasurer, Dr. J. Rai Parker; delegate to the state society, Dr. Marius E. Robins and censors, Drs. William H. H. Cobb, Marius E. Robins all of Goldsboro, and Dr. James W. Kornegay, Mount Olive.

NEW JERSEY

Diphtheria Epidemic.—Diphtheria is reported in the St Village for Epileptics, Skillman, where 11 cases have occur ——Owing to the prevalence of diphtheria among its nur the Mountainside Hospital, Montclair, was temporarily clo January 22.

Abortionist Sentenced.—Dr. Herman A. Glatzmeyer, New is reported to have been convicted of manslaughter in hav caused the death of Miss Mary Vliet, Blairstown, Pa., b criminal operation, and to have been fined $1,000 and sente to five years at hard labor in the state prison.

Home for Incurables.—A movement is being made to es lish a home for incurables at Atlantic City, to be mainta by private subscription and state appropriation. Drs. ward Guion, Philip Marvel, W. Blair Stewart, Elisha C. and Milton L. Munson are the medical members of the b of directors.

Personal.—Drs. Edward J. Ill and Charles J. Kipp have signed as members of the medical staff of the German pital, Newark.——Dr. Alvah C. Van Syckle, Hacketts has been seriously ill with an infected wound of the hand. Dr. Isaac N. Griscom has been elected medical inspector of Ocean City Board of Health.

County Society Election.—At the annual meeting and tion of Atantic County Medical Society, held in Atantic January 8, the following officers were elected: President, Clyde M. Fish, Pleasantville; vice-president, Dr. Thoma Dunlap; secretary-treasurer, Dr. W. Price Davis; reporter, Theodore Senseman; censor, Dr. Walter Reynolds, and gates to the state society, Drs. Arthur E. Ewens and Ed S. Sharpe, all of Atlantic City.

Newark Library of Medicine.—The medical library es lished by the physicians of Newark is just beginning its f year. The members of the medical library association pay dues of $3, which amounts to nearly $500 annually, this has been expended in the purchase of the latest me books and in subscriptions to the medical journals. library now contains about 500 volumes and also about unbound volumes of the medical journals of the United S and the Continent. The secretary of the association is Frank W. Pinneo.

Vital Statistics for 1908.—The annual report of the Board of Health shows that tuberculosis was the most of all diseases in the state, but that the deaths from this were not increasing in proportion to the population. D from cancer showed an increase. There were 387 suicid the state in 1908, an increase of 40 as compared wit previous year, and 65 as compared with the seven years' age. Of the suicides, 142 were by poison, 111 by gu wound, 54 by strangulation, 4 by asphyxiation, 18 by c instruments and 16 by drowning.

January Mortality.—During the month ended Januar 3,164 deaths were reported, a decrease of 117 from th esponding period of last year. Of these, 602 were of infants nder 1 year, 267 of children between 1 and 5 years, and 982 f individuals 60 years old or over. Pneumonia, cancer, and icides show a decided increase. The chief death causes ere diseases of the circulatory system, 395; diseases of the ervous system, 380; tuberculosis, 379; pneumonia, 355; dis- ases of the respiratory system (excepting pneumonia and berculosis), 225; nephritis, 205; diphtheria, 65; measles, 33; arlet fever, 23; typhoid fever and whooping cough, each, 21; d cerebrospinal meningitis, 15.

NEW YORK

Medical Expert Bill.—A bill designed to remedy the evils nnected with medical expert testimony, which has been ap- oved by the State Bar Association and the leading medical cieties of the state, will be sent to the legislature at once. is given in the Correspondence Department in this issue.

Personal.—At the last meeting of the trustees of Cornell iversity, Dr. Graham Lusk was appointed professor of ysiology in the medical school. From 1891 to 1898 Dr. Lusk s professor of physiology in the Yale Medical School, and reafter until the present time he held a similar chair in the iversity and Bellevue Hospital Medical College.——Dr. A. Benedict has resumed practice in Buffalo.

Red Cross Stamp Proceeds.—The Red Cross stamp commit- announces that the receipts from the sale of these stamps New York county were $11,270, of which sum $5,000 is dged to the Red Cross day camp for tuberculosis patients the roof of the Vanderbilt Clinic, $1,000 has been given to p defray the expenses of the Tuberculosis Exhibit at the erican Museum of Natural History, and the remainder will duly assigned to day camp needs.

hysical Defects of Truants.—A recent report of Dr. Fred- k J. Mann, inspector of schools of Poughkeepsie, shows t a great majority of truants and of the children who fail promotion do so because of their physical condition. In case of the 103 scholars referred for physical defects the al amount of time lost in their school life amounts to 135 rs. Of these scholars 15 classed as truants have been re- led 24 years in their school life. Practically every truant has inspected has had physical defects of the eye, ear or at.

elease of Insane Patients.—Dr. Robert L. Lamb, superin- lent of the Matteawan State Hospital, has collected and sified in his annual report 43 habeas corpus cases. Of e 43 individuals, 27 had committed criminal acts directly nst persons, 12 being charged with murder in the first ce. Dr. Lamb recommends some modification of the pres- law whereby lunatics charged with serious crimes may be t with by a tribunal having fixed individual responsibility. es are not to be relied on as the findings are universally vor of the lunatic without regard to his previous history. Lamb suggests that releases from a hospital should be e in the same way as commitments are now made.

arriages Decrease.—The statistics of the State Health De- ment show that there was a marked falling off in the ber of mariages during 1908. The number for 1907 was 6, and for 1908 only 74,000. This decrease is attributed e Cobb marriage license law, which went into effect about ar ago. There has been also a lowering of the death rate. rate was 16.2 per thousand of population, the lowest for re of years. For the last five years the average death was 17.2. Cancer shows a rapid increase as a cause of . Rochester showed the lowest death rate of any of the r cities. Schenectady showed a rate lower than 14 per and population, which statisticians have said could not wered. There has been an increase of births over that of but provisions have not been made for their accurate ling in all localities.

New York City

seum of Safety and Sanitation.—Plans are being made practicable lines to prevent the enormous loss of life and through the Museum of Safety and Sanitation, where the devices for dangerous machines, and preventable meth- f combating dread diseases may be demonstrated. The ittee on plan and scope of this work includes Dr. Thomas igton, commissioner of the health department of the city.

John's Guild.—The annual report of this organization that a total of 1,339,214 mothers and children have been for during the 42 years the guild has been working. g the summer of 1908 the floating hospital made 49 trips rried a total of 44,414 women and children. The Sea- ospital admitted 2,210 women and children during the The endowment of the guild now amounts to more than $100,000 and there is $100,000 in the hands of executors which will soon be added to the endowment fund.

Personal.—Dr. William T. Bull has arrived at Wymberly, Ga., where he expects to spend some weeks. He stood the journey well.——Dr. John Winters Brannan, president of the board of trustees of Bellevue and the allied hospitals, whose term had expired, has been reappointed a member of the board.——Dr. William G. MacCallum, professor of pathologic physiology at Johns Hopkins University, has been elected to the faculty of medicine of Columbia University to succeed Dr. T. Mitchell Prudden, who will retire at the end of the present academic year.

Fewer Typhoid Cases.—According to the figures of the New York Health Department, there were during the last year in Manhattan 1,455 cases of typhoid fever, of which 256 resulted fatally, as compared with 2,387 cases and 372 deaths during 1907. Dr. W. L. Hubbard of the department of communicable diseases says that, while the decrease may be only accidental, he is inclined to attribute it to the efforts of the department in spreading information concerning the causes of the disease and the methods of prevention. This information might also make the public more careful in the selection of summer resorts.

Hospital News.—The report of the Volunteer St. Gregory's Hospital, which is under the control of the Salvation Army, shows a deficit for the year of $2,945. During the year 16,302 patients passed through the hospital and 31,409 treatments were given in the dispensary.——A special performance of Faust was given at the Metropolitan Opera-House for the benefit of the French Hospital, at which over $13,000 was realized.——According to the will of Max Freund, Mount Sinai Hospital is to receive $1,000, the Montefiore Home $500, the United Hebrew Charities, $500.——The will of the late Charles Mayer bequeathes the United Hebrew Charities $5,000, Mount Sinai Hospital $3,000, Lebanon Hospital $1,500, Montefiore Hospital $3,000, and the Presbyterian Hospital $1,000.

Course of Lectures.—Columbia University has instituted a course of lectures on sanitary science and public health, to be delivered Mondays and Wednesdays during February, March and April at the College of Physicians and Surgeons. Some subjects have been: February 1, "The Rise and Significance of the Public Health Movement," by Prof. William Thompson Sedgewick, Ph.D., Boston; February 3, "The Great Pathologic Discoveries and their Bearing on Public Health Problems," by Dr. J. George Adami, McGill University; February 8, "Sanitary Science: The Control of Environment," Professor Sedgewick; February 10, "Modes of Transmission and Methods of Prevention of Communicable Diseases," Dr. William Hallock Park, director of the research laboratories of the New York City Health Department.

Lectures on Infant Feeding and Hygiene.—The Association of Physicians of the New York City Milk Depots, a group of twenty-nine practitioners, who are attending to the feeding and instructional work in connection with the milk station of the New York Milk Committee, have arranged the following series of lectures on "Infant Feeding and Infant Hygiene," to be held in the United States Charities Building, 105 East Twenty-second street, during this month, March and April:

"General Principles of Infant Feeding," Dr. Godfrey R. Pisek, February 19.

"Value of Fats in Infant Feeding," Dr. John Howland, March 3.

"Infant Feeding, Its Relation to Infant Mortality," Dr. Joseph E. Winters, March 13.

"Value of Carbohydrates in Infant Feeding," Dr. Henry D. Chapin, March 26.

"Milk Sanitation," Dr. Rowland G. Freeman, April 14.

"Hygiene of Infancy," Dr. William P. Northrup, April 23.

"Dietary of Children After the First Year," Dr. Linnæus E. LaFetra, April 30.

OHIO.

Postgraduate School.—Youngstown Postgraduate School of Medicine and Surgery has been organized with the object of the furtherance of the work in medicine and surgery, with the following officers: President, Dr. Howard B. Hills; vice-president, Dr. Arba S. Green; secretary-treasurer, Dr. Thomas J. Arundel; professor of anatomy, Dr. John MacCurdy, and assistant professor of anatomy, Dr. Harry McGarvey.

Personal.—Dr. and Mrs. William B. Van Norte, Lima, are spending the winter in Miami, Fla.——Dr. Stirling B. Taylor has been elected health officer of Columbus, vice Dr. Elmer G. Horton.——Dr. J. Morton Howell and Daniel E. Miller, Dayton, are about to take a trip to Hawaii.——Dr. R. C. Stockton Reed is said to be critically ill at the home of his son in Stockton.——Dr. Jesse J. Magruder, Columbus, was operated on for appendicitis January 7.——Dr. Frank E. Kitzmiller, health officer of Piqua, has been appointed local registrar of the State Board of Health.

Elections.—At the annual meeting of the Toledo Academy of Medicine, January 8, Dr. James A. Duncan was elected president; Dr. Walter W. Brand, vice-president; Dr. Charles F. Tenney, secretary; Dr. Lewis F. Smead, treasurer; Dr. Edwin D. Tucker, financial secretary, and Dr. Charles N. Smith, censor.——At the annual banquet and election of the Dayton Academy of Medicine, January 11, Dr. Herbert C. Haning was elected president; Dr. Charles H. Tate, vice-president; Dr. Arthur O. Peters, secretary; Dr. Harry S. Patten, treasurer, and Dr. Henry D. Rhinehart, censor.

State Examining Board Meeting.—At the January meeting, in Columbus, the State Board of Medical Examiners revoked the certificate of G. E. Kimber, Toledo, and postponed action on the cases of Pyle and McLaughlin, Canton, charged with advertising in a manner objectionable to the profession, of J. G. Colton, Cleveland, who was sentenced to a term in the workhouse on a charge of misusing the mails, of Dr. Isaac T. Evans, Columbus, alleged to have assisted a private concern in representing that tuberculosis can be cured, and of Dr. L. T. Mahon, Toledo, charged with a similar offense.

Cincinnati

Tag-Day Receipts.—The receipts of "Tag Day" in Cincinnati, January 9, for the benefit of the Day Camp Fund for Tuberculosis, are said to have aggregated $10,000.

Personal.—Dr. Miram Schaar has been made chief of the district nursing under the board of health.——Dr. Albert Faller has been chosen to replace Dr. Benjamin F. Lyle as resident physician and superintendent of the Branch Hospital.

Elections.—At the annual meeting of the Alumni Association of the Medical College of Ohio, January 21, the following officers were elected: President, Dr. Clement C. Fihe; vice-presidents, Drs. William Mithoefer, John P. Miller and Charles T. Souther; secretary, Dr. Sidney Lange, and treasurer, Dr. William H. Streitmann.——At the annual meeting of the Cincinnati Academy of Medicine, held January 4, the following officers were elected: President, Dr. Rufus B. Hall; vice-presidents, Drs. Samuel E. Allen and Edward S. McKee; secretary, Dr. E. Otis Smith; treasurer, Dr. Alexander J. Drury; censor, Dr. John E. Griewe, and librarian, Dr. Arch I. Carson.

OKLAHOMA

Medical Societies.—Alfalfa County Medical Society met at Helena January 19 and elected Dr. Wilson M. Bassett, Jet, president; Dr. Benjamin E. Briscoe, Cherokee, vice-president; Dr. Edward D. Ebright, Carmen, secretary-treasurer; Dr. Jerry E. Vanderpoel, Carmen, censor, and Dr. Thomas A. J. Rhodes, Goltry, delegate to the state society.——Texas County Medical Society, at its annual meeting, held in Guymon January 26, elected Dr. J. M. McMillin, Goodwell, president; Dr. William H. Langston, Guymon, vice-president; Dr. Rutherford B. Hayes, Guymon, secretary-treasurer; and Dr. J. D. F. Gage, Hooker, censor.——Under the direction of Dr. Abraham L. Blesh, Guthrie, district councilor, the physicians of Kay county, on December 10, organized a county society, tributary to, and affiliated with the state and national organizations. Organization was effected by the election of the following officers: Dr. William A. Phillips, Newkirk, president; Dr. Arthur S. Risser, Blackwell, secretary, and Drs. Virgil A. Wood, Blackwell, William M. Johnson, Peekham, and William A. T. Robertson, Ponca, censors. At the annual meeting of the society, held January 14, at Newkirk, the following officers were elected: Dr. Alonzo P. Gearhart, Blackwell, president; Dr. William M. Johnson, Peekham, vice-president; Dr. Arthur S. Risser, Blackwell, secretary; Dr. Otis T. Morey, Ponca, treasurer; Drs. George E. Martin, Newkirk, H. M. Stricklin, Tonkawa, and Edgar J. Orvis, censors, and the president and vice-president, delegates to the state association.——The fourteenth annual session of the Oklahoma Central Medical Association was held in Enid January 12. Dr. Everett S. Lain, Oklahoma City, was elected president; Dr. Arthur B. Cullom, Hennessey, vice-president, and Dr. Edward D. Ebright, Carmen, secretary-treasurer. The next meeting of the association will be held at Oklahoma City in April.——Oklahoma County Medical Society, at its annual meeting in Oklahoma City, elected the following officers: President, Dr. Leander A. Riely; vice-president, Dr. Lewis J. Moorman; secretary-treasurer, Dr. William R. Bevin, and delegates to the state medical association, Drs. Arthur W. White, William T. Salmon, Ross D. Long and Wirt A. Fullington, all of Oklahoma City.——The Atoke-Coal Counties Medical Association, at its annual meeting in Lehigh, elected Dr. Walter B. Wallace, Lehigh, president, and Dr. John B. Clark, Colgate, secretary.——At the second annual meeting of Hughes County Medical Society, held in Holdenville, Dr. Ira W. Robertson, Dustin, was elected president; Dr. James D. Scott, Holdenvile, vice-president; and Dr. Alexande M. Butts, Holdenville, secretary.——Grady County Medica Society met in Chickasha December 7, and elected Dr. Walte Penquite, president; Dr. Paul Vann, vice-president; Dr. Marth J. Bledsoe, secretary, and Dr. James E. Stinson, treasurer, al of Chickasha.

OREGON

Personal.—Dr. Andrew C. Panton, Portland, has resigned a president of the Board of Medical Examiners.——Dr. Albe G. Prill has been re-elected mayor of Scio.

Follows Indiana's Example.—The senate passed February by a two-to-one vote, a bill providing for the sterilization criminal insane and confirmed criminals. The confirmed crin inal is one who has served three or more terms in the pen tentiary.

Sentenced for Maintaining Nuisance.—Dr. C. H. and Charl H. T. Atwood, Portland, are said to have been sentenced i the Circuit Court January 21 to five months' imprisonme in the county jail, for maintaining a nuisance in conducti the so-called Atwood Maternity Home. An arrest of judgme was asked but denied.

State Board Election.—At the annual meeting of the Sta Board of Health the following officers were elected: Preside Dr. Edward A. Pierce, Portland; vice-president, Dr. Willis Morse, Salem; secretary, Dr. Robert C. Yenney, Portland. committee was appointed to confer with a committee from t National Association for the Prevention of Tuberculosis in a effort to secure state aid for tubercular poor. The secreta was instructed to enforce the regulations recommended at t recent conference of health officers of the Pacific Coast.

PENNSYLVANIA

Bill to Bar Marriage of Consumptives.—A bill was introdu in the legislature February 3 to stop the marriage of consum tives. The bill is intended to regulate the issuance of ma riage licenses and provides the conditions under which su licenses shall be issued. The important feature of the bill contained in the section which provides that the clerk of t Orphans' Court "shall not issue any marriage license un each of the parties applying therefor shall severally present the clerk a certificate under oath or affirmation from a medic doctor, duly authorized to practice medicine under the la of this commonwealth, setting forth that he, the said medic doctor, does declare to the best of his konwledge and beli the applicants for the license are not afflicted with pulmona tuberculosis, epilepsy, insanity, imbecility, idiocy or heredita diseases, as such would affect the contracting party to such marriage or any offspring therefrom."

Philadelphia

Fined for Using Bad Eggs.—Charged at the instance of t State Dairy and Food Commission with using bad eggs, kno as "rots and spots," in their products, two large baking fi were arrested and fined $62.50 in the magistrate's court.

Personal.—Dr. Alfred Heineberg has been elected gyne ogist to the new Lebanon Hospital.——Dr. F. Hirst Maier confined to his home with a severe pneumococcic infection the eyes.——Dr. P. Brooke Bland has been seriously ill w septicemia, but is improving.

New Medical Bill Endorsed.—Concerted action by physici throughout the state supporting the Herbst medical bill, j introduced in the legislature, was planned by the commit on publicity and legislation of the Philadelphia County M ical Society at a meeting February 3. The bill has been dorsed by the county society, the West Philadelphia Phy cians' Association, the Northwest Medical Society, the Medi legal Society, the Medical Examiners' Association, and South Branch of the County Medical Society. Resoluti were adopted asking the legislative committee of city coun to use its influence to further the passage of the new meas

FOREIGN

Cholera in St. Petersburg.—The following facts in regar cholera in St. Petersburg are culled from the reports now pearing in European journals: Of all the capitals of Eur St. Petersburg has been invaded most often by cholera; it not escape a single one of the earlier pandemics. The pre epidemic in Russia began in 1902, coming up through Pe to Southern Russia. In 1904 it extended along the Volg Seratov. Since then it has persisted in Astrakan and was pected to reach St. Petersburg at any time. Last year it thought that the danger for St. Petersburg was passing. this proved to be a mistake. The first cases were recogn in the early part of September. In the last half of Augu

umber of cases of so-called summer diarrhea occurred, but the
st bacteriologic diagnosis of cholera was made on September
when the first death occurred. From September 9 to 19
e number of cases increased rapidly, and on September 19
9 new cases were reported. Since then the number of new
ses has steadily diminished. On account of lack of suitable
ans of transportation and of special hospitals, cholera pa-
nts were admitted to the general hospitals; nevertheless
ere are no reports of cases of hospital infection and no
ysician has been attacked, but on the other hand several
rses contracted the disease. It appears to be a typical
ter-borne epidemic. St. Petersburg gets all its drinking
ter from the Neva; the water reaches the outer borders of
city unfiltered, the inner parts after having been filtered,
only imperfectly so because the filters are overgrown with
lera germs. The Neva is also the principal sewer of the
, receiving all the sewage without previous disinfection.
olera vibrios have been demonstrated in the water in the
ter of the river, where there is a considerable current, also
er to the shore, and in numerous canals as well as in the
water in the bacteriologic laboratories. It seems that the
ets were sprinkled with infected water so that ready op-
tunity was given for contamination of the foodstuffs ex-
ed for sale in the streets. Hence it is quite likely that the
er part of the population has been exposed to infection.
lower classes, however, have been most severely affected;
the same time the better classes have suffered more than
al in cholera epidemics. Numerous healthy persons carrying
era germs have been encountered, but in all the vibrios are
to have disappeared almost always inside of fourteen days.

LONDON LETTER

(From Our Regular Correspondent)

London, Jan. 30, 1909.

The Royal British Radium Institute

ttention has lately been directed to the great possibilities
ed by radium for the treatment of disease. A great ob-
le to its more extensive use is its costliness. A number of
ing authorities in science and in medicine, with the help
ome wealthy philanthropists, have started an institution
the purpose of furthering the use of radium. The move-
t has enlisted the sympathy of the king, whose keen in-
st in medical science is so well known. He has shown his
oval by granting a royal charter, establishing a Royal
sh Radium Institute. This institution will not only
on research work, but will also have a medical depart-
for the eventual treatment of cases in which experi-
al work has shown the possibilities of radium therapy.
ises have been acquired in the west of London, and the in-
te will be for the benefit of the rich and poor alike. No
ar institute of the kind exists except in Paris. The
il includes Sir Frederick Treves, Sir William Ramsay
scientist), Sir J. J. Thomson of Cambridge University,
Ion. R. J. Strutt and Mr. Henry Morris (president of the
l College of Surgeons). The work will probably be car-
on with the help of the Imperial Cancer Research Fund.

Death Under Stovain

nal anesthesia has not yet found much favor in this
ry, but its use is increasing. Mr. A. J. Barker of Uni-
y College Hospital has been its foremost exponent, and
s recently reported 100 cases of spinal anesthesia pro-
by stovain with success. As yet little has been heard
ntoward consequences, such as have been reported from
to time in continental journals. Coroner Troutbeck has
held an inquest at Battersea on a house-painter, aged
ho died while under the influence of stovain. An operation
nlarged prostate was judged necessary, and stovain was
ed into the spinal canal between the third and fourth
r vertebræ. This anesthetic was selected as the patient
senile heart and lung trouble, and the drug is supposed
o affect either the heart or lungs. The bladder was
washed out. When the operation was about to begin,
rgeon noticed that the patient's face was very pallid
at he yawned immoderately. The heart and respiration
and the patient did not respond to stimulation, but
alf an hour later. Dr. Freyberger (the pathologist ap-
d by the coroner to make necropsies for this coroner's
ts) gave as the cause of death anemia of the brain in
uence of failure of the heart under the influence of
n. He said that he had had two similar cases. The
of stovain on the heart, he said, was much like cocain.

Death from the Fumes of a Decomposing Cargo

en men employed in removing a cargo of rice and maize
the holds of the London steamer *Sir John Jackson*, which went ashore on a coral reef near Batticalva on the coast of Ceylon, lost their lives under extraordinary circumstances. They were suffocated by poisonous gases arising from the decomposing cargo. They were suddenly overpowered and fell as if shot. A man employed on deck, who had three brothers at work in the hold, descended to their rescue and lost his life.

Purer Milk for Liverpool Hospitals

In Liverpool an active movement is in progress for securing a purer milk supply for the hospitals. The Liverpool Medical Institution has appointed an influential committee to consider the question. The committee finds that 5 per cent. of the railway-borne milk of Liverpool is so defective on chemical analysis that legal proceedings are taken. On bacteriologic examination 5.4 per cent. of the samples contained tubercle bacilli and 72 per cent. contained organisms commonly present in the excreta of cattle. It was therefore evident that the milk supplied to the Liverpool hospitals was not of the standard desirable for invalids. To remedy this the following suggestions have been made by the committee: 1. Systematic inspection of the farm supplying the milk. 2. Periodical analysis of the milk, both chemical and bacteriologic. 3. The tuberculin test to be applied periodically to the cows. 4. The farm and accessories to be properly equipped. 5. Special milk cans, rain and dust-proof, and capable of being readily sealed to be used. In order to give effect to these suggestions, the committee has recommended that a conference of representatives of the governors and medical boards of the hospitals be invited to meet them. They suggest for the consideration of the conference the desirability of combined action of the hospitals with view of appointing a permanent staff, consisting of chemical and bacteriologic analysts and a veterinary surgeon.

Legislation Regarding the Administration of Anesthetics

The General Medical Council has submitted to the Privy Council a bill making it a penal offense (except under certain specified circumstances) for any person other than a qualified medical practitioner to administer a general anesthetic for any operation or during childbirth. The bill also makes it obligatory on all examining bodies to require that candidates presenting themselves for their final examination shall have received thorough instruction in anesthetics and shall have administered anesthetics under the supervision and to the satisfaction of their teachers.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 26, 1909.

The Faculty of Medicine and Needed Reforms

The council of the faculty of medicine of Paris commissioned recently a delegation of its members to wait on the minister of public instruction and inform him in detail in regard to the present unbearable situation of the medical departments of the universities and the modifications that this situation demands. In our university organization the council of the faculties of medicine plays a nugatory part; it can pass resolutions but has no power to enforce them. These resolutions are transmitted by the dean to the rector of the university who submits them to the university council or to the superior council of public instruction. But these bodies contain only an infinitesimal proportion of members competent, from a medical standpoint, to pass judgment in the matter. For instance the council of the University of Paris numbers 18 members, of whom only 3 are physicians, while the superior council of public instruction comprises 53 members, of whom 50 are non-medical and 3 are physicians, and of these 3 physicians, 2 are elected by the faculties and the third is appointed by the minister. The faculties are consequently deprived of all initiative. The mistake was made of placing the medical schools on the same basis as the other faculties, forgetting that the former are called on to give at the same time both higher and a technical and professional education.

To remedy the present state of affairs, the council of the faculty of medicine of Paris asks for the creation of a "permanent committee," essentially medical, composed of equal numbers of members respectively nominated by the minister and elected by all the faculties and schools of medicine. This committee is to transmit to the minister directly, after study of the subject, all the resolutions adopted in regard to medical instruction, and to keep him informed of the needs and aspirations of the faculties and schools of medicine. The minister has promised to investigate this matter in a sympathetic spirit.

The Fluctuations of the Population in France

By an interesting innovation the bureau of statistics will henceforth publish the vital statistics in France every six months, instead of yearly. The statistics relating to the first half year of 1908, in comparison with those of the first six months of 1907, have just been published. While the later years have been marked by a constant diminution in the birth rate (see The Journal, Oct. 17, 1908, p. 1346), a notable improvement is seen for the first six months of 1908 in comparison with the same period of 1907. In 1907 the deaths exceeded the births by 55,000 for the first half year; in 1908, on the other hand, the births exceeded the deaths by about 11,000; but it must be noted that the improvement is due especially to the diminution in the number of deaths. There were 457,752 deaths in 1907 to 399,336 in 1908, representing a diminution of about 58,000. The laws of hygiene and of social assistance, which are constantly developing more and more, certainly count for much in this reduction of the death rate. As to the increase of the birth rate proper, it is not very considerable; the number of births of living infants, which for the first half year of 1907 was 402,745, rose during the first half year of 1908 to 411,402, representing an increase of about 9,000. But since these statistics cover only a short period, it is difficult to know whether they represent really an improvement of a durable character or merely a simple and transient fluctuation.

A Decision of the Faculty of Medicine Annulled by the Council of State

The higher authorities have just annulled, on the ground that it was rendered in contravention of the regulations, the decision by which the Paris faculty of medicine in 1906 awarded the Lacaze prize of 10,000 francs ($2,000) to Dr. Achard. This prize is awarded every two years to the author of the best work presented, on the subjects alternately of phthisis and typhoid fever. The stipulations require that the competing works must be in the hands of the secretary before the fifteenth of October. By Oct. 15, 1905, two essays alone had been presented, one by Drs. Lesage and Abrami, the other by Dr. O. Martin. The prize, however, was awarded to neither of these, but to Dr. Achard, who had not formally entered the competition and had not sent in any work to the secretary. The report of the prize committee stated that Achard's candidacy rested on a great number of works, of which many were in collaboration with well-known scientists, the series extending over a period of ten years. Protest against the award of the prize under these conditions was made by Drs. Lesage and Martin, who appealed to the higher authorities. The decree rendered states that the faculty of medicine, through a notice published by its orders and sanctioned by the signature of its dean, made known to the public the conditions under which it would award in 1906 the prize at its disposal. If it was the prerogative of the council of the faculty not to award the prize in case it should consider the merits of the works presented insufficient to justify the award of the prize to their authors, it could not, in defiance of regulations the observation of which was as incumbent on the faculty as on the competitors, bestow the Lacaze prize on Dr. Achard, who had presented no competing work.

Yellow Fever at Martinique

The governor of Martinique has recently cabled the minister for the colonies that a case of yellow fever has developed at Fort-de-France. The chief of the local health service and Dr. Simond, in charge of the commission for study and prophylaxis whose departure from Martinique I recorded in The Journal (Nov. 28, 1908, p. 1879), consider it necessary to postpone the departure of officials and soldiers for Martinique. The governor consequently begs the minister not to embark any one until further orders. Cases of yellow fever have been declared in neighboring foreign colonies, notably at Surinam, where 25 cases, of which 6 proved fatal, have been registered; at Barbados, which has 10 cases with 8 deaths, and at Curacao, where one isolated case has occurred.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Jan. 11, 1909.

"The Kultusminister"

For some months Holle, the minister of education, has been in Meran on account of an illness attributed by the official reports to nervous breakdown from overwork in familiarizing himself with the work of his new office. He assumed the office about a year and a half ago, having been formerly for many years undersecretary of state in the department of public works. It is indeed a severe task for one unacquainted wit its scope to supervise the "Kultus" department, which i cludes three distinct sections of theology, the entire publ school and university system and medical affairs. For mar years it has been acknowledged that the scope of this d partment was too large for a single head, and a movemer has been started to effect a subdivision. The chiefs of tl department themselves have repeatedly expressed their asser to this suggestion, but the matter has so far always reste there. Physicians have several times expressed a wish that special state department be created for medical affairs in tl same way as is already the case in many civilized countri There is no question that such a minister would have enou to do in his office, for the extent of affairs pertaining to me icine and the public health is surely very great. But it with the creation of a new cabinet department as it is wi the establishment of a new professorship. In the universiti the faculties have every time opposed the establishment of new regular professorship on the ground that it was n needed, and as a rule every new professorship has been esta lished by the government in opposition to the will of the fa ulty. In regard to the state departments, there is no superi power to object, but establishment of a new departme would entail expense, and for this reason probably the mi ister of finance, whose vote, it is easy to understand, carri a predominating influence in all affairs involving mone will oppose the innovation. Whether the minister who is will return to his duties, is indeed a question, but meanwh his furlough has been extended. Originally it was assum that his sickness was the usual "ministerial disease"; that it was only to cover up approaching dismissal. This su picion was increased by the news of a little episode that ha pened shortly before the beginning of the official's sickne On the occasion of a meeting with the minister, it is said th the emperor, who was accompanied by the king of Gree introduced Dr. Holle to his guest with the words, "H Holle is now studying to be Kultusminister." In consequen of this unceremonious and somewhat depreciatory personal mark, the minister of education obtained his leave of abse which may terminate with dismissal. Whether this rema was really made is uncertain; the newspapers often spre rumors of such kinds without any foundation. At any ra it is a fact that the minister is undeniably ill.

Removal of Professor Strümpel to Vienna

Professor Strümpel has received and accepted a call as successor to Prof. von Schrötter, director of the third medi clinic in Vienna, who died last April. There was some oppo tion to his selection among the professors of the Vienna m ical faculty on the ground that there was enough home tal to fill the vacant position. Protests of this sort are regula repeated whenever an Austrian professor is called to Germa or *vice versa*. In general, it is true that each country has su cient material at its disposal to replace its losses; but qu independently of the facts that each faculty is anxious to prove itself by the selection of the most distinguished p fessors, and that in carrying out this aim it does not stop the borders of the neighboring kingdom, the governments the two countries also desire to introduce "fresh blood" i their faculties by such an exchange. That this view is right one admits no doubt, for there is a danger for facul in growing by inbreeding. Hence it is quite desirable that in a while ability should be introduced that has develo outside of the immediate circle. We have in Germany, es cially in Prussia, a number of Austrian professors, such Kraus in Berlin and the surgeon Payr in Greifswald; on other hand, Prof. von Noorden went from Prussia to Vie as the successor of Nothnagel, who was also a German. have received from Switzerland von Müller in Münich, in Berlin and Garré in Bonn, while Gerhardt, the son of renowned internist, has gone from Germany to Basel.

The Feeding of Public School Pupils

The feeding of poor school children is a form of the sc helpfulness that is exercised at the present day in most ilized countries, but especially in Germany. In Dresden early as 1884 a charitable association (*Verein gegen Armen* started a "soup kitchen" for poor school children. There also been in Dresden since 1896 a special association for f ing poor school children with substantial meals. At the p ent time the public school children are cared for in this in many German cities, partly by private associations partly by the city authorities. In Berlin, as I have alr told you, 70,000 marks were lately appropriated for this pose; in Münich there is a municipal soup kitchen which lies annually 470,000 meals, with a total outlay of 64,000 arks ($15,360); one in Strassburg supplies 108,000 meals at n expense of 13,000 marks ($3,120). In Strassburg the poor uthorities have themselves undertaken the entire business of rnishing food to the poor. There is a central kitchen, with ettles holding each 350 liters, which can prepare 2,800 pint owls of soup. For the distribution of the soup to the local hools, the city and suburbs are divided into districts, and e soup is sent in portable kettles in so-called cooking boxes. he distribution is made partly by volunteer waiters. Augs- rg, Charlottenburg, Nuremberg, etc., furnish free milk break- sts. The selection of the children to be fed is made in most ties by the poor office on the recommendation of the teacher, hile in some cities, for instance, in Mannheim, a limit of ages of the head of the family is established. Supplying ee meals to the children is not regarded as coming under the ad of public charity (*Armenunterstützung*).

Laboratories for Bacteriologic Examinations

At the beginning of this year three official institutions for e bacteriologic examinations were opened in Berlin in the nicipal laboratory, in the institute for infectious diseases, d in the hygienic institute of the university. The city is vided into three sections, each of which is connected with e of these laboratories. Examinations are made for diph- eria, meningitis, typhoid, dysentery, anthrax, glanders, chinosis, and for meat, fish and sausage poisoning. In both the state institutes examinations are made for tuberculosis. nvenient packages for sending the material can be obtained the pharmacies, which are marked with the address of the oratory with which the pharmacy is connected. The charges sending these packages through the mail must be borne the sender, and physicians want to have these packages warded post free. There is no doubt that this arrangement ords a valuable means for the early recognition and of ectious diseases and for timely prevention of their spread.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Jan. 29, 1909.

e Work of the Vienna Street Ambulance Corps in Messina

he Vienna Street Ambulance Corps (*Rettungsgesellschaft*) sesses three kitchen-cars or movable kitchens for supply- large quantities of cooked food in special emergencies. se cars are lighted with electricity and fitted with three tles each, with necessary apparatus for boiling and baking ile on the way to the place of need. A storeroom and a try are fitted into each car; the three cars can distribute 00 rations within eight hours, and no more than three ks and six assistants are required. When the news of the ssina disaster and the lack of food there became known, services of the corps and the three portable kitchens e offered to and accepted by the Italian embassy in Vi- a. The cars arrived in Messina, Catania and Reggio di abria in time to do an enormous amount of good work ng the starving population. The only difficulties were, first, to obtain sufficient food in the ruined towns, and r, to cook it according to Italian taste; but the latter culty was soon overcome. In a few days the kitchen-cars e in such working trim that 10,000 or 12,000 people, in- ing the army detachment corps working at the débris, e fed daily, free of charge. The cars are still there; and it he unanimous opinion that their aid was the succor most efully appreciated by the unhappy population. These hen-cars have been previously put in service several times r extensive floods and fires, and once during a military euver in this country.

New Professors of Dermatology

he death of Professor Mracek and the resignation of Pro- or Lang have created two vacancies in the faculty of the ersity of Vienna, which have just been filled by the ap- tment of Professor Ehrmann to succeed Lang and of essor Rusch to follow Mracek. Both these men have -established reputations as diagnosticians and therapeu- ; Professor Ehrmann especially is regarded as a very inent man, full of keen observation, coupled with an itive gift for discerning the healing qualities of various tances.

Physical Exercise for School Children

e new regulations for elementary schools give special tion to physical exercise for the children under the super- n of the teachers. Thus on at least three days of each one hour a day must be devoted to gymnastic exercises, in the open air, if possible, not in the *Turnhalle* or gymnasium. The English system of outdoor games and sports is preferred to the German system of gymnastics. In suitable weather the children are to take short or long walks; on certain days when school is not in session the class is to make excursions to the beautiful places in the environs of the city. Walking is greatly encouraged, and the older pupils are advised to take walking tours during the summer and Christmas vacations, going ten to fifteen miles a day, and doing a moderate amount of mountain climbing. The expenses of the needy pupils are to be defrayed by the schools. Of the gymnastic exercises, especially for the younger children, such as tend to strengthen the lungs are chiefly favored. To be excused from these exercises, a child must produce a medical certificate stating what injury might result to him from taking them. These recommendations are the result of a series of investigations into the physical condition of the school children, instituted by the board of health, and conducted during the last year by a committee of medical men and teachers.

Government Expenditures for Medical Purposes

In the budget for 1909, the government has proposed the expenditure of about $1,100,000 (5,500,000 crowns) for new buildings for the medical faculties in the university cities of Austria, and for the professors' salaries. Vienna is allotted $360,000, Prague $260,000 (there are two universities in Prague), Graz, Lemberg and Innsbruck, each $90,000, and Cracow $120,000. There are to be paid by the state 112 ordinary professors, 57 extraordinary professors, 293 assistants and 76 technical officers; privat docents receive no salary. Buildings are in process of completion for the chemical and physical institute in Vienna, the pharmacologic institute in Prague, the pathologic-anatomic institute in Cracow, as well as a building for forensic medicine; $360,000 were appropriated for these buildings.

Pharmacology

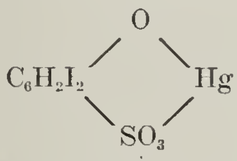
[Contribution from the Chemical Laboratory of the American Medical Association]

THE USE OF MERCURIC IODID SOLUTIONS FOR INTRAMUSCULAR INJECTIONS

W. A. Puckner

In view of the interest in the intramuscular injection of mercury compounds in general, and of mercury sozoiodolate in particular,[1] the result of an examination of a sample of this drug is worthy of comment. Dr. Archibald Church, professor of nervous diseases in Northwestern University Medical School, submitted this sample, stating that it was said to be a solution of mercury sozoiodolate, and that he had had eminently satisfactory results in using it by intramuscular injection.

MERCURY SOZOIODOLATE

The substance sold under this name is said to be the mercury salt of di-iodo-phenol-sulphonic acid, $C_6H_2.OH.I_2.HSO_3$, in which one atom of mercury has replaced the hydrogen of the sulphonic acid group and of the phenol group, yielding the compound of  (L. Rosenthaler, Neue Arzneimittel, p. 110). Theoretically, it should contain 40.67 per cent. iodin and 32.06 per cent. mercury. This mercury compound is said to be insoluble in water, but soluble in solutions of chlorids, bromids or iodids. Examination of a specimen obtained from Merck & Co., indicated that the mercury and iodin content agreed essentially with the theory and its insolubility in water and solubility in a solution of iodids was also confirmed.

SOLUTION MERCURY SOZOIODOLATE

In the solution which was submitted for examination, sodium and mercury were the only metallic elements found. From an estimation of the mercury, the sodium and the iodin contents, it was concluded that 100 c.c. of the solutions contained approximately one gram of mercury sozoiodolate and somewhat less than three grams of sodium iodid. A solution obtained by dissolving one gram of mercury compound in three grams sodium iodid and sufficient water to make 100 c.c. corresponded closely in its chemical behavior and composition to the solution submitted for examination.

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[1] The Journal A. M. A., Sept. 15, 1906, p. 881; Sept. 5, 1908, p. 859; Dec. 5, 1908, p. 1990.

SOLUTION SODIUM MERCURIC IODID

When a mercuric compound is treated with alkali iodids, a complex salt, an alkali mercuric-iodid results (see New and Nonoffiial Remedies, 1909, page 94). If a mercurous compound is treated with iodid, some of the mercury is changed to alkali-mercuric iodid, and part is reduced to the metallic state. From this it would seem that when mercury sozoiodolate is dissolved in sodium iodid, the compound is decomposed and the solution contains sodium mercuric iodid. The behavior of the mercury sozoiodolate when in the process of solution appears in every way to confirm this. If this is the case, the question at once arises, why should not mercuric iodid be used in the place of the organic mercury compound, since the efficacy of mercuric iodid has been firmly established? With this in mind, a solution was prepared containing an amount of mercuric iodid approximately equivalent in mercury content to the 1 per cent. mercury sozoiodolate solution, viz.: mercuric iodid 0.8 gm., sodium iodid 3 gm., water sufficient to make 100 c.c. This solution was submitted to Dr. Church, who reports that preliminary trials indicate that the solution possesses all the advantages of the solution of mercury sozoiodolate.

This matter is published in the hope that others who are interested in the subject and who have had unsatisfactory results with other mercury solutions may give this formula a trial:

℞.	gm. or c.c.			
Hydrargyri Iodidi Rubri...............		8		gr. xii
Sodii Iodidi	3		or	gr. xlv
Aquæ	100			f℥ iiss

The solution may be prepared by any competent pharmacist and the physician will be certain of its mercury content. If this solution is well borne and is therapeutically equal to the solution of mercury sozoiodolate, it again illustrates the frequently demonstrated fact that a complex organic compound is not necessarily superior to a well-known drug of firmly established value. In the case under discussion, physicians have presumed that they were using a new and wonderful mercury compound, when in reality the process of dissolving the drug had decomposed it into the well-known mercuric iodid.

COUGH MEDICINES

The Composition of Some Much Advertised Secret Cough Remedies

In another of its series of articles on "Secret Remedies," the *British Medical Journal*, Dec. 5, 1908, p. 1697, deals with the composition of a few of the most widely advertised cough medicines. The analysis of cough mixtures is not easy, as many of the ingredients used are devoid of definite active principles that can be identified. The formulas, even if they are given, do not necessarily represent the actual ingredients. The discovery of potent remedies, such as preparations of opium, ipecacuanha, etc., is more important and more likely to be successful.

KAY'S LINSEED COMPOUND

According to the analyses, this preparation is fairly represented by ipecacuanha wine, 42 minims; morphin 1/7 grain; chloroform 5 minims in each fluid ounce.

OWBRIDGE'S LUNG TONIC

This much-advertised "patent medicine" is a similar preparation to Kay's Linseed Compound.

POWELL'S BALSAM OF ANISEED

This has been reputed to contain morphin and evidence has been brought to that effect in legal proceedings, but the analyses showed 0.012 per cent. of an alkaloid which was not morphin, although it may have been one of the derivativ of that alkaloid. It is evident that the composition of th remedy has been changed.

DR. KILMER'S INDIAN COUGH CURE

Analysis of this nostrum, which is manufactured in th United States, showed that 100 parts contained 63 parts c solids, of which practically the whole was sugar; there wa also present about 2 per cent. of alcohol and about 0.5 p cent, of oil of pine, with rather less than 0.1 per cent. of resinous substance agreeing well with the resins from compound tincture of benzoin; a small resinous deposit also r mained adhering to the inside of the bottle. A trace of bitter yellowish substance was present, which may have bee the aloes contained in the compound tincture, but did n agree perfectly with it in character; the quantity was to minute for exact identification. No alkaloid was present.

CROSBY'S BALSAMIC COUGH ELIXIR

Analysis showed the presence of sugar, a trace of chlor form, sulphuric acid, acetic acid; a trace of an aromat substance probably derived from tolu, and a minute trace alkaloid. The sulphuric acid corresponded to 40 minims the official dilute sulphuric acid in one fluidounce.

VENO'S LIGHTNING COUGH CURE

This "patent medicine" contained glycerin, alcohol and small amount of resin and no alkaloid was present. The is some reason to believe that the resin is derived fro "Grindelia robusta"; but positive proof of the presence of th drug could not be obtained.

KEATING'S COUGH LOZENGES

These were found to correspond approximately to the fo lowing formula: Morphin, 0.007 grain; ipecacuanha, 0.0 grain; extract of licorice, 2.1 grains; sugar, 13 grains in o lozenge.

BEECHAM'S COUGH PILLS

The composition of these pills is expressed as follow Morphin, 0.0035 grain; powdered squill, 0.1 grain; powder aniseed, 0.3 grain; ammoniacum, 0.3 grain; extract of lic rice, 0.4 grain in one pill.

MEDICINE VS. PHARMACY

The Relations Existing Between the Professions

Under the above caption Dr. M. Clayton Thrush, in t *Pharmaceutical Era* (Dec. 24, 1908), details the relations th he believes should exist between the professions of medici and pharmacy, and he makes suggestions for the removal differences that have arisen. In discussing the origin of bo medicine and pharmacy, Dr. Thrush reminds us that disea used to be looked on as a malign entity, to be driven out the body by means of noises, odors and contortions. relics of these primeval beliefs, we still in nervous diseas employ foul-smelling drugs (valerian, asafetida, etc.) a the modern "osteopath" supplies the contortions. After d cussing pharmacy from the business side, the problem of p ularizing official preparations is dealt with.

POPULARIZING OFFICIAL PREPARATIONS

"The pharmacists of this country are largely to blame the enormous use of proprietaries instead of official prepa tions, for if every pharmacist would make up a line of official drugs, especially the newer preparations of the U. Pharmacopeia and National Formulary, and would call on physicians in the neighborhood and show them these prepa tions, leaving a sample of each, he would be surprised w the result that would be produced. After all, this is noth more than his duty as a pharmacist, and he would be dou rewarded: First, in showing his ability as a pharmaci second, in encouraging the physician to prescribe official pr arations instead of proprietaries; third, in increasing the of friendship that should exist between physician and ph macist."

The question of pharmaceutical legislation is then d with, and the pharmacist is urged to belong to his state national organizations. As for the relation of the physician to the pharmacist and *vice versa*, Dr. Thrush says:

RELATIONS OF PHYSICIAN AND PHARMACIST

"Two things have contributed largely towards harmonizing the two professions, viz.: the work of the Council on Pharmacy of the American Medical Association which is composed of physicians and pharmacists, and the branch meetings in the larger cities of the American Pharmaceutical Association where physicians and pharmacists meet and discuss matters on a common basis. They have done considerable good and their results are being realized throughout the United States."

From the physician's standpoint, the most important causes of lack of harmony between the two professions are: 1. Counter prescribing; 2, incompetency; 3, the indiscriminate renewal of prescriptions against the physician's orders; and, 4, the "pushing" of nostrums. On the other hand:

THE PHARMACIST'S VIEW

"The most important accusation that the pharmacists advance against the physician is the dispensing of his own medicine, and this applies chiefly to the compressed tablet and tablet triturate business. Except in the country districts where the physician is compelled by necessity to dispense his own medicines, the physician, according to the pharmacist's ideas, should not dispense, as every time he dispenses means, of course, that much less prescription work for the pharmacist. . . . There are several factors that cause him to commence dispensing. These are important ones that are usually advanced:

"*Competition.*—A young practitioner settles in a certain ocality and attempts to write prescriptions for his practice; e soon learns that the other doctors in the vicinity give their nedicines with each visit, and in order to compete on the ame footing, he is compelled to do as they do. The homeoaths have always furnished their own medicines.

"*Exorbitant prices charged by some druggists.*—Many drug-ists in attempting to grow rich quickly, charge exorbitant rices for their prescription work and the physician who has rescribed the medicine often suffers as a result.

"*Emergency work, especially at night.*—For emergency work very physician should carry at least a few remedies in a mall pocket case or hypodermic outfit.

"*The physician has better control of the patient.*—If he rnishes his own medicine he gives enough to last a certain umber of days when the patient returns to him, while, on e other hand, if he writes a prescription the patient can re-ew it indefinitely and even give it to his neighbors, unless e physician specifies 'not to renew without a written rder.'"

VASOGEN AND IODOVASOGEN

nother Case in Which Independent Analyses and Manufacturers' Labels Disagree

Vasogen, a product of Pearson & Company, Hamburg, Ger-any, has been put on the market under the various desig-tions, "oxygenated vaseline," "water-soluble hydrocarbon" nd "oxygenated hydrocarbon." The manufacturers, and also eir American agents, Lehn & Fink, claim that by a special ocess the apparent impossibility of saponifying petrolatum s been overcome with vasogen as the result. Disinterested emists who have analyzed vasogen find that the product nsists essentially of an ammonium soap and petrolatum—actically an ammonia liniment mixed with petrolatum.

Just as petrolatum under its various trade names was at e time recommended as a universal ointment base, so vaso-n is recommended promiscuously as a vehicle for remedies plied externally and even for internal medication—needless say in many cases in which it is directly contraindicated.

Iodovasogen, recommended for external application as a bstitute for tincture of iodin, was examined by Zernik 1905, who found that the iodin existed not as a free lin, but chiefly as ammonium iodid. The therapeutic char-er of the preparation is thus entirely different from that be inferred from the labels and elsewhere, since the counter-itant effects of free iodin are of course absent in am-nium iodid. Pearson & Co. now claim that when Zernik's lings were published they immediately modified their statements on the label in accordance with the truth. This is denied by Dr. Lungwitz, the editor of the *Therapeutische Rundschau* (*Apotheker Zeitung*, 1908, p. 900), who vigorously criticizes the misrepresentation made by Pearson & Co. in regard to iodovasogen. He calls attention to the fact that, while Zernik's results were published over three years ago, the labels which are in use to-day still bear the statement that iodovasogen consists of vasogen 90 parts and resublimed iodin 10 parts, and vasogen 94 parts and resublimed iodin 6 parts, respectively.

As iodovasogen and vasogen in various combinations, are being advertised to the physicians in the United States, the above information from our German exchanges is worthy of consideration.

Nostrums for Diabetes

According to the *British Medical Journal*, Dec. 26, 1908, not many preparations are advertised for the cure of diabetes. Two nostrums of this type were analyzed and, as is usual in such cases, were found to be mixtures of well-known ingredients, none of which can be supposed to produce the wonderful results claimed in the advertisements.

VIN URANÉ PESQUI'S (PESQUI'S URANIUM WINE)

This nostrum proved to be a very ordinary Bordeaux wine each 30 c.c. (1 fluidounce) of which contained uranium equivalent to 0.0055 gm. (1/12 grain) of the nitrate. Although the manufacturers claim that pepsin is added to the wine, no digestive power whatever on egg albumin could be detected.

DILL'S DIABETIC MIXTURE

Analysis of this preparation yielded results indicating the following formula: sodium bicarbonate, 7.4; extract of hydrastis, 1.5; resin, resinoid and other extractives, 2.2; alcohol, 35; water to 100. According to the advertisements this mixture is "the only known remedy for this deadly disease." "The remedy, it is needless to say, will have to be persevered with. These are deadly diseases and must have time." The price is $2 and the estimated cost, 22 cents.

Toxicity of Lysol

To the Editor:—In a pamphlet sent out by Lehn & Fink on lysol, the following statement appears: "Applied to the surface in full strength, no injury results." This statement I believe to be incorrect. Early this year, having a patient with an infected finger, I gave directions for a moist dressing of a solution of lysol. The patient applied the lysol full strength on a gauze compress. The result was severe burning pain, and although the press was removed within an hour, sloughing of the skin followed over the entire surface of the finger covered by the compress. I called the attention of a representative of the company to the inaccuracy of the firm's statement, but no change has been made. I wish the readers of THE JOURNAL to profit by my experience.

C. D. HARRINGTON, Minneapolis.

COMMENT.—Extravagance and exaggeration of statement are characteristic of most proprietary promoters, and constitute one of the worst evils of the proprietary medicine business, for physicians no less than laymen are misled thereby. The power of phenol (carbolic acid) to cause gangrene is well known and the cresols—of which lysol contains 50 per cent.—have in general the properties of the phenols. Lysol has taken the place of phenol (carbolic acid) as a means of suicide in Germany, where until lately it has been more easily procured than carbolic acid. The effects of undiluted lysol on the stomach are those of a corrosive poison and similar effects may be expected on the external surface of the body in cases in which the skin does not form an efficient protection. The statement of the circular is unwarranted and the moral, if not the legal, responsibility for the untoward consequences resulting therefrom lies at the door of those making it. If, instead of the patient, our correspondent had ventured on the strength of the advertisement to recommend the application of the preparation undiluted, he might perhaps have been made a party to a malpractice suit, and he would not be able to throw the responsibility on the manufacturer who made the statement.

Correspondence

Bill Affecting Expert Testimony in New York State

To the Editor:—I enclose herewith a true copy of the proposed bill affecting expert testimony, which was recently adopted by the Medical Society of the State of New York on the report of the committee appointed one year ago to act with a similar committee appointed by the New York State Bar Association. The committee of the bar association after joint session with our committee recommended to the state bar association its adoption. It was adopted unanimously after free discussion and it is now ready to be introduced into the legislature of this state.

The committee of the Medical Society of the State of New York desires the cooperation of the medical profession and the journals representing the medical thought of this country. The committee believes that the time is ripe for a determined effort to be made, having for its object the stamping out of the almost intolerable conditions surrounding expert evidence today. The active cooperation of the bar of this state is now assured.

There is no doubt but that some members of the bar, and possibly some members of the medical fraternity, will be opposed to the adoption by the legislature of this method or any other looking toward improvement in the present conditions surrounding medical expert testimony.

It is possible that this bill is not perfect. We know that there are several things that could be added to it in order to make it a perfect bill, but we do not believe that a complicated measure can be made a law.

The enclosed bill is simple and concise and there is no opportunity of mistaking its provisions.

Owing to a mistake of the associated press representative the wrong bill was published in the daily papers as being the one adopted by the Medical Society of the State of New York and the New York State Bar Association.

We ask that the matter be taken up in The Journal and given the benefit of editorial cooperation on this subject.

Dwight H. Muncy.

Chairman Committee on Expert Testimony of the Medical Society of the State of New York.

An Act to Regulate the Introduction of Medical Expert Testimony

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section I. Within ninety days after this act shall take effect the justices of the supreme court assigned to the appellate division thereof in the several departments, shall designate at least ten and not more than sixty physicans in each judicial district who may be called as medical expert witnesses by the trial court or by any party to a civil or criminal action in any of the courts of this state, and who when so called shall testify and be subject to full examination and cross-examination as other witnesses are. Any designation may at any time be revoked without notice or cause shewn, and any vacancy may at any time be filled by the justices sitting in the appellate division.

Sec. II. When so directed by the trial court witnesses so called shall receive for their services and attendance such sums as the presiding judge may allow, to be at once paid by the treasurer or other fiscal officer of the county in which the trial is had.

Sec. III. This act shall not be construed as limiting the right of parties to call other expert witnesses as heretofore.

Sec. IV. This act shall take effect Sept. 1, 1909.

Impressions of America.—Many foreign exchanges publish articles by scientists who had attended the International Tuberculosis Congress at Washington. Krause (*Med. Klinik*, January 10) remarks that he never heard so many fine and witty dinner speeches as at the various banquets he attended. He deplores the ice-cold beverages. Even the physicians drank them. "No wonder," he adds, "that there are so many dyspeptics in America." He cast an envious eye on the university ball grounds, gymnasium and swimming tank at Philadelphia. He remarks that the measures adopted against tuberculosis in this country do not differ materially from those in vogue in Europe, but that Biggs' arrangements for notification of cases of tuberculosis (New York) are absolutely ideal, and he wishes that German cities had such a faultlessly working institution

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

THE PATIENT'S RIGHT TO CHANGE HIS PHYSICIAN

To the Editor:—A few weeks ago a well-known neurologist saw a case of paralysis agitans with me in consultation, and we agreed on a line of treatment which I at once instituted. By chance I met the consultant at a medical dinner, recently, and he informed me that my patient had consulted him that day and that he had given the patient some medicine to overcome melancholia. 1. Does a consultant act within ethical rules when he advises a patient without first attempting to reach the attending physician? 2. Does the fact that the patient prefers the consultant to his former physician relieve the consultant from all suspicion of hunting on the preserves of the general practitioner? My experience has been, during the past twenty-five years, that consultants have very elastic consciences.

Inquirer, Chicago.

Answer.—1. Assuming the facts to be as stated, the consultant did wrong in prescribing for the patient without either (1) a consultation with the attending physician; (2) a request or permission from that physician to do so; or (3) an express statement from the patient that he had notified his former physician of his intention of placing himself in future entirely under the care of the consultant. In the absence of such assurance, medical advice (save in a dangerous emergency, such as does not appear on the face of the evidence in this case) should have been refused until after that course had been adopted.

2. As to the suspicion that such a transfer necessarily implies a "hunting by the consultant on the preserves of the general practitioner," it may be remarked that to suppose that, because a patient transfers his allegiance, he must necessarily have been unduly influenced by the one to whom he transfers it, is to credit human beings with less initiative of their own than they usually possess. Moreover exception must be taken to the idea involved in the expression "the preserves of the general practitioner." So far as the patient is concerned, it must be remembered that he has a right to change his physician as often as he pleases for any reason, good, bad or indifferent, or even for no reason at all, provided only that he is frank about it with his previous physician. It is, however, an obligation on every honorable physician, when consulted under such circumstances, to ascertain whether such a frank and courteous notice of withdrawal has been given to the attending physician, and in default thereof, to insist on that course being taken prior to taking charge of the case.

The fact that the former patient "prefers the consultant to his former physician," of course can not "relieve the consultant from suspicion" of unfair procedure, but neither is it *per se* justifiable ground for arousing it. Every act of every individual may arouse, on the part of those prone to suspect, a suspicion of improper motives. The real question is, what reasonable grounds exist for such suspicion? These must be one or both of the following: (1) Knowledge as to the disloyal character, generally, of the person suspected; (2) knowledge of circumstances tending to show that the action suspected actually took place. In the absence of one of these factors there should not exist, in a right-minded person, any suspicion requiring to be relieved.

PRACTICAL BOOKS ON UP-TO-DATE BACTERIOLOGY

To the Editor:—In these days of the making of books it is not often that the general practitioner has a chance to ask for more or for a new kind, and yet I believe that there is a serious lack of works on a very important subject—vaccine therapy; and this has come about from the rapid rise of interest in this form of treatment. The book needed is a clinical bacteriology; one that will tell briefly the identity of the one or more varieties of micro-organisms which commonly produce the various forms of disease we are called every day to treat. Suppose, for example, I wish to treat a case of bronchopneumonia, or of suppuration of the middle ear, by the vaccine method; I am at a loss to know what vaccine to use, and even when I am prepared to make a vaccine from the flora found in the sputum or discharge, I do not know which of the various organisms present is the principal offender.

If such a book exists I shall be glad to hear of it, and I feel sure that there are others in the same position as I find myself in this matter.

Henry Power, Spokane, Wash.

HYPEREMIA IN GYNECOLOGY

To the Editor:—In Dr. Arthur Stein's article on the above subject (The Journal A. M. A., Jan. 23, 1909), he says: "In such cases it is best to stop the treatment and try to bring about an absorption of the pus by other means." Later he says: "Pus when present must always be evacuated by surgical means." I fancy the readers of Dr. Stein's article will acquire a very hazy idea of what he considers the proper method of handling pus in the pelvis. I suspect that his attitude is a soundly scientific one, but he is self contradictory in his article. May I ask for enlightenment? Pus in the pelvis is a very important condition and not to be considered lightly or in an off-hand fashion. My own views as to dealing with such conditions are pretty well crystallized, but the general practitioner's notions are not likely to be very definite if he is handed out loosely constructed literature on the subject.

G. Frank Lydston, M.D., Chicago.

[Proof of the above was submitted to Dr. Stein, who replies as follows:]

It is to be regretted that this is another instance in which individual sentences have been selected to prove just what the author does not mean. That the writer of the above may obtain the enlightenment he requests I beg of him to reread the entire parāgraph from which he has quoted. In the sentence preceding the one mentioned I spoke of "an old encapsulation of pus somewhere in the inflammatory process, *one that has not been detected by the finger of the examiner.*" I do not believe that there can be any possibility of a misunderstanding, as I spoke only of old, chronic suppurative inflammations where, as experience proves, surgical interference is not indicated. These are the cases in which even after repeated probatory puncture one may only obtain a few drops of a thick and usually sterile pus. Such cases are universally treated conservatively. If in the same paragraph I suggested following the old surgical adage, "ubi pus ibi evacua," I depended on the reader's intelligence still to remember the beginning of the paragraph and the words "not been detected." On the other hand, when a fluctuating abscess is distinctly felt, one would naturally incise and drain without hesitation.

BOOKS ON HYPNOTISM, SUGGESTION AND PSYCHOTHERAPY

To the Editor:—Please give me a list of authoritative books on hypnotism and suggestion. J. E. B. Ziegler, Baltimore.

Answer.—A list of the more important works on hypnotism and nental suggestion was published in The Journal, Feb. 29, 1908, . 710. To this list may be added the following:

Tuckey, C. L.: "Hypnotic Suggestion." G. P. Putnam's Sons, New York. $3.00.

Mason, O.: "Hypnotism and Suggestion." H. Holt, 29 W. Twenty-third St., New York. $1.50.

Moll, A. "Hypnotism." Charles Scribner's Sons, New York. $1.50.

Emmanuel Movement: "Religion and Medicine: The Moral Control of Nervous Disorders," Worcester, McComb and Coriat. Moffat, Yard & Co., New York. $1.50.

Any one seriously taking up the study of mental therapeutics hould certainly read the last-named book, altogether independently f his views on this much discussed movement. In addition to the oregoing the following articles may prove of assistance:

Barker, L. F.: "Psychotherapy," The Journal, Aug. 1, 1908, p. 368.

Edes, R. T.: "Present Relations of Psychotherapy," The Journal, Jan. 9, 1909, p. 92.

Achorn, J. W.: "Habit Cure; Mental and Physical," *Boston Medical and Surgical Journal*, Aug. 22, 1907, p. 260.

Mills, C. K.: "Psychotherapy; Its Scope and Limitations," *Monthly Cyclopedia and Monthly Bulletin*, July, 1908.

Scripture, E. W.: "Detection of Emotions by the Galvanometer," The Journal, April 11, 1908, p. 1164.

Scripture, E. W.: "Experiments on Subconscious Ideas," The Journal, Feb. 16, 1908, p. 521.

A working knowledge of the methods of modern psychology rms a good groundwork for the study of suggestive therapy. A seful book on this subject is "Thinking, Feeling, Doing," by E. W. ripture, G. P. Putnam's Sons, New York, 1907.

INJURY TO EYE FROM TUBERCULIN REACTION

To the Editor:—Please cite references to literature giving inances in which the eye was permanently injured as a result of ing tuberculin in the ophthalmic reaction.

F. P. Calhoun, M.D., Atlanta, Ga.

Answer.—The following articles may be referred to, as giving ses of permanent injury or extremely severe reaction:

Clark, C. P.: The Journal A. M. A., June 20, 1908, p. 2061 (gives a summary of cases in which severe reaction occurred).

Collin, R.: Drawbacks and Dangers of the Ocular Tuberculin Reaction, *Med. Klin.*, Feb. 2, 1908.

Delorme (in discussion on Calmette's paper): *Bull. de l'Acad. de méd.*, lxxii, Jan. 21, 1908.

Eisen, P.: *Beitr. z. Klin. d. Tuberk.*, 1907, viii, 4.

Feer, E.: *München med. Wchnschr.*, Jan. 7, 1908.

Goerlich, M.: Is the Conjunctival Reaction Free from Danger? *München med. Wchnschr.*, June 30, 1908.

Kalt, M.: *Ophthalmoscope*, Dec. 1, 1907.

Napier, A.: *Glasgow Med. Jour.*, January, 1908.

Rosenau, M. J., and Anderson, J. F.: The Ocular Reaction to Tuberculin: A Warning. The Journal A. M. A., March 21, 1908, L, 961.

Satterlee, E. R.: The Journal A. M. A., June 27, 1908, L, 2133.

Török: Ophth. Sect. N. Y. Acad. Med., May 19, 1908.

Trousseau: *Jour. de méd. et de chir. prat.*, Jan. 10, 1908.

Von Durme and Stocke: *Presse méd.*, March 14, 1908.

Weber, F. P.: *Deutsch. med. Wchnschr.*, Feb. 20, 1908, xxxiv, No. 8.

Webster and Kilpatrick: *Brit. Med. Jour.*, Dec. 7, 1907.

Wiens and Gunther: *München. med. Wchnschr.*, Dec. 24, 1907.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 6, 1909:

Hoff, J. VanR., col., ordered, upon expiration of present leave of absence, to Chicago, Ill., for duty as chief surgeon, Department of the Lakes.

Rand, I. W., major, ordered to duty at Fort DuPont, Del., on arrival in the United States.

Carter, E. C., lt.-col., ordered to Chicago for temporary duty as chief surgeon, Department of the Lakes.

Banister, J. M., lt.-col., ordered to Omaha for temporary duty as chief surgeon, Department of the Missouri.

Persons, E. E., capt., granted leave of absence for seven days.

Cox, Walter, Bispham, W. N., capts., relieved from duty in Philippines Division in time to sail April 15 for San Francisco.

Whitcomb, C. C., capt., granted leave of absence for four months on arrival in United States from Cuba.

Van Dusen, J. W., capt., relieved from duty at Fort Crook, Neb., and ordered to Fort Riley, Kan., for duty.

Frick, E. B., major, ordered to Fort McDowell, Cal., for duty on return from Cuba with troops.

Duval, D. F., major, ordered to Fort Sill, Okla., for duty on return from Cuba with troops.

Hess, L. T., major, ordered to Fort Leavenworth, Kan., for duty on return from Cuba with troops.

Gilchrist, H. L., major, ordered to Fort Omaha, Neb., for duty on return from Cuba with troops.

Shook, J. R., capt., ordered to Chicago for duty as attending surgeon on return from Cuba with troops.

Bartlett, C. J., capt., ordered to Fort Andrews, Mass., for duty on return from Cuba with troops.

Truby, W. F., major, ordered to Fort Bayard, N. M., for duty at the Army General Hospital, on return from Cuba with troops.

Murray, Alex., capt., relieved from duty with the Isthmian Canal Commission; granted leave of absence for three months.

Blanchard, R. M., capt., ordered to accompany troops from Fort Sheridan, Ill., to San Francisco.

Thomason, H. D., capt., granted leave of absence for one month.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Feb. 6, 1909:

Nash, F. S., surgeon, detached from the Naval Academy and ordered home to wait orders.

Dessez, P. T., P. A. surgeon, ordered to the *Denver*.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 3, 1909:

Stoner, G. W., surgeon, granted 2 days' leave of absence from Jan. 29, 1909, under paragraph 189, Service Regulations.

Wertenbaker, C. P., surgeon, directed to proceed to Raleigh, N. C., on special temporary duty.

Nydegger, James A., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners to determine his fitness for promotion to the grade of surgeon.

Warren, B. S., P. A. surgeon, granted 10 days' leave of absence from Jan. 27, 1909.

Salmon, Thomas W., P. A. surgeon, granted 30 days' leave of absence from Feb. 1, 1909.

Marshall, E. R., asst.-surgeon, granted 2 days' leave of absence from Feb. 11, 1909.

Preble, Paul, asst.-surgeon, granted 73 days' leave of absence from Oct. 26, 1908, on account of sickness.

Kastle, Joseph H., chief division chemistry, hygienic laboratory, granted 11 days' extension of leave of absence from Jan. 2, 1909, on account of sickness.

BOARD CONVENED

Board of medical officers convened to meet at the bureau Feb. 1, 1909, for the examination of P. A. Surgeon James A. Nydegger, to determine his fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General J. M. Eager; Surgeon W. P. McIntosh, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Feb. 5, 1909:

SMALLPOX—UNITED STATES

Alabama: Mobile, Jan. 16-23, 1 case, imported; Mobile county, Jan. 31, 5 cases.

California: Los Angeles, Jan. 9-16, 2 cases.

Illinois: Danville, Jan 17-24, 1 case.

Indiana: Elkhart. Jan. 16-23, 2 cases; Fort Wayne, Jan. 9-16, 1 case; Indianapolis, Jan. 17-24, 1 case; Lafayette, Jan. 18-25, 2 (9) cases.

Kansas: Kansas City, Jan. 16-23, 1 case; Topeka, Jan. 9-23, 15 cases.

Kentucky: Covington, Jan. 16-23, 2 cases; Lexington, Jan. 16-23, 6 cases.

Louisiana: New Orleans, Jan. 16-23, 1 case; Shreveport, Jan. 1-20, 32 cases, 1 death.

Maine: Van Buren, Jan. 16-23, 8 cases.

Maryland: Baltimore, Jan. 31, 1 case, imported.

Minnesota: Duluth, Jan. 14-21, 1 case, imported.

Ohio: Cincinnati, Jan. 8-22, 49 cases, 1 death; Tiffin, Jan. 16-23, 1 case.

Pennsylvania: Harrisburg, Dec. 18-29, 3 cases.

Tennessee: Nashville, Jan. 16-23, 6 cases.

Texas: Laredo, Feb. 4, 1 case; San Antonio, Jan. 16-23, 4 cases.

Virginia: Lynchburg, Jan. 16-23, 1 case.

Washington: Tacoma, Jan. 3-17, 17 cases.

Wisconsin: La Crosse, Jan. 16-23, 3 cases; Manitowoc, 1 case; Milwaukee, Jan. 9-23, 40 cases.

SMALLPOX—FOREIGN

Australia: New Castle,. Nov. 23-30, 1 case.

Brazil: Para, Dec. 26-Jan. 9, 2 cases, 3 deaths; Rio de Janeiro, Dec. 13-27, 253 cases, 111 deaths.

Canada: Halifax, Jan. 9-16, 4 cases; Hamilton, Jan. 16-23, 1 case.

Chile: Talcaguana, Jan. 2, present.

China: Amoy, Dec. 12-19, present; Shanghai, Dec. 5-12, 2 cases.

Greece: Athens, Dec. 26-Jan. 2, 1 death.

India: Bombay, Dec. 22-29, 4 deaths; Calcutta, Dec. 5-12, 6 deaths; Rangoon, Dec. 12-19, 1 case.

Indo-China: Saigon, Dec. 1-19, 4 cases, 2 deaths.

Italy: General, Dec. 27-Jan. 10, 19 cases.

Mexico: Monterey, Jan. 10-17, 1 death; Veracruz, Jan. 2-9, 1 case.

Netherlands, The: Rotterdam, Jan. 9-16, 1 case.

New Foundland: St. Johns: Jan. 16-23, 1 case, vessel.

Peru: Lima, Dec. 24, 8 cases, in Lazaretto.

Russia: Moscow, Dec. 9-16, 13 cases. 7 deaths.

Siberia: Vladivostok, Dec. 13-20, 1 case.

Spain: Valencia, Dec. 26-Jan. 9, 7 cases; Viga, Dec. 26-Jan. 2, 2 cases.

Turkey: Constantinople, Dec. 27-Jan. 10, 8 deaths.

YELLOW FEVER

Brazil: Bahia, Feb. 1, epidemic; Manaos, Dec. 12-19, 1 death.

Dutch Guiana: Paramaribo, Dec. 18-Jan. 2, 21 cases, 6 deaths.

Mexico: Merida, Jan. 9-16, 2 cases; San Bernardino, vicinity of Mexcanu, Jan. 9-16.

CHOLERA

India: Bombay, Dec. 22-29, 18 deaths; Calcutta, Dec. 5-12, 10 deaths.

Russia: St. Petersburg, Jan. 13-15, 67 cases, 22 deaths.

PLAGUE

Brazil: Bahia, Feb. 1, epidemic; Rio de Janeiro, Dec. 11-27, 15 cases, 9 deaths.

Chile: Iquique, Dec. 28, 1 case.

India: General, Dec. 12-19, 2.449 cases, 1.788 deaths; Bombay, Dec. 22-29, 4 deaths; Calcutta, Dec. 5-12, 9 deaths; Rangoon, Dec. 12-19.

Peru: General, Dec. 18-24, 30 cases, 20 deaths; Callao, Dec. 24-Jan. 2, 2 cases, 1 death; Lima, 3 cases, 2 deaths.

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of January, 1909:

ALABAMA

Atwood, A. L., Birmingham.
Batson, D. C., Gants Qnarry.
Clements, H. C., Benton.
Frazier, Alfred S., Thomastou.
Rucker, Jr., E. W., Birmingham.

ARIZONA

Alexander, R. L., Tempe.
Armstrong, J. J. P., Douglas.
Bechtel, A. D., Tucson.

ARKANSAS.

Biggs, Orvis E., Hot Springs.

CALIFORNIA

Campbell, G. E., Pasadena.
Hanlon, Edward W., Los Angeles.
Stephens, J. M., San Francisco.
Thompson, C. E., Dunsmuir.
Whitney, Jas. L., San Francisco.
Zelinsky, Frank, Los Angeles.

COLORADO

Blickensderfer, G. M., Denver.
Engelson, C. J., Denver.

CONNECTICUT

Rindge, Milo P., Madison.

DISTRICT OF COLUMBIA

Briggs, John B., Washington.
Callan, C. V. N., Washington.

FLORIDA

Denton, Jno. Thomas, Sanford.
Holden, Gerry R., Jacksonville.

GEORGIA

DuPree, D. H., Athens.

ILLINOIS

Aimone, John, Granville.
Cleminson, Haldane, Chicago.
Connell, Jas. A., No. Chicago.
Davis, Charles L., Robinson.
Dudley, Gerry B., Charleston.
Fair, F. F., Chicago.
Fischmann, E. W., Chicago.
Friesen, J. Frank, Chicago.
Hamilton, D. S., Chicago.
Lowenthal, Louis, Chicago.
Manning, Leonard, Chicago.
Oughton, Jas. H., Dwight.
Toner, T. J., Chicago.
Willits, I. R., Chicago.
Wyant, A. R. E., Chicago.

INDIANA

Allin, Jno. H., Corunna, Ind.
Carter, Jas. H., Seymour.
Elrod, S. B., Henryville.
Emmick, T. C., Mt. Vernon.
Glackman, J. C., Hatfield.
Lawson, W. T., Danville.
Lindenmuth, E. Oscar, Indianapolis.
Merz, Henry G., Ft. Wayne.
Murphy, N. W., Poseyville.
Nusbaum, Jay D., Auburn.
Small, Emery F., Decker.
Spilman, F. J., Connersville.
Staley, T. M., Bicknell.
Varble, W. Marshall, Gary.
Willis, J. Herbert, Evansville.
Wilson, Dalton, Yankeetown.

IOWA

Boyd, Frank E., Colfax.
Glann, R. C., Bronson.
Limbnrg, J. I., Farley.
McConkie, W. A., Cedar Rapids.
McDowell, W. O., Grundy Center.

KANSAS

Davis, J. T., Independence.
Edwards, J. B., Chanute.
Holt, T. T., Geuda Springs.
Hudibnrg, Walter S., Independence.
James, R. W., Winfield.
Kackley, L. B., Parsons.
Parrington, J. M., Emporia.
Rader, J. A., Caney.

KENTUCKY

Buntin, H. H., Carlisle.
Durrum, A. H., Myers.
Harper, J. H., Gimlet.
Hart, P. A., Murray.
Haston, Fred D., Rim.
Helms, Jas. E., Louisville.
Humphrey, P. S., Ashland.
Hunter, Sylvester G., Sandy Hook.
Malkin, G. Morris, Louisville.
Meredith, H. M., Scottsville.
Muster, B. A., Lyons.
Nolan, J. W., Holland.
Brennan, J. A. O., Louisville.
Rosenham, C. J., Louisville.
Sutton, K. P., Lewisburg.
Swango, S. S., Valeria.
Threlkeld, R. L., Louisville.
Whitlow, E. A., Scottsville.

LOUISIANA

Boaz, T. D., Juanita.
Knoefel, William R., Bonita.
Talbot, Paul G., New Orleans.

MAINE

Allen, George A., Lovell.
Floyd, A. E., E. Machias.
Loughlin, J. W., Round Pond.

MARYLAND

Bernheim, B. M., Baltimore.
Buxton, G. F., Baltimore.
Glantz, Frank A., Baltimore.
Hoopes, Fannie C., Baltimore.
Hyde, Harry C., Baltimore.
Koon, T. W., Cumberland.
Landers, A. E., Crumpton.
Love, Wiliam S., Baltimore.
McAvoy, M. J., Baltimore.
Muse, B. P., Baltimore.
Stabler, Augustus, Brighton.

MASSACHUSETTS

Barry, J. H., Boston.
Creeley, O. S., Watertown.
Harris, L. W., Malden.
Lancaster, W. B., Amherst.
Wells, Frank, Boston.
Young, W. H., E. Dedham.

MICHIGAN

Butler, S. A., Pontiac.
Dumbauld, D. F., Blissfield.
Eastman, C. W., Three Oaks.
Emerson, Enoch, Spring Arbor
Hancock, E. E., Coldwater.
Hodges, Lewis S., Tekonsha.
Hoyt, W. F., Paw Paw.
Hungerford, P. R., Concord.
Kar, H. S., Winona.
Knapp, H. D., Linden.
Lackie, D. J., Grindstone City.
McAlpine, A. D., Detroit.
McCue, Christopher, Goodells.
Metcalf, A. A., Hancock.
Mitchell, James, Gladstone.
More, George W., Ionia.
Peterson, E. S., Jackson.
Royer, W. A., Mendon.
Scoville, B. P., Constantine.
Spicer, W. E., Jackson.
Springer, Menno, St. James B. I.
Strahan, D. H., Pewamo.
Sugnet, W. J., Gagetown.
Van Antwerp, S. C., Vicksburg.
Weeks, Robert E., Augusta.
Wiggers, Carl J., Ann Arbor.
Winchell, G. P., Ionia.

MINNESOTA

Gordon, David, Albert Lea.
Johnson, H. Amanda, Minneapolis.
Kusske, A. L., Sanborn.
MacDonald, I. C., Minneapolis.
Magnusson, H. V., Minneapolis.
McEachran, A., Minneapolis.
Weiser, G. B., New Ulm.

MISSISSIPPI

Longino, J. G., Jonestown.
Martin, L. H., Hattlesburg.
Weissinger, A. J., Hernando.

MISSOURI

Ambrose, O. A., St. Louis.
Bonnot, Edmond, St. Louis.
Boyd, J. R., Springfield.
Brown, George S., Edina.
Bruce, J. R., Marshfield.
Bunch, R. J., St. Louis.
Calhoun, J. G., St. Louis.
Fischer, W. E., St. Louis.
Grimes, Marvin, Hardin.
Mayfield, M. H., Springfield.
Oehler, E. F., St. Louis.
O'Reilly, J. A., St. Louis.
Rotter, C. F., St. Louis.
Thompson, G. R., St. Joseph.
Vandivert, A. H., Bethany.
Wentker, B. P., St. Charles.

MONTANA

Buchen, F. E., Hamilton.
Clancy, D. F., Virginia City.

NEBRASKA

Detwiler, A. K., Omaha.
Stewart, Alfred J., Mitchell.

NEVADA

Rhyan, W. W., Goldfield.

NEW JERSEY

Barber, Isaac, Phillipsburg.
Davis, L. R., Newark.
Emory, G. B., Newark.
Parry, Edward, Camden.
Stinson, Richard, Paterson.
Sullivan, M. J., Englewood.
Ward, L. A., Camden.

NEW MEXICO

Priest, Howard, Fort Bayard.
Sunderland, W. E., Estancia.

NEW YORK

Adams, J. L., New York City.
Benjamin, W. C., Almond.
Berk, A. B., New York City.
Bowerman, E. A., Buffalo.
Buck, Francis D., New York City.
Castelli, Alfonso, New York City.
Druskin, S. J., New York City.
Fitzgerald, F. J. C., New York City.
Fried, G. A., New York City.
Graney, Charles D., LeRoy.
Hubbell, G. L., Hobart.
Keeler, J. W., Jr., Hammondsport.
Kepke, John, Brooklyn.
Noehren, A. H., Buffalo.
North, C. E., New York City.
Orchard, N. G., Rochester.
Potter, Alfred, Brooklyn.
Prentiss, R. N., Brooklyn.
Pumyea, P. C., New York City.
Rogers, E. H., New York City.
Rosanoff, A. J., Kings Park.
Schoenenberger, F. J., New York City.
Stoup, R. J., Syracuse.
Walker, H. D., Buffalo.

OHIO

Austin, Mary L., Gallipolis.
Bachman, U. M., Cleveland.
Bode, Mildred J., Cincinnati.
Bruening, A. H., Cleveland.
Crawford, G. M., Lorain.
Gunsolly, William N., Cleveland.
Heberding, John, Youngstown.
Ireland, William E., Washington C. H.
Hunt, M. L., Akron.
Knoop, E. T., Cincinnati.
Kranse, C. R., Cleveland.
Moore, Jesse M., Cleveland.
Wheatley, W. E., Lorain.
Townsend, C. E., Steece.

OKLAHOMA

Austin, J. L., Durant.
Byrum, James M., Shawnee.
Graves, William C., McAlester.
Ogden, William H., McAlester.
Reeves, W. B., Wapanncka.
Smith, J. B., Durant.
Swearingin, C. H., Hugo.
Wallace, W. J., Oklahoma City.
Weir, M. W., Oklahoma City.
Welsh, S. H., Dacoma.

OREGON

McArthur, J. H., Portland.

PENNSYLVANIA

Atkins, G. H., Philadelphia.
Balsinger, W. E., New Castle.

Blakeslee, W. H., Philadelphia.
Cadwalader, J. S., Wexford.
Custer, Ella B., Philadelphia.
Davis, Fannie, Oil City.
Gulick, Esther W., Stroudsburg.
Hartman, W. L., West Pittston.
Hunsicker, Hannah M., Philadelphia.
Ingraham, S. C., Philadelphia.
Janvier, G. V., Royersford.
Levengood, B. B., Bellwood.
L'Amoreaux, S. H., Strondsburg.
Ludy, J. B., Stroudsburg.
Mershon, O. F., Philadelphia.
Miller, N. C., Stroudsburg.
Wiley, H. E., Philadelphia.
Zook, Joseph A., Belleville.

RHODE ISLAND

Fitzgerald, V. L., Providence.
Thompson, E. G., Providence.

SOUTH CAROLINA

Sawyer, Olin, Georgetown.

SOUTH DAKOTA

Housman, W. M., Dell Rapids.

TENNESSEE.

Hill, Charles L., Nashville.
Noblitt, B. E., Fayetteville.
Sallba, J. A., Athens.

TEXAS

Currie, James D., Paluxy.
Davis, R. L., Princeton.
Fuller, T. E., Texarkana.
Lanham, H. M., Waco.
Morton,. G. V., Ft. Worth.
Naylor, S. D., Stephenville.
Weeks, W. R., El Paso.
Wiesh, Moses, El Paso.

VERMONT

Blodgett, J. H., Bellows Falls
Sprague, L. P., Burlington

VIRGINIA

Anderson, M. L., Richmond.
Davenport, W. L., Meadow View.
Holman, W. M., Lee.
Kent, J. L., Lynchburg.
Miller, F. C., Cobham.
Noblin, J. A., Roda.
Williams, J. R., Richmond.
Wright, R. H., Richmond.

WASHINGTON

Elmore, Bruce, Seattle.
Else, J. E., Pullman.
Harbison, J. G., Spokane.
McCormack, P. D., Spokane.

WEST VIRGINIA

Prichard, Karl C., Huntington.
Haning, N. A., Wheeling.
Nunemaker, Tunis, Williamson.

WISCONSIN

Addleman, I. M., Wausau.
Campbell, L. A., Clear Lake.
Darby, G. S., Brodhead.
DeVoe, Charles A., Rosendale.
Donaldson, G. F., Shiocton.
Gleason, C. M., Manitowoc.
Irvine, Wesley, Manawa.
Krueger, Bernard., Cudahy.
Layton, O. M., Fairwater.
Martens, Wm. A., New Holstein.
Sartell, E. N., Hancock.
Schmidt, J. A., Brillion.
Smith, S. M., Milwaukee.
Thurtell, Herbert, Manitowoc.
Ward, J. P., Waukesha.
Wheeler, W. P., Oshkosh.

WYOMING

McDonald, G. E., Superior

Medical Economics

HIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Proposed State Legislation

During the past week the following bills have been reported o the Bureau of Medical Legislation:

INDIANA

S. B. 15 provides for sanitary school-houses and inspection f the buildings as well as for medical inspection of the hildren. This most important bill was introduced by Senator IcCarty, referred to the Committee on Education and favorbly reported. It provides that all school-houses which shall ereafter be constructed in the state must be on dry and wellrained sites not nearer than 500 feet to any steam railroad, oise-making industry, or to any unhealthful conditions. Good alks and suitable playgrounds must be provided. Buildings ust be dry, well-lighted and thoroughly fireproof, and must supplied with pure drinking-water from driven wells or her sources approved by the health authorities. Heating, ntilation, toilet facilities and out-houses are provided for. ny school trustees who shall build any school-house which olates the provisions of this law are liable to a fine of from 100 to $500, and any claim for material or construction of y school-house that does not in every respect comply with e law is declared void. Provisions are also made for the eaning of school-houses, for the medical inspection of school ildren, and for the use of text-books giving proper instruction in hygiene.

KANSAS

H. B. 135 to amend the existing laws regulating the purity the waters of the state, has been reported on favorably by committee on hygiene and public health. H. B. 301 is authorize an annual conference of state and local boards of alth. H. B. 124 provides for the regulation and inspection hotels and public lodging-houses. H. B. 196, to prohibit e sale or giving away of cigarettes and cigarette papers, has en reported on favorably. S. B. 209, to define the powers d duties of local health officers and boards of health in the evention of tuberculosis, has been reported on favorably by e senate committee on temperance and hygiene.

NEW HAMPSHIRE

H. B. 164 is to regulate the sale of narcotic drugs. H. B. 236 to amend the food and drugs law of 1907 by establishing certain standards. H. B. 237 is to regulate the production and distribution of food products and to specify the kind of buildings which can be used for this purpose. H. B. 260 provides for the appointment of one or more school physicians in every city and town. H. B. 331 provides for the establishment of dispensaries for the free treatment of indigent persons suffering from tuberculosis, such dispensaries to be established by the state board of health and to be used for the dissemination of knowledge regarding the prevention and cure of tuberculosis, the study of social and occupational conditions predisposed to its development and the continuation of research experiments for the establishment of immunity and cure. H. B. 341 is to amend the law relating to the sale of drugs and medicines by providing for reciprocity in issuing licenses to apothecaries and druggists. H. B. 402 provides for the inspection of barbershops. H. B. 409 provides that all drains and sewers in the state must be covered. H. B. 480 is to give authority to the State Board of Health to publish and distribute information and instruction and to make rules to prevent ophthalmia neonatorum in public hospitals or institutions and in the practice of licensed midwives. S. B. 11 is to amend the public school law regarding vaccination, providing that no child shall attend any school in the state unless he has been vaccinated, has had smallpox, has submitted to the process of vaccination not less than three times, or holds a certificate of a registered physician that he is an unfit subject for vaccination.

OREGON

H. B. 18 is to prohibit the advertising of treatment or cure of venereal and other diseases and disorders and to make the owner or managing officer of any newspaper which shall print or publish such advertisements equally responsible with the person advertising and subject to imprisonment for one to six months. H. B. 41 provides for the inspection and regulation of dairy creameries and cheese factories. H. B. 141 provides for the suppression of contagious diseases among animals and for the addition of a veterinary surgeon to the state board of health. H. B. 142 is to prohibit the sale or giving away of cigarettes. H. B. 143 is to require all railroads operating in the state to furnish on all passenger coaches toilet facilities, running water and clean towels. H. B. 177 to prohibit the collection of hospital fees by any person or corporation, is evidently aimed at lumber and mining companies which have established company hospitals supported by assessments levied on their employés. H. B. 195 provides for the labeling of baking-powder. H. B. 216 provides for the appointment of county fruit inspectors who shall examine all orchards, nurseries, packing-houses and sales-rooms for fruit infected with any pest diseases or fungus. S. B. 24 provides for the establishment of county tuberculosis sanatoria. S. B. 26 is to regulate the quality of milk, cream, butter and cheese and the manner of conducting dairies. S. B. 37 provides that a medical certificate showing freedom from contagious venereal disease shall be required as a requisite for a marriage license. S. B. 68 is a bill similar to the Indiana sterilization law, providing for the sterilization of confirmed criminals, insane persons, idiots, etc., authorizing the appointment of boards to examine into the mental condition of such persons and defining confirmed criminals as those serving a third term in any penitentiary or penal institution on conviction of a felony. S. B. 76 provides for state sanatoria for tuberculosis. S. B. 112 is to regulate the use of commercial feed stuffs in feeding live stock and domestic animals. S. B. 118, to amend the act regarding delinquent and dependent children, also provides for juvenile courts. S. B. 126 is to forbid the manufacture and sale of bleached or chemically treated or misbranded flour; it provides for the labeling of all packages or containers of flour.

SOUTH DAKOTA

S. B. 66, a long pure food bill, providing for a state food and dairy commission, is apparently drawn up along the lines of the model pure food bill drafted by the committee on uniform legislation of the Association of State and National Food and Dairy Departments. It contains the provisions for food standards endorsed by that body. H. B. 116 is to establish a sanatorium for tuberculosis at Custer, S. D.

UTAH

S. B. 41 provides for a state department of public health and state bacteriologic and pathologic laboratory for scientific research as to the cause, cure and prevention of disease. S. B. 42 provides for a state veterinarian and S. B. 43 for a state chemist and the establishment of a state chemical laboratory. These three bills were introduced by Senator Stookey and have been referred to the Committee on Public Health.

Dr. McCormack in North Carolina

Dr. J. N. McCormack spoke before a joint session of the General Assembly of North Carolina at a meeting held in the house of representatives at Raleigh on the evening of February 4. Speaker Graham of the house presided and Dr. R. H. Lewis, secretary of the North Carolina Board of Health, introduced Dr. McCormack and Dr. C. P. Wertenbaker of the U. S. Health and Marine-Hospital Service, who spoke on the control of tuberculosis. The *Raleigh News and Observer* says: "both speakers made irresistible appeals. The hall of the house and its galleries were filled with eager listeners, to whom the message of the speakers was a revelation, showing existing conditions of startling magnitude and fraught with untold evil." The following comment shows the impression produced: "Public health has not received the attention to which its importance entitles it. The public is coming to see its duty and people and press will cooperate more than ever with the health department in measures that will make for long life."

The addresses delivered by Dr. McCormack before state legislatures probably constitute one of the most valuable lines of work ever undertaken by the Association. The unanimous testimony where these meetings have been held has been that, following them, the members of the legislature have been more favorably disposed to public health legislation than ever before and have better understood the attitude of the medical profession toward sanitary legislation. Arrangements are being made for addresses before a number of other state legislatures during the winter.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Second Weekly Meeting

LABOR

Physiology

Definitions.—Labor, confinement, accouchement, premature, at term, retarded, precipitate, slow, spontaneous, artificial. Normal, eutocia; normal forces, passenger, passages and mechanism. Abnormal, pathologic, dystocia; abnormal forces, passenger, passages or mechanism accidents.

Precursory Symptoms.—Increased uterine contraction, sinking, "settling" of uterus, vaginal discharge.

Stages of Labor.—1, Dilatation of cervix; 2, expulsion of child; 3, expulsion of placenta and membranes; duration of each stage in primiparæ and multiparæ.

Causes of Labor.—Stimulation of central or uterine nerve centers; (a) direct, toxins (carbon dioxid, fetal, placental or ovarian products), menstrual periodicity, heredity; (b) reflex, fetal movements, distention of uterus, placental changes, infarcts, etc.

Uterine Contractions.—Intermittent, involuntary, forcible, general contractions of uterine muscles. (a) "Labor pains," character, location, intensity. (b) Effect on maternal circulation. (c) Effect on uterus; harden uterus; change in shape and position; efface and dilate cervix, lower uterine segment, contraction ring, dilatation of os; "bags of water," shape, rupture. (d) Effect on vagina and pelvic floor. (e) Expulsion of child. (f) Expulsion of placenta and membranes. Effect of abdominal contractions.

Mechanism

Occipito-anterior Presentations.—Cause, time, duration, diagnosis, of each stage. (1) Descent; engagement, sagittal suture, synclitism, obliquity, moulding caput. (2) Flexion. (3) Internal rotation. (4) Extension. (5) External rotation. (6) Expulsion.

Occipito-posterior Presentation.—Mechanism, (a) with anterior rotation, (b) with posterior rotation, of occiput.

Face Presentation.—Causes, frequency, diagnosis. Mechanism: (1) Descent. (2) Extension. (3) Internal rotation. (4) Flexion. (5) External rotation. (6) Expulsion. Mechanism of persistent mento-posterior.

Brow Presentation.—Frenquency, diagnosis. characteristic moulding mechanism.

Breech Presentation.—Abdominal and vaginal diagnosis, causes, frequency. Mechanism: (1) Descent. (2) Internal rotation. (3) Lateral flexion, displacement of arm. (4) External rotation. (5) Expulsion. In persistent sacro-posterior. Dangers to child, to the mother.

Mechanism of Third Stage.—Situation of placenta, separation, extrusion, Duncan's, Schultze's method, expulsion from lower uterine segment, from vagina. Credé expression.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Third Annual Meeting, held at Albany, Jan. 26-27, 1909

(Continued from page 497)

Intramuscular Injections in Syphilis

Dr. Victor C. Pedersen, New York: By using six points of injection the same point does not have to be used until thirteen weeks have elapsed, the injections being given once a week. To obviate the pain incident to these injections, the patient is placed in such a position as will relax the gluteal muscles. In over 300 injections of a 20 per cent. solution of salicylate of mercury the results have been good, but the solution should be well shaken. After having been officially responsible for over 5000 injections in 3½ years I am convinced that this method has the following advantages: It is the most efficient of all methods; it keeps the patient under control of the physician because he must return every week for the injection; node formation of longer than two or three days' duration is very rare; embolism is very uncommon, less than 1 in 1,000 injections. The usual precautions of sterilization should be taken. Toxic accumulation is scarcely excusable if palpation of the point of the previous injection is made before giving the next injection. The salicylate of mercury seems to be so satisfactory that no other preparation need be considered. Continuation of the injections is necessary for the usual two or three years, with one or two months rest in each year. The patient's general health should be maintained at the highest possible level by attention to diet and hygiene.

Untoward Results with Diphtheria Antitoxin with Special Reference to Asthma

Dr. Herbert F. Gillette, Cuba, N. Y.: About a year ago I published a letter asking for reports of cases in which the injection of diphtheria antitoxin had been followed by alarming symptoms or death, especially noting whether there was any history of asthma in the cases. Out of 40 answers received the information was definite and positive concerning 23 cases. Out of the 23, 16 patients gave a history of some form of respiratory disease. Six of the 16 patients died and 10 went into a state of collapse, with final recovery. Seven of the 23 gave no history of respiratory distress and the fact was definitely determined. Four of the 7 cases died and went into a state of collapse with final recovery. The conclusions based on these reports were as follows: 1. There is a certain element of danger if any form of horse serum is used in subjects who have suffered from any form of respiratory embarrassment such as asthma, the so-called cardiac or renal asthma; hay fever, with resulting asthma, subjects liable to irritation of the mucous membranes when about a horse or stable. 2. Collapse or death was accompanied by a respiratory crisis and, when death occurred, it took place usually in less than ten minutes from the time of injection. 3. The administration of any form of horse serum is liable to cause collapse or death, if the subject suffered from respiratory distress and it is not due to any form of the antitoxin, or to any error on the part of the maker of the serum or to the age of the serum, but to some highly organized proteid present in the serum and the reaction of the proteid causes the crisis. This reaction takes place only under certain conditions. 4. The heart continues to act long after respiration has ceased. This report is only a preliminary one.

Short Duration Typhoid Fever

Dr. Warren Coleman, New York: The term, "short duration typhoid fever" is used to include all types of the disease which last two weeks or less. The study was undertaken to discover the nature of the mild indefinite fevers which are seen in Bellevue Hospital during every typhoid season. The recovery of the typhoid bacillus from the blood in several cases led to a review of the entire subject. An astonishing confusion exists in literature concerning the milder and shorter forms of typhoid fever. The history of the diagnosis of the disease falls into two periods: (1) The period before the introduction of exact methods of diagnosis; (2) the period since the application of the Gruber test by Widal and the general employment of bacteriologic methods to the diagnosis of the disease. When the epidemiologic importance of the subject is considered it must be admitted that the study of the milder forms of typhoid has been greatly neglected. No one has yet undertaken to study the bacteriology of the blood in these cases. In the last five years, exclusive of 1908, 10 per cent. of 229 cases of typhoid fever on the second medical division have been of the short duration variety. The proportion of mild to severe cases varied in the different years. In 1904 they constituted 25 per cent. of the typhoids. The diagnosis in 20 of the 24 cases is not open to doubt since it rests on a positive serum reaction or a positive blood culture. The four remaining cases were diagnosed on clinical evidence. Judging rom the literature, the diagnosis of mild typhoid is not often nade. After an analysis of mortality statistics of typhoid n several of the large cities of this country, Reed, Vaughan and Shakespeare state that a large percentage of cases of this dis- ase are not recognized as typhoid. The diagnosis of short uration typhoid can not be proven without laboratory meth- ds. A patient's serum may give a positive reaction to the yphoid bacillus when the patient is not suffering from ty- hoid (e. g., typhoid cholecystitis and typhoid bacillus car- iers). If a positive reaction appears transiently during the ourse of a febrile disease, not obviously due to some other ause, the diagnosis of typhoid is reasonably certain. Negative erum reactions possess no diagnostic value unless they are btained daily throughout the febrile period and well into onvalescence. Positive bacteriologic examinations of the tools and urine do not necessarily prove that the patient has r has had typhoid fever. There is urgent need from the idemiologic standpoint of a more thorough study of short uration and irregular forms of typhoid fever.

Voluntary Patients in State Hospitals for the Insane

Dr. Albert Warren Ferris, President of the State Com- ission of Lunacy: On Oct. 1, 1905, in fifteen hospitals for e insane in New York State, there were 26,423 patients. n Oct. 1, 1908, there were 29,421 patients. For many years e incidence of insanity in New York State has been such at over 6,000 new patients are received annually into the ate hospitals. While about 2,000 patients die annually and any are discharged recovered or improved, the average net crease has been 715 each year. On Oct. 1, 1907, the net crease was 750, and on Oct. 1, 1908, the net increase nounted to 1.247. To meet this condition, existing hospitals ve been enlarged as fast as money could be obtained for the rpose. The policy of physicians and friends of patients has en to delay until the insanity is well established and certifi- tion, adjudication and commitment are necessary. Many lges claim that in all alleged cases of insanity the subject ould be taken into court in order that the matter may be ided and the patient committed or dismissed. The damage us done the patient is not considered, but may never be re- ired. Prof. Adolf Meyer suggests that a procedure re- nbling quarantine should be adopted for the protection of family and the community and for the benefit of the tient. In this way all abuse of insane patients in jails l lockups would be avoided. In order to attain the results which modern psychiatry aims, cases of mental disorder uld be seen early. The borderline cases must be reached l saved from profound psychosis by early treatment when mental equilibrium begins to waver. The State Commis- n in Lunacy has ruled that no patient can be admitted as voluntary "whose mind is so impaired as to render him incapable of forming a rational judgment as to the disposition of his person, or whose will is so weak as to render him incapable of resisting influence." The commission holds that "voluntary admissions" are patients whose liberty is not restricted, who are not insane within the meaning of the statute and who voluntarily remain under care. The commission introduced a bill into the legislature at the session of 1908 amending the insanity law so as to provide for the admission into all state hospitals except Matteawan and Dannemora of voluntary patients on their written application, pursuant to the regulations of the commission. The commission has ruled that no alcoholic patients without definite psychoses and no victims of drug habit without psychosis shall be admitted. Admission of voluntary patients has proved a success in several states. It is our duty to ascertain the causes of the alarming overproduction of insanity; to teach the people what dangers to avoid; to restrict demoralizing influences by law; and while there is still time to gain the patient's confidence to endeavor to adjust him to his environment. In order to accomplish these things successfully and to any extent, the patient must be seen early and hence the necessity for voluntary admissions.

DISCUSSION

Dr. R. H. Hutchins, Ogdensburg: At Ogdensburg, where this law has been in operation since last June, only nine persons have been admitted under the act and all came realizing themselves that something was wrong with their minds. These patients were not insane, but only drifting in that direction.

Dr. William S. Ely, Rochester: The necessity of having psychiatric wards in every general hospital can not be too strongly emphasized.

Dr. Edward D. Fisher, New York: I favor early treatment in these incipient cases of insanity and think that Dr. Ely's suggestion is good.

Dr. W. H. Kidder, Oswego: Civilization is becoming more and more complicated and there are constantly a greater number of people who can not accommodate themselves to it.

Dr. Albert Warren Ferris, President State Commission in Lunacy: The State Commission in Lunacy agrees with Drs. Ely and Fisher and would like to have psychiatric wards in every general hospital. It was the opinion of this commission that these early cases should have the same care as advanced cases; there should be a resident physician to care for them. If patients were sent in earlier they could often be sent out earlier. This would save money to the state. The cost per patient in the state hospitals is very low, only $179.60.

(To be continued)

Marriages

Jesse H. Briggs, M.D., to Miss Bessie Madden, both of Churubusco, Ind., January 26.

James Fowler Pressley, M.D., to Miss Ellen Page, both of San Francisco, January 28.

Charles S. Hamilton, M.D., to Mrs. Elizabeth Loving Brown, both of Columbus, Ohio, January, 21.

Vernon C. Morse, M.D., Cambridge, Mass., to Miss Mabel Miller Elliott of Clarence, N. S., January 21.

Charles Allen Betts, M.D., Fort Lawton, Wash., to Mrs. Harriet Smith Lester of Seattle, December 12.

John A. Ferrell, M.D., Kenansville, N. C., to Miss Lucile Deveraux Withers of Charlotte, N. C., January 28.

August Sauthoff, M.D., Madison, Wis., to Rose Mary Blakelidge, M.D., of La Grange, Ill., January 20.

William A. Knowlton, Jr., M.D., Independence, Ohio, to Miss Effie Margaret Dyer of Cleveland, January 27.

John Alphonso O'Donoghue, M.D., to Miss Florence Cecelia Johnson, both of Washington, D. C., December 29.

George Delbert Johnson, M.D., Fairmont, W. Va., to Miss Jessie Lee Jamison of Morgantown, W. Va., January 27.

William Graham Alexander, M.D., Evanston, Ill., to Mrs. Bertha Edna Tubbs Patrick, of Des Moines, Iowa, January 26.

Deaths

George Rolla Highsmith, M.D. Missouri Medical College, St. Louis, 1875; Bellevue Hospital Medical College, New York City, 1883; a member of the American Medical Association and Western Surgical and Gynecological Society; formerly president of the Missouri State Medical Association and president of the Association of Surgeons of the Wabash Railroad; local surgeon at Carrollton, Mo., for the Burlington, Wabash and Santa Fe systems; lecturer on railroad surgery in the Medical Department of the University of Missouri; secretary of the local board of U. S. Pension Examining Surgeons, died suddenly at his home, January 21, from heart disease, aged 60.

Charles Everts Rider, M.D. University of Vermont, Burlington, 1863; formerly of Rochester, N. Y.; a member of the American Ophthalmological Society and American Otological Society; emeritus professor of ophthalmology in the Medical Department of Syracuse University; a surgeon during the Civil War; honorary member of the Rochester Pathological Society; formerly president of the Monroe County Medical Society; surgeon of the First Battalion, Light Artillery, N. G. S., N. Y., in 1864; died January 31, at his home in Chappaqua, N. Y., aged 69.

Aaron G. Dickson, M.D. Vanderbilt University, Nashville, 1889; of Paragould, Ark.; a member of the American Medical Association and International Association of Railway Surgeons; chief surgeon of the Paragould and Southeastern Railway; local surgeon of the St. Louis, Iron Mountain and Southern Railway, and the St. Louis and Southwestern Railway; founder of, and surgeon to, Paragould Sanitarium; grand medical examiner of the A. O. U. W. of Arkansas; died at his home, January 27, from pneumonia, aged 41.

Edward Lawrence Patterson, M.D. University of Georgia, Augusta, 1887; of Barnwell, S. C.; a member of the American Medical Association and of the Association of Surgeons of the Southern and the Atlantic Coast Line railroad; formerly president of the Aiken and Barnwell County Medical societies; a surgeon in the State Militia; died in St. Luke's Hospital, New York City, January 23, nine days after a surgical operation on the bladder, aged 49.

Constantine Markt, M.D. Eclectic Medical Institute, Cincinnati, 1858; brigade surgeon of the southern division of the Ohio Militia from 1858 to 1860; for eighteen years secretary of the Hamilton, Ohio, board of health and four years treasurer of the board of education; and trustee of the Lane Free Library; died at his home, January 28, from senile debility, aged 76.

John Leslie Howard, M.D. University of Louisville, 1889; a member of the American Medical Association; formerly professor of bacteriology and pathologic histology in his alma mater, and consulting neurologist to the Louisville City Hospital; proprietor of the Howard Sanitarium, West Baden, Ind.; died at his home, January 23, aged 43.

William Henry Frizell, M.D. New Orleans School of Medicine, 1860; assistant surgeon of the Twelfth Mississippi Infantry, C. S. A., during the Civil War; a practitioner of Poplar Creek, Miss., for 43 years; died at his home in Deasonville, Miss., Dec. 5, 1908, from chronic nephritis and spinal sclerosis, aged 70.

Hugh M. Clendenin, M.D. Southwestern Homeopathic Medical College, Louisville, 1900; professor of physiology and histology and lecturer on minor and surgical anatomy in his alma mater; secretary of the State Homeopathic Medical Society; died at his home in Louisville, January 25, from pneumonia, aged 29.

Cornelius H. Bartlett, M.D. Geneva (N. Y.) Medical College, 1849; for nearly half a century a practitioner of Cattaraugus Co., N. Y.; one of the founders and twice president of the county medical society; a curator of the Buffalo Medical College; died at his home in Olean, January 21, aged 83.

John James Mitchell, M.D. New York Medical College, New York City, 1857; of Newburgh, N. Y.; for several years professor of chemistry in the New York Homeopathic Medical College; city physician of Brooklyn in 1858; died suddenly in Newburgh, February 1, from heart disease, aged 74.

William E. Meredith, M.D. University of Tennessee, Nashville, 1893; a member of the American Medical Association and of the local board of U. S. pension examining surgeons; and one of the proprietors of an infirmary at Scottsville, Ky.; died at his home in that city, January 29, aged 39.

Charles Gregg Alderman, M.D. Jefferson Medical College, Philadelphia, 1905; assistant surgeon U. S. Navy; who had been a patient in the United States Naval Hospital, New Fort Lyon, Colo., on account of tuberculosis; died from that disease at Lawn, near Lebanon, Pa., January 29, aged 24.

D. L. Cheatham, M.D. University of Maryland, Baltimore, 1874; for six years mayor of Sandersville, Ga.; and for a long time a member of the State Board of Education; died suddenly from cerebral hemorrhage, at his home January 25, aged 60.

Francis Joseph Rogers, M.D. University of Pennsylvania, Philadelphia, 1873; health officer of Stamford, Conn.; for twenty years a member of the school board and councilman of that city; died at his home, January 27, from nephritis, aged 59.

Joseph R. Phillips, M.D. Cleveland Homeopathic Medical College, 1883; for ten years a member of the local board of health, and for two terms its president; died at his home in Erie, Pa., from cerebral hemorrhage, January 27, aged 58.

J. Harry Forbes, M.D. College of Physicians and Surgeons, Baltimore, 1903; of Pawtucket, R. I.; died at the Twin City Hospital in that city January 24, from a gunshot wound received from his own revolver in a fight, aged 30.

Edward Joseph Gilleran, L.R.C.S.; L.R.C.P. Edinburgh, 1892; surgeon in the British army during the Boer war; formerly of York City; died at his home in La Junta, Colo., January 23, from pulmonary tuberculosis, aged 48.

Leonard J. Harvey, M.D. Washington University, St. Louis, 1875; a member of the Iowa State Medical Society and a veteran of the Civil War; died at his home in Alta, January 26, from locomotor ataxia, aged 65.

Jacob Preston Miller, M.D. Medical College of Ohio, Cincinnati, 1878; a member of the Medical Association of the District of Columbia; died at his home in Washington, January 23, from nephritis, aged 56.

William M. Alexander, M.D. University of Louisville, 1887; formerly of Kinsley, Kan.; and local surgeon of the Santa Fe System at that place; died in Sterling, Kan., January 1 from pneumonia, aged 46.

Francis S. McNamara, M.D. Royal College of Physicians and Surgeons, Dublin, Ireland, 1848; for nearly half a century a practitioner of Milwaukee; died at his home in that city January 22, aged 93.

L. F. Overton, M.D. Memphis (Tenn.) Hospital Medical College, 1894; died at his home in Cleveland, Texas, January 29 from an overdose of morphin, said to have been self-administered, aged about 40.

John M. Bash, M.D. Medical College of Indiana, Indianapolis, 1874; a member of the Indiana State Medical Association died at his home in Warsaw, January 29, from cerebral hemorrhage, aged 60.

J. Harper Donald, M.D. Medical College of the State o South Carolina, Charleston, 1877; died suddenly at hi home in Piedmont, S. C., January 23, from cerebral hemorrhage, aged 52.

Daniel James Hanlon, M.D. Boston University School o Medicine, 1891; of Hyde Park, Mass.; died suddenly fron heart disease at the house of a patient, January 24, aged 41.

Harold M. Jacobsen, M.D. University of Kiel, Germany 1881; of Chicago; died at the home of his son in Burlingto Iowa, January 29, from an overdose of morphin, aged 54.

Thomas Stewart, M.D. Western Reserve University, Cleveland, 1874; of Carlisle, Pa.; died in a sanitarium in Cleveland, from heart disease, January 28, aged 57.

Lomax S. Anderson, M.D. Missouri Medical College, St Louis, 1893; of Moss Point, Miss.; died from heart disease a Managua, Nicaragua, January 25, aged 40.

James Douglas Burns, M.D. Trinity Medical College, Toronto, 1902; died at his home in Paradise Valley, Nev., Ma 27, 1908, from pneumonia, aged 37.

William S. Simmons, M.D. University of Louisville, 185 died at his home in Adairville, Ky., Aug. 12, 1908, from ca cer of the mouth, aged 74.

Samuel G. Scoven, M.D. University of Georgia, Augusta 1876; of Macon; died at the home of his daughter in Herndo Ga., January 19, aged 76.

Joseph Kern, M.D. University of Jena, Germany, 1888; die at his home in Cecil, Wis., in May, 1908, from pulmonary t berculosis, aged 43.

James Robert Dryden, M.D. Toronto School of Medicin 1879; died at his home in Guelph, Ont., Dec. 2, 1908, aged 5

James John Hall, M.D. Tulane University, New Orlean 1868; died at his home near Orrville, Ala., January 25.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut Homeopathic: New Haven, Mar. 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.

Connecticut Eclectic: New Haven, Mar. 9. Sec., Dr. T. S. Hodge, Torrington.

Connecticut Regular: New Haven, Mar. 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

Maine: Portland, Mar. 9-10. Dr. W. J. Maybury, Saco.

Massachusetts: Boston, Mar. 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Alabama 1908 Reports

Dr. W. H. Sanders, chairman of the Board of Medical Ex- miners of Alabama, reports the written examinations held t Montgomery, June 16-19 and July 7-10, 1908. The num- er of subjects examined in was 10; total number of ques- ions asked, 65; percentage required to pass, 75.

At the examination held June 16-19, 1908, the total num- er of candidates examined was 102, of whom 50 passed, in- luding 7 non-graduates and 52 failed, including 24 non-grad- ates. The following colleges were represented:

PASSED.

College	Year Grad.	Per Cent.
niversity of Alabama,	(1908)	75. 75, 75.1, 75.1, 75.4, 75.5, 75.9, 82.2. 83, 87.1.
lrmingham Medical College, (1907) 78.2;	(1908)	75, 75.1, 75.1, 76.4.
loward University, Washington	(1908)	75
tlanta School of Medicine	(1908)	75.4, 77.3
tlanta College of Physicians and Surgeons	(1908)	79.7
hicago College of Medicine and Surgery	(1908)	75
ulane University of Louisiana (1907) 75;	(1908)	75, 76.3
aryland Medical College	(1908)	76.4
etroit College of Medicine	(1886)	81.4
leveland University of Medicine and Surgery	(1897)	76.2
fferson Medical College	(1908)	75
niversity of Tennessee	(1908)	75, 75
emphis Hospital Medical College (1886) 75;	(1908)	75
niversity of the South	(1907)	75
eharry Medical College	(1908)	75.1
niversity of Nashville	(1908)	75.1, 75.1, 75.1
anderbilt University, (1907) 75;	(1908)	75.1, 75.1, 75.4. 80.8, 83.7.
iversity of Virginia	(1907)	76.7

FAILED

College	Year Grad.	Per Cent.
iversity of Alabama	(1908)	58.3, 59.1, 61.2, 61.7
lanta School of Medicine, (1902) 6.6; (1906) 62.7; (1907) 50.8;	(1908)	52.7, 56.5.
ssissippi Medical College	(1908)	42.4
attanooga Medical College	(1908)	31.6, 50.9, 57.8, 62
iversity of Nashville	(1908)	54.2, 55.8, 62.9, 63, 63.6
iversity of Tennessee (1907) 63;	(1908)	52.8, 58.4
mphis Hospital Medical College	(1908)	62.8, 62.8
harry Medical College	(1908)	53.1, 59.6, 62.4
te City Medical College	(1908)	22

At the examination held July 7-10, 1908, the total number candidates examined was 30, of whom 16 passed, including non-graduates, and 14 failed, including 3 non-graduates. e following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
iversity of Alabama	(1908)	75.6, 75.6, 75.8
mingham Medical College	(1908)	75, 75, 75, 75.5, 77.7
ver and Gross College of Medicine	(1904)	75
iversity of Louisville	(1908)	88.1
tucky School of Medicine	(1908)	75.1
ns Hopkins Medical School	(1908)	75.9
nphis Hospital Medical College	(1908)	75.1, 76.2

FAILED

College	Year Grad.	Per Cent.
versity of Alabama	(1898)	69.8
nta School of Medicine	(1908)	64.2
nemann Medical College, Chicago	(1907)	70.4
tucky School of Medicine	(1907)	47.7
sissippi Medical College	(1908)	50.7, 67.1
nard School of Medicine	(1905)	60.7
arry Medical College	(1908)	47.1
derbilt University	(1908)	69.7
phis Hospital Medical College	(1908)	48.8
versity of the South	(1908)	36.7

Virginia December Report

r. R. S. Martin, secretary of the Medical Examining Board irginia, reports the written and oral examination held at chburg, Dec. 15-17, 1908. The number of subjects exam- in was 9; total number of questions asked, 100; per- age required to pass, 75. The total number of candidates nined was 49, of whom 28 passed and 21 failed. Seven rocal licenses were issued at this examination. The fol- ng colleges were represented:

PASSED.

College	Year Grad.	Per Cent.
George Washington University. (1906) 82; (1907) 78;	(1908)	81
Georgetown University	(1907)	76
Johns Hopkins University Medical School	(1906)*	
University of Maryland	(1908)	75
Baltimore University	(1898)*	
Tulane University of Louisiana	(1898)*	
Med.-Chirur. Coll. of Christ Institution, Baltimore	(1904)	76
Hospital College of Medicine, Louisville	(1904)	75
Leonard School of Medicine (1908)*	(1908)	76
Medical College of South Carolina	(1902)*	
University of the South (1907) 75;	(1908)	76
Tennessee Medical College (1907) 75;	(1908)	77
Meharry Medical College (1905) 75;	(1908)	75
Medical College of Virginia (1906) 76;	(1908)	75, 75
University of Virginia (1907) 75, 75;	(1908)	76, 79
University College of Medicine, Richmond. (1896)*	(1908)	80

FAILED

College	Year Grad.	Per Cent.
George Washington University	(1908)	73
Northwestern University Medical School	(1908)	70
Kentucky School of Medicine. (1887)* (1906) 66;	(1908)	48
Hospital College of Medicine, Louisville	(1908)	71
Baltimore Medical College (1900) *	(1907)	69, 71
College of Physicians and Surgeons, Baltimore	(1901)*	
College of Physicians and Surgeons, Boston	(1907)	61
Leonard School of Medicine (1906) 46, 50;	(1908)	59, 70, 74
University of the South (1903) 73; (1907) 71;	(1908)	66
University of Tennessee	(1891)*	
University of Virginia	(1908)	67

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1908)	Dist. Colum.
Illinois Medical College	(1904)	Kentucky
University of Maryland	(1908)	Maryland
Atlantic Medical College	(1907)	Maryland
University of Michigan	(1907)	Michigan
New York Homeopathic Medical College	(1901)	Kentucky
University of Virginia	(1907)	Maryland

* Took oral examinations.

Book Notices

Quacks and Grafters. By Ex-Osteopath. Cloth. Pp. 126. Price, $1.25. Cincinnati, Ohio: Cincinnati Medical Book Co.

This little book is written by one who took up for a few years the "practice" of "osteopathy," but whose intelligence and honesty caused him to relinquish it after he was fully conversant with the pretense and graft connected therewith. He then returned to the more congenial—and reputable—profession of teaching. The book is in two parts; the first deals with conditions in and out of the medical profession that have made it possible for the followers of Still to fool the public; the second treats of "osteopathy" itself and, without acrimony, exposes this quasi-scientific system of massage and throws light on the methods employed by the American Osteopathic Association to advertise and "boost" the "system." The author's attitude toward the medical profession is on the whole fair and without bias. That, as a layman, he has drawn some wrong conclusions from his observation of evils that admittedly exist in the profession of medicine is not to be wondered at, but most of his criticisms are eminently just. The book, whether read by layman or physician, will tend to increase the respect of each for the medical profession and to lead to a fuller appreciation of the inherent worthlessness of various irregular "systems" of healing that have become so common.

The Red City. By S. Weir Mitchell, M.D., LL.D. Paper. Pp. 421, with illustrations. Price, $1.50. New York: The Century Co.. 1908.

Nearly all Dr. Mitchell's novels bear the impress of his scientific work in the shape of characterizations of various forms of mental malady. "The Red City" differs somewhat from its predecessors in that its psychologic studies, while keen and penetrating, involve no pathologic element. Entering on an important field of medical and national history, Dr. Mitchell has revived with interesting fidelity the yellow fever epidemic of 1793 in Philadelphia. It is a strongly drawn picture in which, on a background of mystery and terror, stand out in bold relief many touching and heroic examples of courage, faithfulness and love of kind. There are graphic sketches of Rush and some of his less famous colleagues—among them the eccentric Chovet—of Stephen Girard, and of the devoted Quakers, some of whom lost their lives in that battle with pestilence. The story never before has been told with such truth and vigor, and physicians will find this chapter of absorbing interest.

Not less attractive are the historic elements in the book. During the period described the constitution of the United States is still on trial: Jefferson, Hamilton and Randolph, the French and British Ministers, Jacobins, émigré nobles, well chosen representatives of the various classes, parties, factions and opinions in the state, move and live on these pages. We catch a sad glimpse of the aging Washington, a martyr of duty, preserving his sanity and equipoise despite harassmen from contentious passions, and relaxing, as only the strong man can, in the intimacy of the household circle. The famous incident of "Dispatch No. 10," which involved the United States in serious dispute with France and caused the downfall of Edmund Randolph, Secretary of State, is skilfully utilized in the interesting development of the fortunes of a young French vicomte, whose adventures in love, commerce and diplomacy we shall not here tell, lest we destroy the pleasure of the reader in following the narrative.

One is tempted to ask whether the figure of Herr Schmidt, a German of distinction dwelling in that charming Quaker household which is the stage center, represents an historic personage or is a child—no less vital—of the author's brain. "The pearl," as Herr Schmidt affectionately calls the daughter of the house, is perhaps the most charming feminine character that Dr. Mitchell has yet drawn, and moves in interesting contrast by the side of the large figure and striking personality of Miss Gainor Wynne, whom we knew and loved in "Hugh Wynne." But though "The Red City," in its realistic telling of the life of a past day, must needs recount the strife of parties, the threats of war, the dread visitation of pestilence, it does not deal with somber themes only. It is like a huge canvas whereon both cloud and sun find place; the social life of the great merchants is well depicted and in the illuminated spaces shine the colors of exquisite fancy, of rare wit and of delicious humor.

Dr. Mitchell, in this book, has added not alone to the obligation which the public owes him, but also to the many claims which he has on the regard of his medical brothers. He has by this and his other writings made it easier for his colleagues who may find attraction in fields remote from their profession, whether in literature, in music or in the fine arts; for he has shown that to excel in such fields need not, and does not, lessen the confidence of fellow-physicians or of the laity in one's competence as a diagnostician or practitioner. It would be interesting to have a methodical criticism of Dr. Mitchell's descriptions of disease in his other books; for his clinical pictures of homicidal melancholia, of hysteria and its social influence, of senile degeneration, etc., are drawn with the skill of vast experience and the artistic reserve of a master of two arts—fiction and medicine. We commend "The Red City" for evening company when the day's work is over and when it is pleasant to forget a while the patient and the sick-room.

Unsere Mittelschueler zu Hause. Schulhygienische Studie Nach Erhebungen an Münchener Mittelschulen, veranstaltet durch die Schulkommission des Aerzlichen Vereins München. Von Eugen Dörnberger, pr. Arzt in München, und Karl Grassmann, pr. Arzt in München. Paper. Pp. 208. Price, 5 marks. München: J. F. Lehmanns, Verlag, 1908.

This volume, the outcome of an investigation instituted by the School Commitee of the Munich Medical Society, takes up in detail the various influences which bear on the pupils of the gymnasia and female seminaries of Munich out of school hours. The first part, by Grassmann, is devoted to the consideration of the classical gymnasia, five of which were investigated. The time for sleep is one of the most important matters into which inquiry was made. The conclusion is that the hours for sleep are sufficient on the average, but that no considerable increase in the demands of the schools could be made without encroaching unduly on the hours for sleep. School work at home is found to be far in excess of that provided by the educational regulations. This increases as the pupil advances in his classes and there is found to be a dangerous tendency, either to push the work into the evening so as to leave insufficient time for sleep or to use the afternoon so as to lessen the opportunities for exercise and recreation.

The question of physical culture gives rise to an interesting discussion. It is generally admitted that more attention should be given to the physical development of youth in th secondary schools, and it is proposed to put this under th care of medical men from the beginning to the end of th course. The first important question is whether time for thi purpose can be afforded without lowering the ideal of inte lectual attainment which is imposed on the schools by th increasing complexity of our civilization. If this is to be don the amount of home work must be correspondingly lessene to avoid encroaching on the hours for sleep. That such diminution of home work is possible has been asserted by number of educators. In this way time for physical exercis can be afforded by leaving the whole or the greater part the afternoon free.

The second question is in regard to the placing of the co trol of the physical culture of the pupils. To put this r sponsibility wholly on the school might provide for a mo economical and methodical use of time, but Grassmann think that this advantage would be more than overbalanced by th corresponding loss of home influence. The home, in his est mation, is the proper agency for the building of character, a harm would be done by giving the school too exclusive contr of the development of youth and thereby lessening the oppo tunities for the exercise of wholesome moral influence by th home.

The second part by Dr. Dörnberger deals with girls' schoo and the technical schools for boys and follows much the sa lines. The hours of sleep among the girls are close to th minimum and the sleep is often disturbed in consequence prolongation of study into the night. About one-third of t required study is done in the evening. The greater ambiti of the girls—and often of the parents—leads to a sacrifice health in many cases.

There is too little attention given to the proper care a training of the body by exercise and gymnastics. Even wal ing is neglected. Girls are too apt to substitute fancy wo and other occupations of insufficient value as means of phy ical culture for the more active exercises. Too often, esp cially in business schools, the leisure time is used in practi which affords no relaxation to the already overused faculti

The proposition to put all instruction in the forenoon, as to leave the afternoon free, is discussed, and it is point out that if this is done home work must be reduced so as leave the greater part of this time for recreation.

The problems discussed demand the attention of paren teachers and physicians, who must realize that well-equipp and successful men and women must be built on menta and physically healthy boys and girls and that, as Dörnberg says, "the future of a nation is the flower of its yout Those with whom these questions rest for solution will f in the book valuable facts and deductions.

Die Mechanische und Psychische Behandlung der Tub kulösen Besonders in Heilstätten. (Vorlesungen über Tub kulose, herausgegeben von Georg Liebe, Bd. I.) Von Georg Li Paper. Pp. 267. Price, 5 marks. München: J. F. Lehma Verlag, 1909.

This monograph consists of fourteen lectures covering ground of tuberculin treatment, breathing exercises, aft treatment, and the psychic management of tubercul patients. It aims to give practitioners a clear account directions for the execution of those measures which dist guish sanatorium treatment from that which the patient likely to receive at home, unless under the especial sup vision of a most painstaking physician. The book also c siders many of the social questions which are raised by occurrence of tuberculosis among the masses. To the s atorium physician and also to the practitioner who wishes do the best for the patient who remains at home, these tures, representing the accumulated experience of the s atoria, ought to be of special value. They are as yet ac sible only to those who read German.

Eine neue Hypothese ueber Ursachen und Wesen Bö tiger Geschwülste. Von Otto Aichel, a.o. Professor der Gyn logie an der Universität Santiago. Paper. Pp. 36. Price, marks. München: J. F. Lehmanns Verlag, 1908.

This pamphlet reviews the theories advanced to account the development of malignant growths and decides that f them is sufficient. Aichel devoted himself to the championship of the hypothesis that the cancer cell or sarcoma cell is he progeny of a sexual conjugation of the leucocytes with the ixed tissue cells.

John Montcalm, Heretic. By Frederick A. Rupp, M.D. Cloth. p. 272, with illustrations. Price, $1. Reading, Pa.: I. M. Beaver, 908.

Dr. Rupp has written a novel with a typhoid epidemic as art of its medical flavor, and with a controversy over re-igion as its main motive. The scene is laid in the Maryland ills, and the local color is much in evidence.

Klinik der Bronchoskopie. Von Hermann von Schrotter. Dr. hil. et Med. in Wien. Paper. Pp. 688, with illustrations. Price, 0 marks. Jena: Verlag von Gustav Fischer, 1906.

This is a comprehensive work, giving the result of Schrot-r's unusually extensive experience. The history of cases often given in detail, including the clinical picture as it ianges from day to day) forms an important part of this ork. A critical discussion of the literature in this field is cluded, and the pathology of the mediastinum and of the ighboring organs is frequently discussed; so also are physi-ogic problems. The work on the whole forms a scholarly ntribution to the literature in the field of bronchoscopy.

Miscellany

The Value of Hospital Ships in the Navy

n the program of the regular monthly meeting of the nila Medical Society for December, appears an abstract of paper by Dr. Charles F. Stokes, Surgeon, U. S. Navy, on me Features of Hospital Ships." In view of the wide-ead publicity and discussion which followed Dr. Stokes' ointment to the command of the U. S. Hospital Ship *ief*, this paper outlining the work accomplished by hospital ps in the Navy is of special interest. The abstract is in t as follows:

> Hospital ships are positively needed even in time of peace. air ships, refrigerating ships, supply ships, colliers, etc., provided in order to make the fleet self-sustaining from naterial viewpoint as far as possible. Hospital ships are ally essential. The hospital ship accompanying the fleet ws an increased number of effectives to be returned to r ships for duty immediately after treatment.
>
> n joining the battle-ship fleet at Magdalena Bay, the *ief* received over 160 patients, an average of 10 per ves- There were over twenty cases of tuberculosis and fully as many suspects. On the other vessels these patients e not only an encumbrance, but an actual menace to the of the fleet. Twenty-four patients required operative tment. Twenty-two were suffering from mental disor- . The average number of patients admitted to the *Relief* e with the fleet was 10 per day. At Honolulu 59 cases ontagious diseases were sent on board the *Relief* from vessels of the fleet, thus enabling the fleet to obtain ique and avoid delay in quarantine. At Auckland and ıcy a number of patients who otherwise would have been a hospitals on shore were taken on the *Relief* and re-ed to their ships at Manila. Several deaths occurring in fleet, the bodies, instead of being buried at sea, were sent oard the *Relief*, embalmed and brought to Manila in l caskets to be returned to friends and relatives in the s. The laboratories, *x*-ray outfit, dental equipment and cal and surgical supplies of the *Relief* have been of great to the medical officers of the fleet.
>
> hospital ship should be with a fleet in time of peace in that her status as a non-combatant may be fully demated, and in order to impress on the minds of the officers men the fact that the articles of the Geneva Convention be observed. The salient features of a hospital ship are lity, speed and coal endurance. She should have boats ient to transport patients entirely independent of other
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> ie *Relief* has special machinery for hoisting injured and men over the side, as well as boats especially equipped stretchers, etc. On the uppermost deck a thoroughly ped operating room will be fitted up. Infectious wards are placed well aft by themselves. There are also wards for isolation and treatment of tuberculosis, as well as sun and air spaces and special mess rooms for convalescents. The lower decks contain medical and surgical wards, laboratories, dispensary, quarters for medical officers and hospital corps, store rooms, steam laundry and cold storage rooms. The navigation and engineer forces are berthed forward, separate from the hospital portion of the ship. Hospital ships have demonstrated their usefulness and should be and will be commanded by medical officers."

This statement, from the medical officer in command of the *Relief*, amply demonstrates the good judgment shown by President Roosevelt, the Secretary of the Navy, and Surgeon-General Rixey in placing the ship under command of a naval surgeon. As is usually the case, Dr. Stokes' experience and testimony will doubtless be overlooked by the newspaper cartoonists, paragraphers and joke-writers who made such liberal use of the incident at the time. It is apparently impossible to eradicate from the popular mind an idea which has once been firmly established, especially when it has been implanted through the medium of a joke, but for the sake of those who care to know, a few facts on the status of hospital ships may be of interest.

Under the agreement of the Geneva and The Hague Conventions, hospital ships are non-combatant and neutral and are therefore exempt from attack and entitled to protection. Hospital ships of the navies of England, Germany, France and Japan are manned by crews recruited from the merchant marine and captained by civilian masters, but commanded by naval surgeons who are therefore the responsible naval officers in charge. Army hospital ships, both in the countries above mentioned and in the United States, are manned and captained in the same way and are commanded by army surgeons. The hospital ship is simply a floating hospital. There is no more reason why a non-medical officer should be in command of a hospital on shipboard than on land. The surgeon in command of a hospital ship, either in the Army or Navy, has nothing whatever to do with sailing the vessel, but is simply the responsible naval officer in charge, while the master of the vessel, a civilian captain of the merchant marine, is responsible for the navigation of the vessel and for the manner in which it is handled, when not in port.

The protracted discussion which greeted the order of Surgeon-General Rixey was mainly participated in by those who did not discriminate between the commander and the master of the vessel. Time has proved the wisdom of the arrangement and value of hospital ships. They are necessary for the comfort of the men and the efficiency of the service whether in peace or war, and should be developed and encouraged in every possible way.

Segregation of Urine on New Principle.—Prof. R. Kutner has found time in his duties as secretary and editor for the central German postgraduate work, to devise a method of segregating the urine and applying local treatment to the bladder by suction. The cystoscope he uses has two passages; the outer one is made in such a way that it can be applied at any point of the bladder wall, especially over the mouth of the ureter and aspiration can be induced with a simple air pump. The other smaller passage, inside the first, allows the escape of the urine accumulating in response to the suction. By suction from the air pump it is possible, he says, to aspirate out from the mouth of the ureter urine from the connecting kidney as effectually as by catheterization of the ureter, while it avoids the necessity for introduction of the catheter and thus averts possibility of infection from this source. By adapting the aspirating passage to any point in the bladder wall it is possible further to apply the principles of Bier's suction hyperemia to a bladder lesion. Another advantage is that it is possible to apply a medicinal solution exactly at the point where needed. In his communication in the *Zeitschrift für aerztliche Fortbildung*, September 1, he discusses the drawbacks of other methods and describes his suction cystoscope with its two passages at the tip terminating in a funnel-shaped enlargement, the outer aspirating passage enclosing the inner outflow tube.

The Year's Progress in Epilepsy.—During the past year separate provision for epileptics has been made in seven states. In other states there are private or semi-private charities, so that in all about 5,000 epileptics are cared for in institutions specially designed for them. There are, of course, many epileptics treated in institutions for the insane and for the feeble-minded. New York State has recently established a second institution primarily for these cases, and Ohio is considering one for the northern part of the state to relieve the present institution at Gallipolis. Illinois is making a strong effort to obtain a sufficient appropriation from her legislature this winter. These points were brought out at the eighth annual meeting of the National Association for the Study of Epilepsy, Indianapolis, November 10. The separate care of the epileptic was uniformly favored, as was also a colony with large acreage, but the exact scope and limitations of the institution and the segregation of various types of epileptics were differently viewed. It was agreed that it is unfortunate for sane epileptics to know of and perhaps see near by, the buildings for the insane epileptic and for the low-grade custodial cases, for he realizes that he will in all probability pass through these stages if he lives long enough. This undoubtedly has its depressing effect. On the other hand, a building site can be so chosen as to make these divisions easily accessible to, and yet almost invisible from each other., Such an arrangement is the most economical, especially in view of the constant changes in the mental condition of the epileptic. The type of building advocated varies, of course, according to the class of case. All must be constructed with reference to the nature of the disease: all sources of danger must be seen to; corners must be rounded; hot pipes and fires properly protected; stairs made wide and with frequent landings; doors should usually open out rather than into rooms, so that a patient falling against them will not hold them closed. For the most desirable class of colonists, houses accommodating from 15 to 30 are best. A few single rooms may be included, but on the whole, are not so desirable as small dormitories with three, four or five beds. The occupation of the colonists is a very important problem, and is one of the fundamental objects of colony care. The epileptic is incapacitated by the nature of his disease from mingling on terms of equality with normal people, and the object of the institution should be to provide for him such surroundings as will enable him to do the maximum work and get the maximum enjoyment out of life. A large farm is desirable and patients can be expected to assist in the working of it, under wise supervision, of course.

Atoxyl and Other Remedies in Sleeping Sickness.—In an introduction to the *Quarterly Report of the Progress of Segregation Camps and the Medical Treatment of Sleeping Sickness in Uganda* (Sleeping Sickness Bureau, London, 1908), A. D. P. Hodges, senior medical officer, says: "There is no doubt that the hopes expressed by Professor Koch and others that atoxyl would prove a general and permanent cure for cases of sleeping sickness must now be abandoned." He states that the remedy, however, is capable of rendering very great service and sums up the situation as follows: 1. In most cases there is a temporary improvement from its use. 2. There is probably in most cases prolongation of life. 3. In all patients who come in contact with the tsetse fly there is diminution of the susceptibility to infection. 4. There are still considerable numbers of patients in whom treatment was begun in the early stages who are still alive and some of these may be eventually cured. 5. The results from atoxyl and mercury at present are promising and may prove to be more lasting than those from atoxyl alone. 6. Experience has been gained in the use of the drug, the supply is now constant, and it is to be hoped that the quality will improve yet further. 7. We have at present no treatment, apart from atoxyl and its allies, which has shown any sign whatever of successful results. Some reports from the camps indicate disappointment with the combination of mercury and atoxyl; but experience with another brand of sodium amino-phenyl arsenate seems to show equally efficient action without toxicity and at about one-third the price (*Quarterly Report*, p. 28).

Recent work on the treatment of trypanosomiasis is reviewed in the *Bulletin of the Sleeping Sickness Bureau* (December, 1908). The work of Ehrlich is described and th hope is expressed that this experimenter will find a remed as effective in man as arsenophenylglycin is in mice. E Friedberger recommends the use of a mixture of atoxyl an thioglycollic acid (sulphydracetic acid) which he has foun more effective than atoxyl alone when injected into mic Plimmer and Bateman found that metallic antimony suspended in a mixture of palmitin and antiseptics (Lambkin' cream) was more efficient than any of its salts. There ar some favorable reports from the use of other remedies, suc as orpiment, Loeffler's solution of arsenic, and tartar emeti but none appear to be conclusive. A new proprietary preparation, said to be the methyl homologue of sodium aminopheny arsenate has been tried, but produced poisonous effects. Reports from the segregation camps indicate that the good results of the atoxyl treatment are more manifest after tw months' treatment than after three months, and would see to show that it is a good plan to resort to a new remedy a soon as the first one tried has begun to lose its efficacy.

Hepatozoon Perniciosum; a Protozoon Parasite Pathogen for White Rats.—W. W. Miller, in *Hygienic Laboratory Bull tin*, 46, June, 1908, describes the life history of a hemogre arine which is the only species of that class occurring i mammals which has been observed outside of India ar Northern Africa, both tropical regions. It is the only speci so far described which exhibits pathogenic properties. It i fects white rats, causing sickness and eventually death. E perimentally, Miller has shown that wild rats are susceptib to infection, but distinct pathogenic effects have not been co clusively shown. The most decided pathogenic effect seen to be exerted on young animals. The life cycle of the par sites has been worked out, and it is found that the infecti is transmitted from one animal to another by the agency an intermediate host, the gamasid mite (*Lelaps echidninus* which frequently infests both white and wild rats. The par site taken into the digestive canal of the mite undergoes se ual development and appears to be taken with the mite in the digestive tract of the rat in which the encysted parasit are set free, penetrate the intestinal wall and after multip cation become encysted in the liver. Some escape into t general circulation. The merozoites when fully developed a set free in the liver capillaries as vermicules; the majori are speedily taken up by the phagocytic large lymphocy and become encysted; a few may remain as vermicules. T parasites in the blood of the rat are again taken into t digestive canal of the mite and the cycle is repeated. Th rats can be infected by feeding on infected mites has b shown experimentally, and this is probably the only way which the infection is transmitted. Infection through the a mentary canal from an intermediary host has not been p viously described from a protozoon blood parasite. The vestigation is of interest, as it may suggest a means of stroying rats by infecting them with this disease.

Mosquitoes of the Philippine Islands.—An important st of the distribution of mosquitoes in the Philippine Isla with reference especially to the transmission of disease been made by Clara S. Ludlow, M.Sc., under governm auspices, and published in a monograph entitled "The Mos toes of the Philippine Islands" (Washington, D. C., 19 It was found that a large number of species present in islands had not been previously described; twenty-nine species are here recorded, of which eight belong to anophelinæ. The relation of this group to malaria seems be evident from the occurrence of malaria in the locali where members of the anopheles group are most preval but no pathologic investigations have been made to p that these species in the Philippines are the carriers of malaria parasite. It is a striking fact that the number anopheles mosquitoes has diminished in the last few year consequence of the prophylactic work undertaken by the s tary authorities, including the draining of low lands and the very general administration of quinin as a prophyla ıeasure. Four of the anopheles species present in the islands ave been proved to be the host of malarial parasites in frica and India. *Stegomyia calopus*, the proved host of yelw fever, is found in the Philippines, but yellow fever so far as never been present. Two other species of culicinæ are hosts f filariæ, but how far they are active in the Philippines is ot shown by this investigation. The fact that the *Stegomyia* present in the islands is of interest in connection with the esence of yellow fever in other countries with which the hilippines are in more frequent communication than forerly. The introduction of yellow fever into the Philippines ould probably be followed by an epidemic unless great preutions were taken.

Economic Dietetics.—Under this title, Ira S. Wile, in *Charies and the Commons*, Jan. 9, 1909, calls attention to a glected aspect of the diet question. Many persons of limd means suffer loss both in money and nutrition because ey do not understand the relative cost of equal amounts of trinment in the various articles of diet as purchased in the rket and as prepared for the table. The average houseeper is ignorant and extravagant. With a proper appreciam of food values, she might be able to save money, so that r children could be better clothed and housed and equally ll fed. Careful instruction should be given both girls and vs along this line. Philanthropic workers should see to it ıt food-supplies are properly used and when aid is given in viding food, the kind and amount should be specified. me of the menus recommended to the poor are beyond their ans. As Dr. Wile says: "It is not a question of teach people how to live when they have sufficient or abundant ans. The problem, in part, is to teach people to live within ir paltry incomes—to live well and to remain strong and lthy." The domestic science courses in the public schools faulty in not placing the most needed forms of cooking in front rank. "When a child is shown how to perfect nch fried potatoes before learning how to prepare oatmeal, course is not doing its full social duty to the child or to community." Better information and education in this matis urgently needed and the physician is the one to whom community naturally looks to furnish it.

Medicolegal

tice of Medicine Prior to 1864 or to 1884 Does Not Entitle to Certificate

ıe Court of Appeals of Kentucky says that the case of ster vs. State Board of Health was instituted for the ose of obtaining a writ of mandamus requiring the board sue to the plaintiff a certificate authorizing him to prac medicine in that state. The principal allegation in the ion on which the right to the certificate was based was for several years prior to Feb. 23, 1864, he was reputably honorably engaged in the practice of medicine in the e of Kentucky.

e plaintiff at the time he filed his petition was evidently r the impression that Section 2613 of the Kentucky ıtes of 1903 was still in force, and overlooked the fact the act of 1893, relative to empiricism, which forms a of Chapter 85 of the Kentucky Statutes of 1903, has repealed by an act on the same subject, which was apd March 18, 1904, and is found in Acts of 1904, Chap4.

Acts of 1904, Chapter 34, no person is permitted to ice medicine in Kentucky unless he shall first stand a actory examination by the board in the branches of ine as taught in reputable medical colleges. The mere that the plaintiff practiced his profession prior to 1864 ot entitle him to a certificate. It would only entitle o an examination, and not to a certificate, unless his extion showed that he was qualified in the opinion of the to practice his profession.

Moreover, the petition alleged simply that the plaintiff had for several years prior to 1864 practiced medicine in Kentucky, but it did not allege that he had continuously practiced medicine since that time. Over forty years have passed since 1864, and it was not alleged that during any of that time the plaintiff had practiced his profession. If we take the mere letter of the statute, the allegation would seemingly be sufficient; but the legislature did not mean that any person who was practicing the profession of medicine prior to 1864, as in the act of 1893, or prior to 1884, as in the present statute, should be entitled to a certificate if he had not been continuously practicing since that time.

The object of the statute is to elevate the practice of medicine, and to raise a high standard of proficiency which the applicant must fully measure up to in order to secure a certificate authorizing him to practice his profession. One who had simply practiced medicine prior to 1864, but had not practiced it since, or prior to 1884, but had not practiced it since, would be in no wise qualified to practice medicine in 1907.

Construing the act, then, according to its spirit rather than its letter, in order to authorize the plaintiff to stand an examination and receive a certificate under the present law, he must either receive a diploma from a reputable medical college legally chartered under the laws of Kentucky or of some other state in this Union, or, in the absence of a diploma, furnish satisfactory evidence that he was reputably and honorably engaged in the practice of medicine in Kentucky continuously from Feb. 23, 1884, until his application was made.

The statute under consideration is a wise and beneficent exercise of the police power of the commonwealth, enacted for the purpose of protecting the people of the state from imposition by empirics and quacks. It does not seek to prevent any honorable man or woman from practicing the profession of medicine. It only requires that they shall show, by a satisfactory examination before the State Board of Health, that they are qualified.

There was no suggestion in the plaintiff's petition that the board was acting arbitrarily, or that it unlawfully sought to prevent him from obtaining a certificate; and the court is not entitled, in the absence of such an allegation, to indulge in any presumption against its fairness. It is the high duty of the board to protect the health and safety of the public by requiring every applicant for a certificate to practice medicine to first show his qualifications.

It is not necessary to demonstrate the constitutionality of the act. Such legislation has been uniformly upheld by this court and other courts throughout the land.

Non-Mailable Information, Etc., Pertaining to Abortions

The United States District Court, Southern District of California, holds, in the case of United States vs. Somers, that that part of the federal statute (Section 3893 of the Revised Statutes of the United States) which prohibits the mailing of any letter giving information concerning articles or things designed or intended to procure abortion is not limited to physical substances capable of transmission through the mail, but includes treatments and operations, indeed, everything whether material or ideal, designed or intended for the purpose above stated.

The court says that while the letter charged to have been written by the defendant stated that he knew of no medicine that would bring about an abortion, yet, when read in connection with the letter of inquiry to which it was a reply, it did in effect inform the addressee that the defendant had at his command in Los Angeles some sort of means for the procuring of an abortion, although the means were not specified. It might be fairly conceded, however, that the means referred to were, as contended by the defendant's counsel at the oral argument, and using the language of the letter of inquiry, "some kind of operation."

The language of the section is: "Every obscene book . . . and every article or thing designed or intended for the . . . procuring of abortion, and every . . . letter . . . giving information directly or indirectly where or how or by whom or by what means any of the hereinbefore mentioned matters, articles or things may be obtained . . . are hereby declared to be non-mailable matter," etc.

Manifestly an "operation" is a "thing" within the accepted definition of the two words, and there is no peculiar phraseology in the statute which restricts the ordinary signification of the word "things." The participle of the verb phrase, "may be obtained," is not limited in its use to the acquisition of material substances, but is coextensive with the word "things," and can be suitably used to designate the attainment of whatever one may desire.

So the court is satisfied that an "operation" is a "thing" within the letter, as it admittedly is within the spirit, of the statute.

Unlawful Use of Titles by "Osteopathic and Magnetic" Physicians and "Drugless" Doctors

The Supreme Court of Washington, in the case of State vs. Pollman, where it affirms a conviction of the defendant of practicing medicine without a license, says that the defendant had maintained an office and place of business in front of and on the doors of which he had caused his name to be lettered, with the words, "Physician," and "Dr.," and had otherwise advertised a title which tended to show that he was a lawful practitioner of medicine and surgery under the laws of the State of Washington, when, in fact, he was not such a practitioner. It is competent for the legislature to prohibit acts of this kind. Its purpose in so doing is to protect the people against deception.

The Washington statute provides that "Any person shall be deemed as practicing within the meaning of this act who shall have and maintain an office or place of business with his or her name and the words physician or surgeon, 'Doctor,' 'M.D.' or 'M.B.' in public view, or shall assume or advertise the title of doctor or any title which shall show or shall tend to show that the person assuming or advertising the same is a lawful practitioner of any of the branches of medicine or surgery in such a manner as to convey the impression that he or she is a practitioner of medicine or surgery under the laws of this state."

The titles which the statute sets out are those usually associated with practitioners of the regular schools who treat diseases by the administration of remedies in the nature of drugs and their compounds, rather than with practitioners who treat solely by appeals to Divinity, the occult, or by "manually manipulating the limbs, muscles, nerves, and by flexing and manually manipulating the joints of the body," and it is practitioners of the regular schools rather than the others that the ill and infirm seeking relief usually expect to find when entering a room whose door has lettered on it the name of a person preceded by the title, "Dr.," or followed by the letters "M.D." or "Physician and Surgeon."

The defendant, it was true, prefixed to the word, "Physician" the words "osteopathic and magnetic" in one instance, and the word "drugless" in another; but these did not make the use of the word lawful. The statute is a prohibition against any use of the word in connection with announcements of the profession or business of a person other than practitioners of medicine and surgery who have passed the examination prescribed in the statute and received the license therein provided for, and this prohibition is not evaded by the use of qualifying adjectives prefixed to the prohibited words. The statute also uses the word "doctor," instead of the more common abbreviation "Dr.," but it is equally a prohibition against the use of either. Its purpose being to prevent deception, the courts will give to it that meaning which will most effectually accomplish that purpose.

It was said, however, that the part of the statute here in consideration could not lawfully be enacted under an act entitled, "An act to regulate the practice of medicine and surgery in the State of Washington," etc., but the court thinks the title sufficiently broad. To provide who may lawfully call themselves "Doctors," "Physicians," or "Surgeons" is clearly within the title of an act entitled, "An act to regulate the practice of medicine and surgery."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 30

1 The Ethics of Our Profession. A. Vander Veer, Albany, N. Y.
2 *Serodiagnosis of Syphilis, and Its Clinical Value. W. J. Butler, Chicago.
3 Pathology and Treatment of Chronic Gonorrhea. A. A. Uhle and W. H. Mackinney, Philadelphia.
4 Clinical Gonorrhea in the Male (continued). M. Huhner, New York.
5 Preventive and Abortive Treatment of Mastoiditis. W. S. Bryant, New York.
6 *Repair of Fractures. C. O. Files, Portland, Ore.
7 Methodical Occlusion of the Eyes in the Study of Their Etiologic Significance in Disturbances of the Nervous System. N. B. Jenkins, New York.

2. **Serodiagnosis of Syphilis.**—Butler discusses the theory on which serodiagnosis is based, and describes the substances employed in the test and the methods of their preparation with the mode of performing the test. He discusses the practical results of the reaction, which have been particularly illuminating in diseases of the central nervous system, especially general paresis and tabes. In visceral syphilis, also, it is very useful, especially when we remember that next to tuberculosis, syphilis is the most important cause of death in ma He further discusses hereditary syphilis, and the influence o antisyphilitic treatment on the reaction, and says that th significance of the reaction with regard to therapeutics may be summed up as follows: The reaction when positive is a indication of activity of syphilis, and it therefore follows tha a positive reaction is an indication for antisyphilitic therapy

6. **Repair of Fractures.**—Files points out that in fractures after the coaptation of the broken ends of the bones and thei fixation, the ordinary inflammatory changes are going on The extravasation of the blood into the tissues, etc., cause a stasis of repair for a week or ten days or more, durin which absorption is going on more or less rapidly. He point out that in severe sprains, e. g., of the ankle, the early an frequent use of electricity and massage practically prevent swelling and greatly accelerates recovery, by preventing th engorgement of the tissues and the stasis of blood, so that th work of repair goes on faster. He holds that the condition are analogous and that similar results will take place in th case of fractures.

Boston Medical and Surgical Journal

January 28

8 *Some of the Vagaries of the Obstetrician from the Standpoi of the Pediatrician. J. L. Morse, Boston.
9 What Type of Operation is Best Adapted for the Relief Disease of the Frontal Sinus? E. A. Crockett, Boston.
10 *Laryngotomy and Laryngectomy for Cancer. D. C. Green Boston.
11 Care of Fractures in General Practice. G. H. Francis, Broo line, Mass.
12 Exhibit of *X*-Ray Plates of Fractures. C. C. Simmons, Bosto
13 *The Cold Storage of Poultry. W. F. Boos, Boston.
14 Case Reports: Small Round-Cell Sarcoma of Tonsil, a Adenocarcinoma of the Left Maxillary Sinus. F. S. Cros field, Hartford, Conn.

8. **Obstetrical Vagaries and the Pediatrician.**—Morse di cusses the conditions met with by the pediatrician resulti from the practice of obstetricians. He considers the relatio of cyanosis and congenital heart disease, phimosis, breast fee ing, artificial feeding, premature infants, icterus and sepsis new-born infants, autointoxication and congenital deformiti Some of his aphorisms are as follows: It is safe to say that if new-born baby is cyanotic the one thing that is not causi the symptom, cyanosis, is a patent foramen ovale. The te phimosis should be restricted to the cases which persist in later boyhood. While phimosis is rare, adhesions are univ sal. During infancy he believes that neither true nor fa phimosis often causes symptoms. There should be no int ference without definite symptoms, and then if a cutti operation is necessary, a slitting of the foreskin is less har ful. In most cases the breaking up of adhesions with a pr and the retraction of the prepuce is sufficient to reliev symptoms. He deprecates the "epidemic of circumcision wh has arisen in the last few years." He also deprecates the g ing of too strong mixtures and of too large amounts of fo to new-born infants and to premature infants. Jaundice

the new-born is not necessarily jaundice of the new-born; it may be due to sepsis or other causes. Sepsis is more common in the new-born than is generally supposed; it causes fever, jaundice, cyanosis, hemorrhages, disturbances of digestion, bronchitis and bronchopneumonia. Infection may gain entrance during labor, or after birth by the introduction of a dirty finger into the mouth or by not keeping dirty water out of the mouth during bathing. Autointoxication is not uncommon. Castor oil is the best remedy for it.

10. **Laryngotomy and Laryngectomy for Cancer.**—Greene re-iews the history and describes the technic of laryngotomy ind laryngectomy, also the after treatment. The mortality an be kept at a low figure by attention to the following de-ails:

1. A careful selection of cases.
2. Attention to the cleanliness of the mouth.
3. The avoidance of shock by (a) the use of atropin before oper-ition: (b) local use of cocain during operation; (c) the Trendelen-ourg position during the second stage.
4. The avoidance of inhalation pneumonia by (1) the Trendelen-ourg position during operation, and (2) rectal feeding and eleva-ion of the foot of the bed after operation.

13. **Cold Storage of Poultry.**—Boos discusses the alleged fre-neucy of ptomain poisoning from cold storage poultry. He hows that the cold storage *per se* can not possibly be respon-ible. In illustration of the preservative power of cold, he escribes in detail a case of a mammoth found in a state of erfect preservation two years ago in northern Siberia. The ammoth had apparently fallen into a crevasse and died in s struggles to get out. It had lain in cold storage for over 0,000 years, and when its flesh was thawed it formed pal-table food both for wolves and men. The poultry should be mpletely drawn before being placed in cold storage, but the nsumer should buy the frozen bird and thaw it at room mperature, for, as the author shows, the usual handling in awing the birds before sale is such as to predispose to de-mposition.

Medical Record, New York

January 30

15 Leukemia in Advanced Life. A. A. Smith, New York.
6 *Some Common Injuries of the Elbow. J. P. Warbasse, Brooklyn.
7 *Motor Car Miscarriage. E. P. Davis, Philadelphia.
8 *Medical Psychology. G. V. N. Dearborn, Boston.
9 Early Diagnosis of Pulmonary Tuberculosis. A. H. Garvin, Ray Brook, N. Y.

16. **Injuries of the Elbow.**—Warbasse discusses contusions the elbow joint, fractures, separation of the epiphyses, d dislocations, illustrating his article with radiographs. e first essential is familiarity with the bony landmarks. ere need be no hesitancy in the use of general anesthesia. r the diagnosis of fracture or dislocation one should expose h elbows, and, with a pencil or ink, mark on the unin-ed joint the three bony points; the tips of the internal and ternal condyles and the tip of the olecranon. With the n in a straight position these three points should nearly in a straight line. With the elbow at a right angle y should make approximately an equilateral triangle. The ne marks should be made on the injured side, and the ex-ination proceeded with. Even when there is much swelling, ady pressure will reveal the condyles. The head of the lius should be identified, and with both arms extended, the rying angle of the two sides should be compared. These the important points of inspection. Systematic examina-n is important. One should take up separately each loca-n and feature of the injury. Is the swelling or ecchymosis lized or diffuse? Locate the point of tenderness. Is crep-s present? Is either condyle movable? Examine the olec-on process. Is there fracture or dislocation of the head the radius? Each part of the three bones entering into joint should be considered separately. No matter how led and thorough one is in these examinations the *x*-ray n almost indispensable adjunct to treatment. As to the ting up of such injuries, Warbasse stands on the middle und, between the extreme flexionists of Boston and the ex-sionists of Philadelphia, although flexion is applicable to majority of cases.

7. **Motor Car Miscarriage.**—Davis says that a great shock njury is sometimes better borne by pregnant women than frequently repeated shock, e. g., the use of the sewing machine with the foot. He reports cases illustrating the fact that motoring during the early months of pregnancy is frequently followed by abortion. The danger seems to lie in the fact that the rapid motion of a motor car subjects the patient to many small frequent jars. The characteristics of abortion following motoring are its slow and insidious development without bright hemorrhage or pain. These abortions are as a rule incomplete and require curetting. While motoring is dangerous in early pregnancy, in the latter months of gestation and with reasonable precautions as to smoothness of roads and moderation of speed, it may prove exceedingly useful.

18. **Medical Psychology.**—Dearborn urges the importance in medical education of instruction in psychopathology, and points out that it is essential for both the physician and surgeon if they are—as is so frequently urged—to treat, not the disease, but the individual suffering from the disease. Academic psychology has failed completely to make good in the laboratories. The new psychology finds its physical basis inherently in the neuroplasm, the protoplasm of the nerve. It is incumbent, therefore, that the medical schools for the present must supply their own psychology, as they do their own anatomy and much of their biology and chemistry. He refers to the courses in this department already existing at Johns Hopkins and Tufts medical colleges.

Lancet-Clinic, Cincinnati

January 30

20 *Carbon Dioxid Snow in Skin Lesions. M. L. Heidingsfeld and C. A. Ihle, Cincinnati.
21 Psychotherapeutics: Its Application and Limitations. I. O. Allen, Centerville, Ind.
22 Sugar-Splitting Ferment in Treatment of Diabetes. C. W. Orr, Cincinnati.

20. **Carbon Dioxid Snow.**—Heidingsfeld and Ihle's article is a further report in extension of the first named author's article on "Liquid Carbonic Snow in Dermatology," published in the *Ohio State Medical Journal*, August, 1908, and abstracted in The Journal, Sept. 19, 1908, p. 1037. The authors revise their previously expressed conclusions as follows:

> Carbon dioxid snow is especially well adapted for the removal of pigmented and selected types of vascular nevi. It is not particularly efficacious in removing tattoo marks, and possesses a doubtful and rather a negative value in the successful treatment and permanent cure of lupus erythematosus.
>
> It commends itself for certain forms of senile keratoses and degenerations of the skin. It is still a remedy of too tentative a character to commend itself as the method of choice in epitheliomata, common and venereal warts, lupus vulgaris, leucoplakia, lichen planus, and a host of other cutaneous affections, as was previously suggested.
>
> Carbon dioxid snow, however, commends itself to every dermatologist as a therapeutic agent of unquestioned merit, worthy of an indispensable place in dermatologic practice.

Virginia Medical Semi-Monthly, Richmond

January 22

23 *Cesarean Section. L. C. Morris, Birmingham, Ala.
24 Gastroenterostomy for Ulcer of the Stomach or Its Sequelæ. G. T. Vaughan, Washington, D. C.
25 Bier's Hyperemic Treatment—Its Practical Application by the General Practitioner. W. A. Strother, Bedford City, Va.
26 *Is Mercury a Specific in Infectious and Contagious Diseases, as Well as in Syphilis? H. E. Jones, Roanoke, Va.
27 Treatment of Compound Fractures. E. M. Magruder, Charlottesville, Va.
28 Typhoid—Importance of Early Diagnosis—Fasting—Special Diet—Surgical Rest of Bowel—and Simplicity of Treatment. A. J. Burkholder, Mt. Sidney, Va.
29 Prevention of Typhoid. W. A. Plecker, Hampton, Va.
30 Obstruction of the Bowel. C. T. Souther, Cincinnati.

23. Abstracted in The Journal, Nov. 21, 1908, p. 1807.

26. Abstracted in Society Proceedings, The Journal, Nov. 7, 1908, p. 1625.

Surgery, Gynecology and Obstetrics, Chicago

January

31 Papillary Cystadenoma in a Supernumerary Ovary. R. T. Frank, New York.
32 *Idiopathic Progressive Curvature of the Radius, or So-called Madelung's Deformity of the Wrist (Carpus Varus and Carpus Valgus). DeW. Stetten, New York.
33 Parathyroid Tumors. J. C. DaCosta, Philadelphia.
34 *Fracture of the Astragalus. J. H. Stealy, Freeport, Ill.
35 Tenosynovitis of the Hand. A. B. Kanavel, Chicago.
36 Carcinoma of the Gall Bladder; Presence of Stones as a Factor in the Etiology. R. R. Huggins and W. H. Ingram, Pittsburg, Pa.
37 Temporary Colostomy as a Curative Measure in Certain Forms of Postoperative Fecal Fistula. J. M. Elder, Montreal, Canada.

38 *Question of Diagnosis in the Case of a Patient Complaining of "Indigestion." A. C. Vietor, Boston.
39 Acute Traumatic Tetanus Treated by Magnesium Sulphate. A. P. Heineck, Chicago.
40 *Temporary Ventrosuspension of the Uterus. E. H. Ochsner, Chicago.
41* Why Operations for Bunion Fail, with Description of One That Does Not. J. L. Porter, Chicago.
42 Case of Multiple Peptic Ulcers of the Stomach Followed by Perforation. Autopsy. J. H. Hewitt, Cleveland, O.
43 Effective Dressing for Thigh Amputations. W. Van Hook, Chicago.
44 Coaptation and Imbricating Suture for Closing Abdominal Incision. D. T. Gilliam, Columbus, O.
45 Gastric Accretion. Case with Gastrotomy. A. M. Smith, Cherokee, Kansas.
46 Uterus Duplex Separatus cum Vagina Separata. A. R. Cunningham, Spokane, Wash.
47 Simple, Isolated Dislocation of the Carpal Scaphoid. H. B. Stone, Charlottesville, Va.

32. **Idiopathic Progressive Curvature of the Radius.**—Stetten discusses at considerable length the deformity of the wrist first clearly described by Madelung in 1878, and draws the following conclusions:

1. The so-called Madelung's deformity of the wrist is due to an antero-posterior bowing of the radius, usually of the shaft proper, occasionally of the epiphysis, and sometimes of both. This produces a deviation of the articular surface and an apparent subluxation of the wrist. The deformity is usually bilateral.

2. Heredity, the female sex, and youth (about eleven years) are predisposing factors, and the exciting cause is a local dystrophy, an irregular ossification of the distal extremity of the diaphysis, or of the proximal portion of the epiphysis, or both.

3. There are two distinct types, a forward, or common, and a backward, or rarer, one, in both of which, however, there is generally an exaggeration of the normal curvature of the radius toward the ulna. A corresponding increased inclination of the joint surface toward the ulna results, with adduction of the hand, and an angulation of the first row of carpal bones. The carpus usually retains its normal relations to the radius, but the caput ulnæ is dislocated backward or forward in the lower radioulnar and triangular-cuneiform articulations.

4. The disease is one of the growth period, developing spontaneously, with pain, and progressing gradually (from two to three years) with limitation of motion against, and increase of motion in the direction of the deformity. Numerous conditions simulate the lesion, but the history and the *x*-ray will establish the diagnosis.

5. The prognosis is good and treatment consists in osteotomy of the radius after the disease has run its course and the symptoms or deformity justify surgical intervention.

He summarizes a large number of reported cases.

34. **Fracture of the Astragalus.**—Stealy discusses this subject at length. He says that in injury to the ankle, with great pain and swelling, a radiograph is essential to a proper diagnosis, which must be guided by the manner in which the injury was sustained. The reduction of a dislocated fragment is almost always impossible. This condition will not correct itself. A dislocated fragment is liable to necrosis and destructive inflammation with suppuration, wherefore the dislocated fragment should be extirpated as soon as possible after diagnosis. The operation should be done expeditiously through one incision without destruction of important tissues.

38. **The Diagnosis of "Indigestion."**—Vietor says that symptoms of so-called indigestion group themselves as sensory and motor phenomena referred to the abdomen, but especially to the upper abdomen or middle zone of the trunk, and accompanied more or less by some degree of related or reflex secretory, nutritive, visceral, circulatory, respiratory, neuromuscular or psychic disturbances. The uncertainty of treatment directed to the digestibility of the foods and to the improvement of the digestive powers of the patient, coupled with laboratory and surgical experience, raises the presumption that symptoms of so-called indigestion are really symptoms of definite pathologic conditions intermediate to the terminal lesions long noted on autopsy. The importance of the knowledge of the frequent displacement of organs in the middle zone of the trunk, and that that zone acts as a reflex alarm center for the whole body is emphasized. In attempting to locate a pathologic condition causing symptoms in the upper abdomen, errors are most likely to be avoided by first excluding all causes lying entirely outside of the abdomen. But no matter how clear the presumption that a sufficient cause exists elsewhere, the diagnosis should not be considered established till affections of the abdominal wall and of the abdominal viscera are in turn excluded. The question of incompetence of the abdominal wall is of primary importance and is always accompanied by some displacement of the viscera. No matter where the viscera are displaced, their ultimate proximal attachments and their efferent vessels and nerves are still derived from the original sources in the upper abdomen Hence, whenever the abdominal viscera are displaced, traction with or without kinking, and torsion on their attachments car not be excluded. The pathologic effects of displacement traction, kinking and torsion have been abundantly demonstrated elsewhere in the body. In the light of the foregoing one can not but question whether the more definitely demonstrated lesions of the upper abdominal viscera—and even appendicitis and other lesions in the lower abdomen—are not more remote effects of this traction, kinking and torsion.

40. **Temporary Ventrosuspension of Uterus.**—It occurred t Ochsner, years ago, that if one could secure a temporary ventrosuspension of the uterus in practically every case of extensive pelvic infection in which a radical operation is performed, the prevention of the undesirable after-effects frequently found after operations of permanent ventrofixatio and ventrosuspension would be avoided. He describes a operation with this object in view, for which he claims th following advantages: It has none of the objections attributed to permanent ventrosuspension or fixation; it is extremely simple and consequently easy of application; it doe not open up new areas for infection; it does not increase th shock of operation; it leaves the pelvic organs in as nearly normal condition as the pathologic conditions for which th operation is undertaken permit; and, finally, it has the grea advantage of apparently being practically always effective.

41. Published in *Lancet Clinic*, Dec. 26, 1908, and *Louisvill Monthly Journal of Medicine and Surgery*, January, 1909; an abstracted in The Journal, Jan. 16, 1909, p. 248.

Bulletin Lying-In Hospital of City of New York

September, 1908

48 Five Cases of Acute Gangrenous Appendicitis Occurring Du ing Pregnancy. R. W. Lobenstine, New York.
49 *Management of Cardiac Disease with Broken Compensatio During Pregnancy and Labor. J. A. Harrar, New York.
50 *Tuberculosis as a Complication of Pregnancy and Parturitio R. W. Lobenstine, New York.
51 Management of Occipito-Posterior and Transverse Positions the Fetal Head. C. B. Knapp, New York.

49. **Cardiac Disease During Pregnancy and Labor.**—Harra on a basis of ninety-seven cases, discusses valvular disease i which loss of compensation has occurred during pregnancy labor. He emphasizes the fact that serious loss of compe sation can occur during the latter months of pregnancy an yet the woman be put into serviceable condition and go normally with pregnancy. The immediate maternal mortalit was found to be 30 per cent., the prognosis improving the fu ther along in pregnancy the woman is at the time of the firs breakdown in circulatory balance. The great mortality f the child is dependent on prematurity and the frequent nece sity for artificial delivery. The metabolism of the child is n affected by the uncompensated maternal heart *per se*. As prophylaxis, besides the treatment of endocarditis during t stage of compensation, emphatic instruction should be giv to students and practitioners that pregnant women wi chronic valvular disease must lead a quiet, regulated life. undue exertion, such as long walks, climbing the stairs, long journeys should be attempted. The passions must controlled; anger or any emotional excitement is especial to be avoided. The medical treatment in broken compensati is similar to that of cases in non-pregnant women. The trea ment mentioned includes digitalis, strophanthus, caffei calomel and the salines, precedent to heart stimulation, m phin and codein for dyspnea and insomnia, also chloral; nitr glycerin, rectal injections of physiologic salt solution in su pression of urine, oxygen in sinking spells and cyanosis a dry cupping of the sides and back of chest in dyspnea fr pulmonary edema and in suppression of urine. The obst rical treatment is fully discussed. Induction of labor wi merely chronic endocarditis is mentioned only to be c demned, and should be considered only when compensati fails. Even in these cases rest in bed and medicine sho first be given a trial for from 5 to 10 ten days. Labor sho be induced (a) if, though the symptoms improve somew with rest in bed and the usual therapeutic measures, the co pensation does not promptly become restored; (b) if the co pensation once lost has been regained, when it may be d

at the thirty-sixth week to secure easier labor; (c) if the compensation fails markedly before the sixth month; (d) in desperate or moribund cases, in the interest of the child. Here *accouchment forcé* with rapid manual dilatation of the cervix, or vaginal hysterotomy, is frequently justifiable. He describes the method of inducing premature labor and the management of the second and third stages of labor. The baby, whether premature or full term, should be given to a wet nurse. Chronic valvular disease is in itself not necessarily a serious condition in the child-bearing woman.

50. **Tuberculosis, Pregnancy and Parturition.**—Lobenstine's paper is written to combat the old time superstition that pregnancy is beneficial or at least not harmful to a woman possessed of a tuberculous pulmonary lesion, and to present the very serious and baneful effects of pregnancy and parturition on tuberculous subjects. The paper is based on 100 cases. He cites illustrative cases, and reproduces Osler's considerations on the relation of tuberculosis and marriage. Regarding general management he emphasizes *inter alia* the following points: The obstetrical treatment depends on the time n pregnancy at which the patient comes under observation. During the first three or four months artificial abortion should be resorted to after due care and deliberation, in the majority of cases. After the first three or four months, (a) pregnancy hould be allowed to continue if the patient is holding her own fairly well; (b) if the case was only moderately severe at the beginning of pregnancy and the patient is losing ground, pregnancy should be interrupted; (c) if the case is bad one, interruption of pregnancy is of no real value; in act, in the patients losing ground rapidly it merely tends to asten their death. Labor should always be made as easy s possible, particularly the second stage, which, as a rule, hould be assisted with forceps or version. Little anesthesia hould be used, and, when used, is advantageously combined with oxygen.

Journal of Abnormal Psychology, Boston

December-January

52 *The Seat of Consciousness. F. Peterson, New York.
53 *An Introspective Analysis of Conscious Life (continued). By a Co-conscious Personality. (B.)
54 *The Unconscious (continued). M. Prince, Boston.

52. Abstracted in The Journal, Nov. 28, 1908, p. 1893.

53. **The Co-Conscious Life.**—This is a continuation of the ticle in the preceding issue (abstracted in The Journal, nuary 30, 1909) in which the subject herself describes her e as a dissociated personality. She now describes the nesis of dissociation, her co-conscious life, the content of the -consciousness, its separateness and continuity and emotion, relation to the other personalities, its ability voluntarily influence the personal consciousness, and its involuntarily luence thereon, and the nature of its dreams.

54. **The Unconscious.**—A survey of the facts related by ince brings out into strong relief the important principle at no matter in what state complexes are formed, so long they are conserved they become a part of our personality. ey become dormant, but, being conserved they may, under orable conditions, become awakened and enter our con- ons life. It matters not whether complexes have been med in our personal consciousness or in a state of hypnosis, dreams, in conditions of dissociated personality, in co- sciousness, or any other dissociated state; they are all ts of ourselves, and may afterward be revivified, whether itionally or automatically. Through the formulation of conception of the subconscious as resolvable, on the one id, into the unconscious or complexes conserved as passive siologic residua, and, on the other hand, into coactive con- us states, all the so-called subconscious phenomena known date are intelligible. It offers a basis for comprehensible ories of memory, suggestibility, posthypnotic phenomena, ams, automatic writings and similar phenomena, artificial ucinations, the dissociative and automatic phenomena of teria, and, to a large extent, the mechanism of thought. de from certain artificial and pathologic conditions, there o normal subconscious self, or subliminal self, or secondary , or hidden self, properly speaking.

Journal of Advanced Therapeutics, Rahway, N. J.

December

55 *Disruptive High-Frequency Discharges, by Reaction Method, as a New and Important Therapeutic Agent. M. W. Brinkmann, New York.
56 *Treatment of the Enlarged Prostate by the High-Frequency Current. M. M. Johnson, Hartford, Conn.
57 Treatment of Varicose Veins and Varicose Ulcers by the Static Wave Current. H. Finkelpearl, Pittsburg, Pa.
58 Cataphoric Operations as Modified by the Topographic Situation of Particular Neoplasms, with Detailed Report of Cases. G. B. Massey, Philadelphia.

55 and 56. Abstracted in The Journal, Nov. 28, 1908, p. 1890.

Journal of the Arkansas Medical Society, Little Rock

December

59 *Surgical Treatment of Retroflexion. W. H. Miller, Little Rock.
60 *Immediate Repair and After-Treatment of Lacerations of the Perineum. W. A. Snodgrass, Little Rock.
61 *Skin Lesions as Danger Signals. N. Klein, Texarkana, Tex.
62 The Doctor's Wife. S. Dickson, Paragould.

59, 60, 61. Abstracted in The Journal, July 18, 1908, pp. 249, 250.

Cleveland Medical Journal

December

63 *Case of Traumatic Asphyxia. R. A. Bolt, Cleveland.
64 Forty-two Consecutive Abdominal Hysterectomies for Uterine Fibroids. F. E. Bunts, Cleveland.
65 Drugs in Cardiac Therapy. J. B. McGee, Cleveland.
66 Acute Pericarditis Following Removal of Gonorrheal Pyosalpinx. J. L. Bubis, Cleveland.
67 Clean Milk. C. Christadoro. San Diego, Cal.

63. **Traumatic Asphyxia.**—Bolt describes at length a case of traumatic asphyxia. He reviews the literature of the subject, and summarizes it in tabular form. He discusses in detail the clinical findings in the reported cases and the underlying mechanism and pathologic changes, particularly in relation to the discoloration of the neck and face. He says that the mild and incomplete forms approach closely true asphyxia with cyanosis. Powerful thoraco-abdominal effort on the part of the patient may be sufficient to produce the incomplete form, but to cause a traumatic asphyxia there must be a severe and sudden compression of the abdomen and thorax for a sufficient period to suspend respiration, and at the same time force the carbonized blood largely into the veins and capillaries of the cervicofacial region. This is favored by the lack of competent valves in the veins leading from the head, and the protection which the well-formed valves give to the trunk and extremities. The sudden reflex of blood causes a dilatation of the venules and capillaries. Pressure on the abdominal and thoracic sympathetic plexuses may add to the effect of dilatation and cause a temporary paralysis of the vessel walls. A condition of venous stasis is thus favored which gives rise to the peculiar discoloration. In most cases no injury has been caused to the vessel walls, and the blood has been confined to the vessels. But from authentic reports, we must conclude that the condition may become so severe as to cause a diapedesis, or even extravasation of the blood in certain regions of the face and neck.

California State Journal of Medicine, San Francisco

December

68 *Hematuria. G. MacGowan, Los Angeles.
69 Pentoses. A. H. Jones, Los Angeles.
70 *Postoperative Treatment. O. D. Hamlin, Oakland.
71 Opsonic Index and Vaccine Therapy. R. Bine, San Francisco.

68. **Hematuria.**—MacGowan discusses systematically hematuria arising respectively from the anterior urethra, the posterior urethra and prostate, the seminal vesicles, the bladder, the ureter and the kidneys, and cites numerous cases illustrating the various forms and their causes.

70. **Postoperative Treatment.**—Hamlin points out that the surgeon's responsibility does not end with the laying down of the scalpel, but continues until convalescence has set in. The purpose of after-treatment is to prevent complications; failing this, to recognize them early and to treat them intelligently, so as to secure, not only recovery, but the best functional results. He discusses the postoperative posture of the patient and thinks the traditional dorsal posture subject to many rational objections. He urges the right side posture when the patient is taken from the operating room or begins

to recover from the anesthetic, cases requiring, for technical reasons, special posture being of course excepted. For anesthetic vomiting he recommends large draughts of water containing some alkali, such as sodium bicarbonate. After lavage of the stomach, cocain hydrochlorid, grain 1/12 (0.005 gm.) bismuth subnitrate, grains 5 (0.032 gm.) and cerium oxalate, grain ½ (0.03 gm.) may be given dry, on the tongue. Sometimes it is useful to spray the nostril with 4 per cent. cocain solution. Finally, he discusses at length postoperative shock under four different classes, namely that due respectively to vasomotor depression, hemorrhage, the toxic effect of the anesthetic, and mental disturbance, psychic shock. This last is particularly likely to occur in neurotic and alcoholic patients, children, and others of timid nature.

Detroit Medical Journal

December

72 *Prophylaxis of Cancer. T. A. McGraw. Detroit.
73 The Climate Controversy. E. S. Bullock. Silver City, New Mexico.

72. **Prophylaxis of Cancer.**—McGraw says that we may reasonably conclude that. though in our ignorance of the fundamental cause of malignant degenerations we have no certain means of prevention, we may, nevertheless, hope to forestall its development, in many cases, by curing pathologic conditions which act as exciting causes. Surface cancers are largely due to injuries, chronic irritations, inflammations and ulcers, which destroy the resisting power of the tissues and stimulate the development of cancer germs. The neglect of such troubles, therefore, especially in persons of middle and old age, may result in disaster. We should therefore see to it that men and women approaching middle life are cured of such troubles. Uterine lacerations should be repaired, gallstones removed, chronic gastric ulcers operated on, and chaps and indurations of the lower lip and ulcers in the mouth excised. Wherever a morbid spot shows itself on the skin or mucous surfaces, it should be made the subject of careful consideration and treatment. By so doing we may reasonably expect to prevent the development of cancerous troubles in such localities. In the deeper seated cancers springing from the glandular epithelium, we have to regret in most cases the absence of all previous indications of local disease. All we can do is to learn to recognize them at the very earliest period when thorough excision may possibly remove all metastatic cells. We must not forget the part played by certain benign tumors in affording a suitable ground for the generation and development of malignant tumors. This teaches us to insist in the absence of positive contraindications on the removal of all tumors, however innocent in appearance and character, as soon as they appear.

Journal of Inebriety, Boston

Winter, 1908

74 The Influence of Narcotics on Metabolism. W. S. Hall, Chicago.
75 *General Principles of the Treatment of Habitual Drunkards. T. C. Shaw, London, Eng.
76 Influence of Alcohol and Autotoxicosis on Nervous and Mental Diseases. G. H. Benton, Chester, W. Va.
77 The Physician and Alcohol. Prof. M. Kassowitz, Vienna, Austria.
78 Alcohol an Important Factor in the Etiology of Mental and Nervous Diseases. D. R. Brower. Chicago.
79 Alcoholic Insanities. A. Gordon, Philadelphia.
80 The Pauper Inebriate from a Medical and Legal Standpoint. L. D. Mason, Brooklyn.

75. Published in the *British Medical Journal*, Sept. 19, 1908

Journal of Infectious Diseases, Chicago

December

81 Plague Among the Ground Squirrels of California. W. B. Wherry, Oakland, Cal.
82 Rat Leprosy and the Fate of Human and Rat Lepra Bacilli in Flies. W. B. Wherry, Oakland, Cal.
83 Streptococci Occurring as Diplococci in Rats. W. B. Wherry, Oakland, Cal.
84 Experiments on Use of *Bacillus Pestis Caviæ* as a Rat Virus. W. B. Wherry, Oakland, Cal.
85 Experiments on the Germicidal Action of Cow's Milk. P. G. Heinemann and T. H. Glenn, Chicago.
86 Pyocyaneus Infections, with Report of Two Rare Cases. H. H. Waite, Lincoln, Neb.
87 Method for the Staining of Negri Bodies. D. L. Harris, St. Louis, Mo.
88 The Occurrence of Thermostable and Simple Bactericidal and Opsonic Substances. A. Hamilton, Chicago.
89 Effect of Injections of Homologous Streptococci. Killed by Heat, in Streptococcus Complications in Contagious Diseases. G. H. Weaver and R. Tunnicliff, Chicago.
90 Streptococcus Immunization. G. H. Weaver and R. Tunnicliff, Chicago.
91 Injections of Heterologous Streptococci, Killed by Galactose, in Erysipelas and in Scarlet Fever. G. H. Weaver and T. H. Boughton, Chicago.
92 Simple Synthetic Media for the Growth of *B. Coli* and for Its Isolation from Water. M. L. Dolt, Providence, R. I.

Interstate Medical Journal, St. Louis

December

93 Conservative Methods of Treatment of the Inflammatory Diseases of the Tubes. P. Findley, Omaha, Neb.
94 Persistent Sinus After Nephrectomy. W. C. Kirchner, St. Louis.
95 Examination of the Stools of Infants. J. Zahorsky, St. Louis.
96 Fat Incapacity in Young Infants. A. S. Bleyer, St. Louis.
97 Case of Jonathan Swift. G. M. Gould, Ithaca, N. Y.

Journal of the Kansas Medical Society, Kansas City

December

98 *Dieto-therapy of Acute Fevers. C. F. Menninger, Topeka.
99 Screw Worm Disease (Myiasis). Z. Nason and G. H. Hoxie, Rosedale, Kan.
100 Opportunity and Duty of the Kansas Medical Society. W. H. Graves, Wichita, Kan.

98. **Dieto-Therapy of Acute Fevers.**—Menninger discusses the classification of diseases having fever, and the application of diet to etiologic therapy, antipyresis, stimulation, and its influence on kidney function, the digestive tract, and metabolism. He concludes that the fever patient should receive a liberal supply of food; thereby the burning up of non-nitrogenous substances of the body will be prevented and at the same time provision will be made that the cells shall retain that albuminous tissue which would be destroyed if not enough non-nitrogenous food were given. Abundant supply of nourishment will limit the fever consumption, but diet in acute fevers will never be able completely to cover the loss, let alone to make an increase over and above the loss.

Laryngoscope, St. Louis

December

101 Rhabdomyoma of the Nose. D. T. Vail, Cincinnati.
102 *Relationship Between Degenerate Tonsils and Middle Ear Deafness. J. N. Reik, Baltimore.
103 Postoperative Effects of the Stacke Operation. J. F. McKernon, New York.
104 *Value of Differential Blood Count and of Bacteriologic Examination of Aural Discharge as Diagnostic Factors in Cases of Mastoid Involvement. E. B. Dench, New York.
105 *Rhinoscleroma in North America. E. Mayer, New York.
106 Case of Primary Sarcoma of the Nasopharynx. J. F. McCaw, Watertown, N. Y.
107 Tuberculous Ulceration of the Petiolus Region of the Epiglottis. T. J. Reardon, Boston.
108 Improvement of Technic in Various Sinus and Mastoid Operations. J. R. Fletcher, Chicago.
109 Osteochondroma of the Septum with Extensive Absorption of the Cribriform Plate; Tumor Extruding into the Cranial Cavity, Sphenoidal and Ethmoidal Cells. R. C. Myles, New York.

102. **Degenerate Tonsils and Deafness.**—Reik emphasizes the importance of carefully looking for diseased tonsils, and getting rid of them completely when found, in all cases of beginning or progressive middle-ear deafness; not that their enucleation will always arrest the progress of the condition or cure it, but that it will eliminate at least one of the possibly important factors in its production.

104. **The Blood Count in Mastoid Disease.**—Dench believes that we may safely say that an increased polymorphonuclear percentage and an increase in the leucocyte count, are of absolutely no value in determining the presence of pus in the mastoid in doubtful cases. When these variations from the normal blood count occur in aural cases, we must look for one of the three conditions: (1) Some visceral lesions; (2) some involvement of the soft tissues in the immediate vicinity of the wound; (3) some involvement of the intracranial structures, either of the brain substance or of the lateral sinus. It should be particularly borne in mind, as is clearly demonstrated by the statistics, that in certain instances, a thrombosis of the lateral sinus may occur, in which the polymorphonuclear count will not rise above 80 per cent., and in which the leucocytosis will not be greatly increased. The surgeon must still rely on clinical signs of involvement of the mastoid and of the intracranial structures, and must put the bacteriologic examination of the discharge and the differential blood count in a secondary place, in arriving at his diagnosis

105. **Rhinoscleroma in America.**—Mayer says that rhinoscleroma, an unusual affection at least in this country, but endemic in Poland, is contagious to a degreee and may involve the external and internal nose, the pharynx, larynx or either one with the other of those parts. The total number of undoubted cases of the affection reported by Dr. Friedberg as occurring in the United States, was 16; of these 13 were females and 3 males; the youngest patient was 9 years old and the oldest 54 years old; the average age was 30 years. Of this number the nose only was involved in 4 cases, the nose, pharynx and larynx in 2 cases, the nose and larynx in 4 cases, and the nose and pharynx in 6 cases. In all the cases, the affection had its beginning before the patients came to this country, all came from some part of Poland, and no authentic case originating in the United States has been found.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

December

110 *Causes of Mortality from Heart Disease in the United States. T. Darlington, New York.
111 *Tuberculosis in the Insane. F. Woodbury, Philadelphia.
112 Systemic Infection Through the Tonsils. R. B. Scarlett, Philadelphia.
113 Parenchymatous Nephritis and Multiple Verruca (Warts). J. V. Shoemaker, Philadelphia.
114 Some Gynecologic Abnormalities. J. A. McGlinn, Philadelphia.
115 Don't Swallow the Enemy—Don't Touch the Enemy—Don't Breathe the Enemy. F. T. Woodbury, U. S. Army.

110. **Mortality from Heart Disease.**—Darlington recapitu-ates impressions gained from a study of heart disease in the 'nited States as follows:

1. The mortality rate from heart disease is steadily increasing.
2. This increase is general throughout the United States and is pparently unaffected by climate conditions, locality or density of opulatiou.
3. The correlated condition, chronic Bright's disease, shows a orresponding increase in mortality.
4. The general death rate is steadily decreasing.
5. No other disease shows a general relative increase in its deathate.
6. The commonly accepted cause of cardiac affections can not be eld responsible for the increased death rate without further study f their etiology.
7. The effect produced by high-strung nervous tension, induced y modern methods of social and business competition, must be garded as a causative factor in the production of functional and ltimately organic cardiac disease.
8. The medical profession has before it an opportunity of great ital moment in teaching the doctrine of right living, advocating saner and more wholesome attitude toward life, and standing as unit against the false standards of material gain and advanceent obtained by the sacrifice of the normal, healthful and peaceful tributes of calm mental poise, equable temperament and physal well-being.

111. **Tuberculosis in the Insane.**—Woodbury makes a plea r the humane treatment of dying tuberculous insane tients. There is a group of cases in which consumption ust be regarded not so much as a disease as a mode of ing. In such cases, among sane or insane, curative treatnt necessarily harsh and invigorating is out of place.

New York State Journal of Medicine, New York

December

6 Medical Journalism. J. P. Warbasse, Brooklyn.
7 Hysteria and Allied Neuroses. N. A. Pashayan, Schenectady.
8 Present Status of the Calmette Reactiou. F. W. Voorhees, New York.

New Orleans Medical and Surgical Journal

December

*Pellagra in the Southern States. G. H. Searcy, Tuscaloosa, Ala.
Nervous Hygiene and the Control of Nervous Impulse. E. M. Hummell, New Orleans.
Tuberculosis Clinics and Dispensaries. S. E. Chaillé, New Orleans.
*Roentgen-Ray Diagnosis of Diseases of Bones and Joints. A. Granger, New Orleans.
*Recurrent Gonorrhea in Married Men. C. W. Allen, New Orleans.
Case of Anterior Poliomyelitis. L. L. Cazenavette, New Orleans.
Prophylaxis of Gonorrhea. F. J. Chalaron, New Orleans.

19. Commented on editorially in The Journal, Jan. 2, 9, p. 54.

22. Published in the *Journal of Advanced Therapeutics*, vember, 1908.

23. **Recurrent Gonorrhea in Married Men.**—Allen criticizes prevalent custom of treating recurrent symptoms of gonea with a syringe and internal sedatives, and ceasing with the disappearance of discharge. He cites cases indicating that much morbidity in married women is due to outbreaks in the husband of a supposedly cured gonorrhea. He insists that the majority of cases in primary infection result in a posterior urethritis far oftener than is generally supposed. Such cases are not to be cured by merely placing a syringe in the hands of the patient. They tend to subside, only to recur later from various existing causes.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

December

126 *Application of the Obstetrical Forceps—a Plea for Restraint. B. Lankford, Norfolk, Va.
127 Several Unusual Forms of Superficial Inflammation of the Cornea. W. C. Posey, Philadelphia.
128 Case of Sporadic Cretinism. J. B. Nowlin, Buckingham, Va.
129 Conclusions Concerning Typhoid in the South, as Deduced From a Study of Typhoid in Richmond, Va. (concluded). E. C. Levy and A. W. Freeman, Richmond.
130 Typhoid Bacillus Carriers. St. G. T. Grinnan, Richmond.
131 New Treatment for Hypertrophied Prostate. J. W. Hunter, Norfolk.

126. **Application of Forceps.**—Lankford believes that forceps are used to-day too frequently and with not sufficiently potent reasons. We should be guided by two, and only two, reasons for applying forceps; the ultimate good to the mother or to the child, and the mother should have the preference. Pelvimetry should be practiced in all primiparous pregnancies and should be found a great help. The lateral position for both simple and forceps cases, especially with the Neville (Irish) forceps, has marked advantages over the dorsal because of greater precision, stricter cleanliness and simpler technic.

Ophthalmic Record, Chicago

December

132 Increased Tension in Ocular Diseases of Infaucy and Childhood. J. E. Brown, Columbus, O.
133 The Spheuoidal Sinus as a Possible Etiologic Factor in the Production of Retrobulbar Neuritis from au Anatomic Standpoint. L. M. Francis and J. A. Gibsou, Buffalo, N. Y.
134 Family Exophoria. W. Reber, Philadelphia.
135 Innovations in the Operative Treatment of Persistent Glaucoma. Study of Substitutes for Iridectomy. P. Fridenberg, New York.
136 Report of Corneal Case. J. W. Kimberlin, Kansas City, Mo.
137 Pyramido-Zonular Cataract. B. Chance, Philadelphia.
138 Tuberculosis of the Eye. F. H. Verhoeff, Boston.
139 Ophthalmic and Aural Laboratory Diagnosis. D. M. Campbell, Detroit.
140 Congenital Cataracts with Calcareous Deposits. S. Mitchell, Hornell, N. Y.

Archives of Pediatrics, New York

December

141 Case of Incomplete Heterotaxy, with Unusual Heart Malformations. B. F. Royer and J. D. Wilson, Philadelphia.
142 *Causative Factors of the Paralyses of Early Life. R. S. Haynes, New York.
143 Diagnosis of Paralyses of Early Life. E. G. Zabriskie, New York.
144 *Electrotherapy in Paralyses of Early Life. T. A. Romeiser, New York.
145 *Surgical Treatment of the Paralyses of Early Life. R. H. Sayre, New York.
146 Mechanical Treatment of the Paralyses of Early Life. W. R. Townsend, New York.
147 Two Cases of Herniotomy for Strangulated Inguinal Hernia in Infants. A. P. C. Ashhurst, Philadelphia.
148 Adenoid Vegetations from the Standpoint of the Pediatrist. J. E. Hunt, Kansas City, Mo.
149 *Infantilism (Lorain Type). A. Hymanson, New York.

142. **Paralyses of Early Life.**—Haynes emphasizes the facts that paralyses in early life may be due to lesions in any part of the motor tract; that they may be caused by any one of several factors; that a number of clinical affections which cause paralysis exist, but that poliomyelitis and cerebral lesions cause an overwhelming majority of the cases.

144. **Id.**—Romeiser strongly emphasizes the fact that the time when electrical treatment should begin is of some importance. Too soon may do harm. Not before the inflammatory process in the cord has subsided before all irritative phenomena of pain and tenderness have disappeared, should there be any electrical stimulation—in most cases not before the end of the first month. In mild cases, earlier, say about the third week.

145. **Id.**—Sayre discusses stretching the shortened muscles, tenotomy tendon transference, and nerve transference. With regard to the last, his own experience has not been satisfactory, and with regard to the experience of others in those cases that he has seen, the results did not appear so good to

him as to those who operated. Sayre feels that the operation should be tried in suitable cases, but he does not feel that it has yet been shown that a nerve paralyzed for a long time can be regenerated by splicing it to a live one.

149. **Infantilism.**—Hymanson reports a case of the Lorain type and discusses the differences between that and the myxedematous type. In the first type deficient or abnormal function of the thyroid is always present; in the second there is defective arterial development, causing insufficient nourishment of the tissues. Hymanson points out that a skiagraph of the hand is of great importance in differentiating the myxedematous from the Lorain type. If there is a deficiency in the appearance of the nuclei of the carpal bones, and also failure of the metacarpals or phalanges to unite, then the case belongs to the myxedematous type and the thyroid treatment is indicated; but in the Lorain type, where ossification is premature, thyroid treatment is of no value.

Southern Medical Journal, Nashville

December

150 *Larval Tapeworm in Human Flesh. H. Gates, Manatee, Fla.
151 Radical Anorectal Surgery Without General Anesthesia. A. B. Cooke, Nashville.
152 Present-day View of Arteriosclerosis and Its Significance. A. G. Brown, Richmond, Va.
153 *Anorexia. G. M. Niles, Atlanta, Ga.
154 Modern Methods in Diagnosis of Diseases of the Digestive System. C. P. McNabb, Nashville, Tenn.
155 Case of Fracture of the Base of the Skull. J. W. Alsobrook, Plant City, Fla.
156 Expert Testimony and the Medical Witness. L. M. Crafts, Minneapolis.

150. **Larval Tapeworm in Human Flesh.**—With a few introductory lines Gates republishes the paper of C. W. Stiles, read before the International Dermatological Congress, 1907, and abstracted in The Journal, Oct. 12, 1907, p. 1305. The paper was published also in *Journal of Cutaneous Diseases*, August, 1908.

153. Abstracted in The Journal, Dec. 5, 1908, p. 1994.

St. Paul Medical Journal

December

157 Postoperative Treatment. H. J. O'Brien, St. Paul.
158 Acute Suppuration of the Middle Ear with Mastoiditis. E. W. Benham, Mankato.
159 Simple Atrophy of Infants, and Its Relation to Food. W. R. Ramsey, St. Paul.
160 *Sick Room Helpers. H. Sneve, St. Paul.
161 Ocular Tuberculin Reaction. H. W. Miller, Jamestown, N. D.

160. **Sickroom Helpers.**—Sneve faces the fact that the extent of the training and qualifications of trained nurses in the present day places them out of the reach of approximately 80 per cent. of the population. He describes a plan recommended by a committee of the Ramsey County Medical Society, to provi for $10.00 a week trained sick-room helpers. Let training schools so arrange their work that the whole field is essentially covered in the first year; those women worthily completing this course should receive a certificate as sick-room helpers and the privilege of going out and caring for the sick. All those desiring to enter the profession of trained nurse should be required to take two years' training. This will give opportunity for more careful culling of the material that should finally qualify in the nursing profession as registered nurses.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal

January 16

1. Alpine or Home Climates for Early Tuberculosis? W. Ewart.
2 Selection of Sanatorium Cases for Treatment with Tuberculin. H. H. Thomson.
3 Contusion of the Lung without External Injuries. E. M. Payne.
4 *The Body Weight in Relation to Pulmonary Tuberculosis. F. P. Weber and W. R. Kirkness.
5 *Asthma: Causation and Treatment. W. Lloyd.
6 Pancreatic Diabetes Associated with Dilatation of Stomach, for which Gastroenterostomy has Been Performed. J. S. McKendrick.
7 Causation of Ingrowing Toenail. G. A. Stephens.
8 *Effective Treatment of Acute and Subacute Rheumatism. D. B. Lees.
9 Primitive Muscle Tissue of the Human Heart. A. Gibson.
10 Difference in Content of Immune Substances in Blood Serum and Plasma. G. Dreyer and E. W. A. Walker.
11 Production of Immune Substances. G. Dreyer and E. W. A. Walker.
12 *Industrial Syphilis. C. Belcher.

4. **Body Weight and Pulmonary Tuberculosis.**—Weber and Kirkness detail a series of observations at the Mount Vernon Hospital for diseases of the chest, undertaken to ascertain the average weight of consumptive patients: (1) In comparison to their height; and (2) in comparison to the average of their former weights. They found a decided preference for tuberculosis in underweights, less marked in females.

5. **Asthma.**—Lloyd holds that the only theory as to the causation of asthma that can be successfully maintained in the present state of our knowledge is that it is essentially a nervous disease due to spasm of the bronchial muscles induced reflexly by irritation of either the nasal mucous membrane or the alimentary canal, the former being the commonest. There are three factors in its causation, namely, (1) the presence of hypersensitive areas in the nasal mucous membrane or a special sensitiveness of the gastric mucous membrane; (2) a special irritability of the pulmonary nervous system, which constitutes the asthmatic idiosyncrasy with which the individual was born; (3) the presence of an irritant—for example, odors, dust, smoke, etc.; or errors in diet when of gastric origin. The absence of any one of these factors is sufficient to prevent the disease. In the treatment of the paroxysm search should be made for the exciting cause, and when found it should be removed if possible. If the atmosphere contains anything irritating the patient must be removed. The best posture is in an armchair before a table with a cushion on it, so that the patient can rest his elbows and throw himself forward. Ipecac powder, administered early, often cuts short an attack for the rest of the night. A pipe of tobacco acts admirably on some patients. Coffee, very hot and strong, and without sugar and milk, is an effectual remedy. Alcohol, chloroform and cocain are valuable remedies. Other remedies mentioned are stramonium smoking and the fumes of burning nitre paper. Potassium iodid, in the author's experience, has given very little relief. An asthmatic should dine early, 5 p. m., at the latest if he goes to bed at 10, and the food should be nutritious, easily digestible, plain, well cooked and containing the proper proportion of animal and vegetable elements. Rectification of disease or deformity of the nose is important. When such is not present, cauterization of the asthmogenic areas must be practiced. Common salt solution is the best nasal cleanser; other salts are irritating.

8. **Rheumatism.**—Lees lauds the use of sodium salicylate in large doses, combined with double the amount of sodium bicarbonate to each dose. He controverts the idea that pure sodium salicylate is a cardiac depressant. We must give up the conception of acute rheumatism as a form of arthritis of adults, with occasional metastasis to the heart and with certain "peculiarities" when it occurs in childhood, and insist on it as a microbic toxemia, most virulent in early life in which the heart is invariably affected to a greater or less degree, and the joints lightly or not at all. It is desirabl to administer salicylate and bicarbonate of sodium, combined in frequent, but at first moderate doses, say every two hour from 6 a. m. to 10 p. m. The amount of each dose should b increased daily, or every second day, until unpleasant by effects—e. g., vomiting, deafness, tinnitus, vertigo, etc.—ar observed. Drowsiness in children or an acetone odor o acetonuria, with slowing and deepening of respiration, ar danger symptoms. They may be entirely prevented by th relief of constipation and the use of sufficient sodium bicar bonate to render the urine alkaline. The initial dose o sodium salicylate for an adult may be 15 grains, or 15 grains daily; for a child of from 7 to 12 years, 10 grains, o 100 grains daily; for a child younger than 7, 5 grains, or 5 grains daily, given in each case with twice the amount o sodium bicarbonate. The daily increase of dose may with ad vantage be from 2 to 5 grains, in the individual dose—tha is, from 20 to 50 grains in the total amount given daily. Th

ncrease in the dose should be progressive until the evening emperature is and remains normal. The amount needed for child may be nearly as great as for an adult, for in a child he infection is more virulent and renal elimination is more ctive. In some mild cases of acute and subacute rheumatism t may be sufficient to increase the dose of the salicylate to 50 grains daily, but in many it is desirable to increase it to 00 or 250, and in some severe cases to 350 or 400 grains. horea often requires from 250 to 350 or even 400 grains.

12. **Industrial Syphilis.**—Belcher describes a case of syphilis ontracted by a coatmaker, from the habit of pressing the loth she was working on against her chin. The worker from hom she received garments, who had been previously workg on them, was a syphilitic. Belcher urges that syphilis hould be made notifiable.

Lancet, London

January 16

13 *Thrombosis and Embolism After Operations on the Female Pelvic Organs. J. Bland-Sutton.
14 Combination of Substances which Excites Ameboid Movement in Leucocytes, by which Living Can be Differentiated from Dead Cells. H. C. Ross.
15*An Excitant for the Leucocytes of Healthy Persons Found in the Blood Plasma of Patients Suffering from Carcinoma. C. J. Macalister and H. C. Ross.
16 Ileosigmoidostomy for Relief of Inveterate Constipation. C. W. M. Moullin.
7 New Method of Orchidopexy. M. Mamourian.
8 Fibrolysin in Ophthalmic Practice. K. Grossmann.
9 *An Efficient Treatment for Pneumonia. D. Crowly.
0 New Parasite Seen in a Case of Dysentery. J. Bell.
1 *Mumps. J. G. Sharp.

13. **Thrombosis and Embolism After Pelvic Operations.**—ne main object of Bland-Sutton's Hunterian lecture is to nsider the mode of origin of those blood clots which are g enough, when detached from the veins in which they are rmed, to occlude the pulmonary artery with fatal effects. is necessary to appreciate the fact that thrombosis is in ality a defensive action of the blood. In collecting material and-Sutton's chief object was to find out the causes of rombosis besides sepsis, but a study of the conditions derlying the formation of thrombi in the great veins after vic operations convinces him that sepsis is responsible for . He discusses the course of postoperative thrombosis in gard to the saphena vein and the ovarian vein, and coners in detail embolism of the pulmonary artery, describing signs, and the operative treatment as instituted by Trenenburg. He insists on the fact that the detachment and nsit of the clot are usually preceded by movement—getg out of bed for the first time after operation, even sitting in bed, but more particularly straining during defecation. this ground Bland-Sutton, in common with most British geons, is opposed to the practice of allowing patients to out of bed a few days after such operations. Under the st favorable conditions he keeps his patients confined to for two weeks, and in no case is a patient allowed to up until her temperature has been normal for at least ee days. Pulmonary embolism occurs much more frently after abdominal hysterectomy for fibroids than after other operation, and is especially liable to happen in nen who are profoundly anemic from profuse and proged menorrhagia, due to the presence of a submucous oid. He insists on the most painstaking care in the paration of ligature material and in the use of sterilized ber gloves over thoroughly washed hands in pelvic operas.

. **Excitation of the Leucocytes in Patients Suffering from inoma.**—Macalister and Ross direct attention to the posity of cancer being the local manifestation of a disease h is dependent on changes in the blood, difficult to act for, but yet so constant that their association with the lasm can not be disregarded. This consideration led to application of a method (detailed in the preceding paper by) for distinguishing dead leucocytes from living ones by fact that live cells resting on agar jelly that contains, les neutralized sodium citrate and sodium chlorid, a cer- proportion of methylene blue and atropin sulphate, will bit exaggerated ameboid movements. The stain is the important constituent of this excitant. In neutral jelly the excitation somewhat inconstantly occurs without addition of the alkaloid, but on the addition of an alkali in amount proportionate to the temperature of the room sufficient to produce diffusion of the stain, marked excitation occurs only when the alkaloid is present. Certain alkaloid-like toxemic symptoms found in cases of cancer suggested that in the blood of cancer patients there might be some substance which, in the presence of an alkaline plasma, acts as a stimulant to the normal cells, thereby in some way giving rise to the new growth. They had in the wards a patient with carcinoma of the pylorus, who, while not taking any narcotics, presented toxemic symptoms resembling those that might be produced by an alkaloidal poison. Ross had previously ascertained that the plasma of persons known to be suffering from carcinoma did not comparatively shorten the lives of the leucocytes of healthy persons, in contradistinction to the effects produced by the plasma of persons suffering from several infective diseases—this fact indicating that cancer is not an infective disease. The authors determined to ascertain whether the plasma of cancer patients contained any excitant, pathologic in character for the leucocytes of healthy persons. A large number of previous examinations had shown that leucocytes mixed with the citrated plasma of healthy persons never displayed exaggerated movements. The mixture of the citrated plasma of the cancer patient's blood with one-eighth of its volume of the blood of a healthy person, showed the remarkable movements, which were more marked than those seen when the artificial atropin excitant was used. It seemed, therefore, that there was actually a pathologic excitant in the blood of this cancer patient. Nine other cancer cases consequently were similarly investigated, the results corresponding in every way. The authors therefore consider that in cancer cases there may be present some substance resembling an alkaloid in its action, which, in the presence of an alkaline plasma, excites the ameboid movements of healthy leucocytes. They further point out that methylene blue is a coal-tar derivative, and that cancer is common in coal-tar workers. They suggest that this reaction, if confirmed by further investigation may prove useful in the differential diagnosis of cancer.

19. **Pneumonia.**—Crowly reports three cases, and refers to six others, of pneumonia, in which resolution in a surprisingly short time was effected by Ewart's treatment. (*Lancet*, Jan. 21, 1905, abstracted in The Journal, Feb. 18, 1905, p. 583.) In Crowly's practice an initial dose of calomel was followed by four-hourly doses of a mixture containing potassium iodid, 4 grains; potassium citrate, 10 grains; ammonium citrate, 8 ounces. The dietary was milk and water mixed, when it agreed, otherwise whey, and plenty of cold water to drink when the patient desired. A little brandy was necessary in only one case.

21. **Mumps.**—In summarizing his article Sharp emphasizes the following points:

1. Mumps is not a trifling affection.
2. The comparative frequency with which the pancreas is affected.
3. The suddenness with which abdominal symptoms may appear and the equal rapidity with which evidently serious symptoms pass away.
4. The area occupied by the swelling and tenderness in abdominal cases—namely, the epigastrium and left hypochondrium—that is the area occupied by the pancreas.
5. The comparatively slow pulse and low temperature (these may help one in distinguishing it from peritonitis, etc.).
6. The long period elapsing between the parotiditis and the vulvitis and the onset of pancreatitis in some of the cases (poison retained in the tissues).
7. Pancreatitis may be the first manifestation of mumps.
8. The possibility of pancreatitis replacing parotiditis in mumps.
9. Mumps may exist in a patient without affection of any gland so far as one can see.
10. Acute parotiditis is not a synonym of mumps, for mumps may be present without any apparent affection of the parotid gland.

Medical Press and Circular, London

January 13

22 Pneumonia in the Aged. Prof. R. Rimbaud.
23 How Much Proteid Does the Body Require? A. Haig.
24 *Intermenstrual Pain. J. S. Sheill.
25 Diagnosis and Treatment of Pneumonia in Children. G. A. Sutherland.

24. **Intermenstrual Pain.**—Sheill considers intermenstrual pain to be the result of the physiologic turgidity of the

ovaries, or of an ovary, due to circulatory changes. The reason that all ovulating women are not martyrs thereto is because patients are not alike in regard to their blood and blood vessels. Treatment will turn in the direction of checking excessive, or rectifying abnormal, local or general circulatory phenomena. In this connection, the salts of manganese are beneficial, this drug influencing the blood vessels. If chlorosis or other blood affections be present, iron may be required. Sheill recommends potassium permanganate pills in two-grain doses after each meal, the course of treatment extending from four to eight months, with slight remissions should stomach irritation supervene.

Clinical Journal, London

January 13

26 Chronic Pneumonia. J. Fawcett.
27 Villous Disease of Bladder. J. Bland-Sutton.
28 Diagnosis and Treatment of Sciatica. W. Harris.

Journal of Tropical Medicine and Hygiene, London

January 1

29 What is "Schistosoma Mansoni?" L. W. Sambon.

Practitioner, London

January

30 *Complications of Scarlet Fever. W. Hunter.
31 *The Heart in Scarlet Fever and Diphtheria. Sir J. F. H. Broadbent.
32 Renal Complications of Scarlet Fever and Diphtheria. N. Tirard.
33 Ocular Complications of Scarlet Fever and Diphtheria. J. H. Parsons.
34 Ear Complications of Scarlet Fever and Diphtheria. M. Yearsley.
35 Diagnosis of Scarlet Fever and Diphtheria. E. W. Goodall.
36 *Idem. H. E. Cuff.
37 Differential Diagnosis of Scarlet Fever. J. E. Beggs.
38 *Differential Diagnosis Between Rashes of Scarlatina, Diphtheria and Other Skin Eruptions. A. Whitfield.
39 The Convalescent Stage of Diphtheria. F. F. Caiger.
40 *Treatment of Scarlet Fever. A. K. Gordon.
41 Treatment of Diphtheria. C. B. Ker.
42 Diphtheritic Paralysis. J. D. Rolleston.
43 Tracheotomy. F. M. Turner.
44 Bacteriology of Scarlet Fever. M. H. Gordon.
45 Bacteriology of Diphtheria. R. T. Hewlett.
46 Antistreptococcus Serum in Scarlet Fever and Diphtheria. M. Young.
47 Scarlet Fever and Diphtheria from the Public Health Point of View. J. T. C. Nash.

30. **Complications of Scarlet Fever.**—Hunter divides the complications of scarlet fever into two groups as follows: 1. Those connected with the scarlatinal infection itself which are local in character, and are placed by the author in the following order in which he is accustomed to watch for them and to attach importance to them, namely, secondary angina, secondary adenitis, cellulitis, glandular suppuration, rhinitis and otitis. 2. Those connected with the septic infection with which scarlet fever is so often associated and by which in an altogether special degree it is so frequently aggravated; these are general in character, namely, albuminuria, nephritis, and rheumatism. The author gives the data for four years regarding these complications at the London Fever Hospital, which bring out two facts of great practical importance, viz.. that while the general complications—albuminuria, nephritis, rheumatism and relapses—have from year to year remained fairly uniform in their incidence, the local complications, which more than any other determine the severity of the disease and are responsible for its chief fatal complications, such as septicemia, have steadily and uniformly diminished. This diminution Hunter attributes to certain stringent measures of antisepsis, namely, the increasing care taken to remove, as far as possible, immediately on admission, every trace of pre-existing septic infection around the patient's gums and teeth, and the keeping of it absent by daily swabbing with a 1 to 40 solution of carbolic acid throughout the early course of the disease. In regard to the second group, the two factors to which Hunter attaches chief importance in relation to nephritis are (1) exposure to sudden variations in temperature, and (2) allowing the patient to get up too soon. He now keeps every patient, however mild the case, in bed for three weeks.

31. **The Heart in Scarlet Fever and Diphtheria.**—Broadbent considers the incidence of endocarditis in scarlet fever apt to be overrated. Pericarditis is even less common. The presence of a systolic mitral murmur must not necessarily be taken as an indication of endocarditis. The effects of the scarlet fever toxin on the myocardium are similar to those of rheumatism. The most striking feature about the physical signs is the acceleration of the pulse out of all proportion to the severity of the fever, and beyond accounting for by dilatation of the heart, or explicable as being due to myocarditis. Broadbent thinks that we must attribute it to some disturbance of the nervous mechanism of the heart. Possibly the scarlet fever toxin has a special affinity for the special affinity of the vagus, inducing a peripheral neuritis or otherwise interfering with its inhibitory mechanism. The prognosis, apart from endocarditis or pericarditis, as regards cardiac complications, is usually favorable, and there is practically no risk of syncope, or sudden death, as happens in diphtheria. No special treatment is called for as a rule. In regard to diphtheria, the condition of the cardiac muscle alone does not appear to afford an adequate explanation for the danger of cardiac syncope, which is better accounted for by peripheral neuritis affecting the vagus, bearing in mind also that the heart muscle is damaged by the diphtheria toxin, and its tonicity and contractility are impaired. We thus expect a variety ot disorders of rhythm. Tachycardia, approximation of the first and second sounds, spacing of the sounds, shortening and weakness of the first sound, and the "*bruit de galop*" are danger signals of the most grave order. Irregularity of pulse and intermissions are also of serious significance. Vomiting in the later stages is always a grave symptom. Endocarditis and pericarditis are rarely encountered. Prolonged and absolute rest in bed is essential when heart complications threaten in diphtheria, and small digestible meals should be given. Brandy and strychnin in suitable doses should be kept in reserve. Digitalis is of doubtful service.

36. **Diagnosis of Scarlet Fever and Diphtheria.**—Cuff says that if the patient is not seen till nearly the end of the first week, a diagnosis of scarlet fever is justifiable if any two of the following symptooms are present: The remains of a punctate erythema on the upper and inner aspect of the thighs; a peeled tongue; scarlatinal synovitis; infraclavicular pinhole desquamation. He states that there is a form of diphtheria which does not receive the attention it deserves, viz., fibrinous rhinitis. Clinically, this condition appears to give rise to no symptoms of ill health, and is recognized only by the small patch of glistening white membrane on the septum. For its detection the nose should be carefully dried, and light should be thrown into it by a mirror having a central aperture. Virulent diphtheria bacilli are always obtained in cultures made from these patches. The importance of fibrinous rhinitis lies in the fact that it may be the cause of severe faucial diphtheria in others, while the individual affected by it is not suspected of being the source of infection. It is an extremely mild form of primary nasal diphtheria, and in its course offers a strong contrast to those cases of nasopharyngeal diphtheria in which the involvement of the nasal fossæ adds so greatly to the gravity of the illness.

38. **The Differential Diagnosis of Rashes.**—Whitfield offer the following provisional classification:

1. Eruptions occurring in infectious diseases other than the well known eruptive fevers: Erythema of diphtheria; erythema of influenza: and erythema infectiosum ("scarlatinoid" of some writers)

2. Eruption of sepsis and other infective processes; erythem after operation, confinement or trauma (surgical scarlatina) erythema accompanying tonsillitis, erythema accompanying gonorrhea.

3. Eruptions from use of drugs, etc. (these are innumerable an only a few of the more important are noticed): erythema from enemata, antitoxic serum, belladonna, quinin, mercury, salicyli compounds, and veronal.

4. Eruptions of unknown cause: erythema scarlatiniforme erythema scarlatiniforme recidivans.

With regard to the skin eruption in scarlatina he lays stre on the following points: 1. The rash invariably appears o the root of the neck. 2. When not absolutely universal. th edge of the eruption gradually fades off into the norma skin. The tip of the nose and the circumoral region a never affected. 3. The follicles may be lightly erected, b there is no true papule formation; on the other hand, th early eruption shows that the follicles are the chief seat o congestion. 4. A yellowish stain appears when the hyperem is dispelled by pressure, and browning of the flexures of the elbows is almost invariably present. 5. The backs of the hands and the sides of the fingers are generally affected when the rash is fully out.

40. **Treatment of Scarlet Fever.**—Gordon discusses the treatment in uncomplicated cases of average severity, toxic cases (serotherapy), septic cases (local treatment), complications, and convalescence. The most efficient remedy for pain is packing the neck externally with ice bags. Lozenges of any description should not be given, for they cause swallowing of septic faucial secretion. To diminish absorption of the toxins from the fauces, Gordon uses a douche of warm water only, which may be rendered faintly alkaline with sodium bicarbonate and flavored with thymol; but flushing, not disinfection, is its object. The patient should lie on the stomach with the head projecting over the edge of the bed, the forehead supported by one hand of the nurse. At least two ints should be used for each irrigation. Gentle swabbing with a solution of borax is sometimes useful in adults, but he application of germicidal solutions should not be used, and either the spray nor the paint brush has any legitimate place n the treatment. The nurse should wear rubber gloves when ngaged in the treatment of the throat. A separate nozzle hould be used for each patient. In toxic cases he discusses he use of serum, which should be polyvalent, sterile, and not nore than six months old. From 50 to 100 c.c. should be iven, and he has never seen any harm result therefrom. In eptic cases, germicides should be used in as concentrated a orm as possible, in small quantity, and should be applied ith a swab. The douche also should be constantly used as efore recommended. It is not advisable to incise enlarged nd tender cervical glands unless definite evidence of fluctua- on is obtained, so long as the skin over them is not affected. septic, as distinguished from toxic cases, streptococcus rum should be avoided. Alcohol in Gordon's experience is sually both unnecessary and harmful in septic cases.

Glasgow Medical Journal

January

8 Problems Connected with Diseases of the Prostate. C. S. Wallace.
9 Pasteur. J. W. Mathie.
0 Pathology and Treatment of Extrauterine Pregnancy. S. J. M. Cameron.

ournal of Laryngology, Rhinology and Otology, London

January

1 Acute Middle-Ear Suppuration and Mastoiditis, with Some Unusual Symptoms. J. S. Fraser.
2 Cap for Dressing Mastoid Cases. J. S. Fraser.

Archives des Maladies du Cœur, Paris

December, I, No. 12, pp. 673-748

3 Study of the Electrocardiogram in Man in Normal and Pathologic Conditions. M. Mendelssohn.
4 *Mitral Stenosis and Congenital Malformations. (Rétrécissement mitral et malformations congénitales.) J. Heitz and A. Sézary.

4. **Mitral Stenosis and Deformities.**—Heitz and Sézary re- e some cases which show the necessity for looking for con- ital malformations when there is no other apparent cause explain a cardiac affection. One patient, a man of 48, hypertrophy of the left side throughout, with pure mitral nosis. They were able to find only one case on record re- ibling this. In another case pure mitral stenosis was found a young man with signs of infantilism and a few slight genital malformations. In several cases on record, mal- nation of the fingers or sternum or asymmetry of the ll have been noted, as also dwarf growth, harelip or other rmity. It is probable that the mitral lesion was in- ed by the same cause responsible for the various deformi- . In some cases this was known to be syphilis and in a tuberculosis or alcoholism. There was probably some mmation in the mitral valve entailing the stenosis.

Presse Médicale, Paris

January 2, XVII, No. 1, pp. 1-8.

Hemorrhagic Complications of Appendicitis. A. Broca and P. E. Weil.
Anesthesia of the Teeth. (Procédés d'anesthésie de la pulpe dentaire.) G. Mahé.

January 8, No. 2, pp. 9-16

57 Experimental and Spontaneous Atheroma. M. Lucien and J. Parisot.
58 Circumcision of New-Born Infants. (Circumcision chez le nouveau-né.) A. Schwab.
59 *Diagnosis of Tuberculosis by the Complement Fixation Method. A. Marmorek.

59. **Diagnosis of Tuberculosis by Complement Fixation Test.**—Marmorek remarks that the tuberculin diagnostic reactions indicate the presence of tubercle bacilli, but give no hint as to the relations between the bacilli and the organism, whether they are latent or active. It is impossible to tell from these reactions in doubtful cases whether the symptoms are due to the tuberculosis or to some other cause in an individual who is a carrier of latent tubercle bacilli. Marmorek thinks that much more important information can be derived from examination of the toxin generated by the tubercle bacilli. This toxin is not tuberculin, he says. Its presence can be determined by the hemolytic test in the serum or urine by adding serum from a horse immunized against tuberculosis. The horse serum contains the necessary complement when fresh, but if it stands a few days the complement disappears and more must be added, possibly in fresh guinea-pig serum. By comparison with a color scale, the fixation of the toxin-antitoxin-complement is readily recognized by the presence or absence of hemolysis when blood is added. Total hemolysis indicates the complete absence of the tuberculous toxin in the general circulation. He has examined the serum of 306 persons and the urine of 294 others, a total of 600, and the results encourage him to proclaim this method of diagnosis as a reliable means of determining the presence of an active tuberculous process in the organism. The findings conflicted with the clinical diagnosis in only 5 per cent. of the 600 cases, positive findings being obtained in a few instances in which nothing else suggested tuberculosis. In a few cases the findings in the serum conflicted with those of the urine in an inexplicable way; in one case of this kind there was cystitis.

Revue de Chirurgie, Paris

January, XXIX, No. 1, pp. 1-227

60 *Inflammatory Tuberculosis. A. Poncet and R. Leriche.
61 *Perinephritis Consecutive to Nephrectomy. F. Legueu.
62 *Treatment of Muscular Atrophy by the Method of Progressive Resistance. Rochard and P. De Champtassin.

60. **Inflammatory Tuberculosis.**—Poncet and Leriche here present their entire theory of the tuberculous origin of a number of processes in bones, joints or muscles hitherto ascribed to other origins. They answer the objections that have been raised, and show how keloid, false inflammatory tumors of the stomach, intestine and breast and inflammatory infiltrations and scleroses, localized or diffuse, may be the work of toxins generated or left by tubercle bacilli. By serodiagnosis it is often possible to reveal the latent bacillary infection. The inefficacy of the salicylates is another argument in favor of the assumption of the tuberculous origin of this form of rheumatism. They conclude their communication by saying that "to look around one is to become convinced of the existence of inflammatory tuberculosis."

61. **Postoperative Perinephritis.**—Legueu reports a case of phlegmonous perinephritis five years after nephrectomy. An exploratory operation revealed a large knot of silk as the cause of the suppuration. He declares that it is wrong to ligate the pedicle of the kidney with silk. In another case a lumbar fistula developed ten years after the nephrectomy, and fragments of the kidney pelvis left behind at the operation were evidently responsible for the fistula. In a second similar case recovery was not complete until the remaining scraps of kidney and the ureter had been entirely removed. It is extremely difficult in such cases to discover all the fragments of kidney tissue left behind, and even the ureter is not always easily found. The tuberculous cases are most liable to trouble from fistula, and he urges more extensive removal of the fat surrounding the kidney even when it appears perfectly healthy to the eye. This resection of the fat scarcely prolongs the operation, while it has a remarkable effect in obviating postoperative complications.

62. **Treatment of Atrophy of the Muscles.**—Rochard and De Champtassin proclaim the value of treatment of atrophy of a

muscle by utilizing osmosis, that is, aiming to restore the osmotic conditions in the muscular fiber, such as are necessary for the dynamic action of the muscle in its normal task. To have the restoration perfect, the muscle should not only be called on for its normal physiologic work, but for the greatest amount of work of which it is capable. The muscle should be urged to voluntary contractions, then to contractions against resistance, then to contractions against constant resistance during each effort, then with stronger contractions with increasing resistance. Swedish movements are based on the "trophic theory," not on the theory of osmosis, and thus the method differs essentially from the present method of progression of resistance. They have devised two appliances for exercises with heavy weights, which allow careful graduation of the resistance, and estimation of the effort put forth. The results realized to date sustain their assertions, they say, in regard to the prompt cure by a brief course of this treatment and its value in prophylaxis.

Semaine Médicale, Paris

January 13, XXIX, No. 2, pp. 13-24

63 *Estimation of Pancreatic Secretion by Amount of Amylopsin
in the Stools. E. Enriquez, L. Ambard and M. E. Binet.

63. **Test of Pancreatic Functioning by Amount of Amylopsin in the Stools.**—Enriquez describes a method by which it is possible to measure the amount of amylase in the feces and thus to obtain insight into the functioning of the pancreas. Its three ferments, lipase, trypsin and amylopsin, if regained totally from the feces, would throw light on the functioning of the organ, but it is difficult to estimate the proportion of the first two in the stools, while dosage of the amylopsin is comparatively simple and easy. Leo announced some time ago that amylopsin is more abundant in diarrheic stools, and the experiences related confirm this. Research on 150 individuals resulted in the working out of the following technic to obtain the maximum of the pancreatic amylase in the stools. Trypsin does not destroy ferments in contact with it if they are mixed with albumin. Consequently the first step is ingestion of a pint and a half of milk followed in an hour with a good purgative, and, an hour after the purgative, 250 c.c. of an alkaline mineral water. To prevent destruction of the amylopsin by microbes and trypsin, a piece of ice is placed in the vessel for the dejecta. The solid stool is removed and the fluid diluted to 20 liters. The unit adopted is the sugar-gram-hour, that is, the quantity of sugar that could be formed in one hour by the total amount of the ferment. For instance, if 1 c.c. produces 0.102 gm. in one hour, the 20,000 c.c. of the total 20 liters would produce 2,040 gm. of sugar. In such case, the total feces represent 2,040 amylopsin units. A 1 per cent. solution of starch is acidified with hydrochloric acid to the optimum reaction and 1 c.c. of the diluted feces is mixed with 50 c.c. of the starch paste and kept in the incubator at 39 C. for half an hour. The proportion of amylopsin is larger the more rapidly the purgative acts, the ferment evidently being lost during long passage through the intestine. Most of the tests were on healthy persons, but in two cancer patients there was almost complete absence of amylopsin. He is convinced that when the technic is further perfected it will afford most useful insight into the functioning of the pancreas.

Beitrage zur klinischen Chirurgie, Tübingen

December, LXI, No. 1, pp. 1-299

64 Comparative Research on Transplantation of Tumors and
Normal Tissues. (Vergleichende Untersuchungen über die
Transplantation von Geschwülsten und von normalen
Geweben.) G. Schöne.
65 Gaseous Gangrene. Case of Brain Abscess Caused Exclusively by Anaërobic Bacteria. (Zur Kenntniss der Gasgangrän und über einen Fall von Hirnabscess, ausschliesslich
bedingt durch anaërobe Bakterien.) M. Heyde.
66 *Treatment of Suppurative Processes with Antiferment Serum
and Its Theoretical Bases. (Behandlung eitriger Processe
mit Antifermentserum.) H. Kolaczek.
67 Chondrolipoma in Muscle. Id.
68 Typical Fracture of Tibia in Talocrural Joint. Meissner.
69 *Ultimate Results in Treatment of Non-Malignant Stomach
Affections. (Dauererfolge in der operativen Behandlung
der gutartigen Magen-Erkrankungen.) J. M. Mayer.
70 *Mammary Carcinoma and Its Operative Permanent Cure.
Höring.
71 *Diagnosis, Treatment and Prognosis of Abdominal Contusions. Importance of Intraperitoneal Hemorrhage. (Verletzungen der Leber, Milz, Niere, des Pankreas und des
Darms.) W. Noetzel.
72 *Primary Carcinoma in the Main Biliary Passages. (Das
primäre Carcinom in den Hauptgallengängen.) J. Borelius.
73 Traumatic Rupture of the Esophagus. (Entstehung der
Oesophagusrupturen.) G. Petren.
74 *Total Avulsion of the Scalp. (Fälle von Skalpierung.) Id.

66. **Treatment of Suppurative Processes with Antiferment Serum.**—Kolaczek reviews the theoretical bases and practical experiences with the antiferment serum treatment described recently in these columns. He concludes that the antiferment serum not only supplies the ferment which protects against proteolysis, but at the same time it supplies vitally active leucocytes, opsonins, complements and amboceptors, either supplying them from without or attracting them to the spot, and thus summoning the most powerful defenses of the organism.

69. **Operative Treatment of Non-malignant Stomach Affections.**—Mayer reviews the experiences with 57 cases in which the operations were done several years ago and the patients have been re-examined recently. He concludes from this material that the patient must be very cautious after a gastroenterostomy, and that it must be impressed on him that it does not complete the cure, but merely starts the digestive tract on the road to recovery. The patient must expect to be very circumspect in his mode of life continuously thereafter.

70. **Cancer of the Breast.**—Höring reports 200 cases, and in over half the left breast was involved. He was able to obtain information in regard to each of the 200 patients to date, the first complete series of the kind, he thinks, on record. Excellent results were obtained when the tumor was of slow growth and not larger than a plum, the skin still movable. In this group over 80 per cent. of the patients were permanently cured, while less than 30 per cent. were cured in the group in which the tumor had begun to grow, possibly after a stationary period, and the skin was adherent and several glands in the axilla were palpable. This is the condition in which the patients generally apply for relief. He noted a special malignancy when there was a family history of cancer.

71. **Contusions of the Abdomen.**—Noetzel reports 13 cases in detail, remarking that the diagnosis of severe intraperitoneal injuries will always be a difficult matter.

72. **Primary Carcinoma in Biliary Tract.**—Borelius reports fourteen Swedish cases, including four from his own experience, and then reviews the diagnosis. In no case on record has there been a survival of more than three years.

74. **Total Avulsion of the Scalp.**—Petren has had occasion to treat two women whose hair was caught in machinery an the entire scalp pulled off, and he has collected 24 simila cases from the literature. One of his patients died from th injuries, but the other recovered and the head healed with number of Thiersch flaps.

Berliner klinische Wochenschrift

January 4, XLVI, No. 1, pp. 1-44

75 Treatment of Epileptic Psychoses. E. Siemerling.
76 Acute Fibrous Obliterating Bronchitis. A. Fraenkel.
77 Treatment of Placenta Prævia. (Klinische und private Ge
burtshilfe.) W. Bokelmann.
78 Perception of Light and Colors. (Wahrnehmung des Lichte
und der Farben.) F. W. Edridge-Green.
79 Appendicitic Pseudomyxoma of the Peritoneum. (Pseud
myxoma peritonei ex processu vermiformi.) A. Neumann.
80 Treatment of Typhoid with Collargol Enemas. T. Mironesc
81 Campaign against Scoliosis. (Kampf gegen die Skoliose.) I
Bosse.

Correspondenz-Blatt für Schweizer Aerzte, Basle

January 1, XXXIX, No. 1, pp. 1-32

82 Management of Childbirth with Contracted Pelvis. (Ueb
beckenerweiternde Operationen und Behandlung der G
burten bei Beckenverengerungen überhaupt.) P. Müller.
83 Three Cases of Meat Poisoning. (Botulismus.) Blattmann.

Deutsches Archiv für klinische Medizin

XCV, Nos. 1-2, pp. 1-210. Last indexed Jan. 30, p. 423

84 *Diabetes Insipidus. W. Ebstein.
85 Early Detection of Pulmonary Tuberculosis with the Roentg
Rays. (Frühzeitige Erkennung der Lungentuberkulose m
Hilfe der Röntgenstrahlen.) H. Rieder.
86 Research on Metabolism in Typhoid Patients with Especi
Regard to Respiratory Quotient. (Stoffwechseluntersuchu
gen an Typhuskranken.) F. Rolly and P. Hörnig.
87 Biologic Experiments on Precipitation of Egg Albumin a
Serum with Iron. (Biologische Versuche über Fällung
von Albumin ovi und Seris mit Eisen.) F. Ditthorn a
W. Schultz.

88 Influence of Muscular Work and External Temperature on Degree of Alimentary Glycosuria. (Einfluss von Muskelarbeit und Aussentemperatur auf das Mass der alimentären Glykosurie.) J. Grober.
89 Metabolism in Epileptics. (Stoffwechseluntersuchungen an Epileptikern.) E. Rohde.

84. **Diabetes Insipidus.**—Ebstein has long been studying the elations between diabetes and affections of the nervous sysem and syphilis. He remarks that both forms of diabetes nust be closely related, as one may be transformed into the ther. Severe material changes in the kidneys may simulate iabetes insipidus. Neuffer asserts that it never develops in omen over 50, and elderly people with symptoms of diabetes nsipidus coming on gradually are probably affected with conracted kidney, even in the absence of albuminuria and tube asts. It is evident, Ebstein thinks, that diabetes insipidus evelops on a nervous basis, either from material injury of he nervous system, especially of the medulla oblongata, or rom functional disturbances of the nervous system, such as re observed in general neuroses. The share of syphilis in its roduction is probably from the injury to the nervous system y the syphilis poison. He relates cases in which the use of lt induced or aggravated polydipsia and polyuria, while reriction to a salt-free diet benefited in many cases. One paent was thus able to keep the affection permanently within ounds, and Ebstein warns that the salt-free diet should ways be given a trial rather than an attempt made to reriet the intake of fluids, which is by no means a harmss measure. The amount of fluid allowed should not be reiced except with the utmost caution. He gives the details 17 cases from the literature in which syphilis was evintly responsible for the diabetes insipidus, and in which a re or notable improvement followed specific treatment. In me other cases in his own and others' experience the antiphilitic treatment had no influence on the course of the diates. The youngest patient was 20 and the oldest 54 in the rious cases. He also summarizes the autopsy reports of 6 ses of diabetes insipidus in consequence of syphilis. Changes the medulla oblongata were noticeable in 50 per cent., and seems possible that the localization of the syphilitic process certain parts of the medulla may be the connecting link. In of the 6 cases there were also syphilitic lesions in the liver.

Deutsche medizinische Wochenschrift, Berlin

January 7, XXXV, No. 1, pp. 1-48

*Clinical Importance of the Electrocardiogram. H. E. Hering
Diagnosis of Typhus. (Zur Kenntniss und Diagnose des Fleckfiebers.) C. Bäumler.
Psychiatry and Social Medicine. A. Pick.
*Etiologic Therapy of Syphilis. L. Spitzer.
Treatment of Chorea. G. Köster.
Diagnosis of Scrap of Iron in Eye. (Fall von minimalem Eisensplitter in der Linse nebst Bemerkungen über die Diagnose intraocularer Eisensplitter.) A. Vossius.
Suction Treatment of Nasal Affections. (Saugbehandlung der Nase.) Walb.
Cancer Questions. (Diskussionsbemerkungen über einige Geschwulstfragen.) D. v. Hansemann.

0. **Clinical Importance of the Electrocardiogram.**—Hering ments on the important information to be derived from this hod of investigation which allows deeper insight into the lysis of the heart action than any other method, and he ises that all large clinics should be equipped for the pure. It is important to record the position of the patient, it would be better to conform to some uniform technic comparison of the tracings.

3. **Etiologic Therapy of Syphilis.**—Spitzer has treated nty syphilitics with an aqueous extract of the specific rosis. The technic followed was that of the ordinary Pas treatment of hydrophobia. Eleven of the patients devell the usual general manifestations, but in seven, under rvation for from eighteen months to four years, no trace econdary phenomena could be detected. One of these pats contracted a new infection two and one-half years after treatment.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, XCVI, Nos. 5-6, pp. 321-617

Isolated Fractures of Transverse Processes of Lumbar Spine P. Haglund.
Tumor of Carotid Gland. C. Licini.
Surgery of Biliary Tract. (Chirurgie der Leber und der Gallenwege.) A. Jenckel.

101 Origin of Concretions in Joints. (Entstehung der Gelenkmäuse.) Veit.
102 Treatment of Fistula between Intestine and Bladder by Exclusion of Former. (Zur Therapie der Darmblasenfistel mittels Darmausschaltung.) W. Sachs.
103 Operations on Biliary Tract. (Operationen an den Gallenwegen.) K. Mizokuchi.
104 Transplantation of Thyroid Tissue into Pocket in Bone Marrow. (Neue Methode der Transplantation des Schilddrüsengewebes.) C. Sermann.
105 Traumatic Hernia of Fat in Lumbar Region. (Lendenhernien.. Adipocele im Rhombus Lesshaft.) E. Ruppanner.
106 Diagnosis and Treatment of Congenital Dislocation of the Hip. (Angeborene Hüftverrenkung.) Dreesmann.
107 The So-called Retrograde Incarceration of the Intestine. M. Takayasu.
108 Bacteriology of Acute and Chronic Appendicitis with Special Regard to the Peritoneal Effusion. E. Franke.
109 Experimental, Critical Study of Death in Ileus. (Ileustod.) W. Braun and H. Boruttau.
110 Deformity of Shoulder. Corresponding to Coxa vara, Observed in Cretins. (Humerus varus.) E. Bircher.

Medizinische Klinik, Berlin

January 3, V, No. 1, pp. 1-40

111 *Forms of Obesity. (Fettsucht.) C. von Noorden.
112 Management of the Puerperium. (Erfahrungen mit moderner Wochenpflege.) E. Opitz.
113 Differential Diagnosis of Cerebellar Tumors. (Kleinhirntumor.) T. Ziehen.
114 Diagnostic Importance of Basophile Spots in Red Corpuscles. (Diagnostiche Bedeutung der punktierten Erythrozyten im Blute.) K. Brandenburg.
115 *Treatment of Sciatica with Injection of Salt Solution. (Behandlung der Ischialgie mit Langescher Kochsalzinjektion.) J. Flesch.
116 Action of Catalase and Oxidase on Normal and Cancerous Liver Tissue. (Vergleichende Untersuchungen über die Wirkung der Katalase und der Oxydase in der normalen und der karzinomatösen Leber.) F. Blumenthal and B. Brahn.
117 Alimentary Disturbances in Infants, and Their Treatment. (Ernährungsstörungen im Säuglingsalter und ihre Behandlung.) E. Feer.

111. **Forms of Obesity.**—von Noorden summarizes his remarks in the statement that there are two well-defined forms of obesity, that due to overfeeding in proportion to exercise and that due to the influence of the thyroid. In the first form there is normal power of oxidation, but the disproportion between the intake and outgo causes obesity, either from excessive eating or lack of exercise or combination of both. In the thyrogenous form the power of oxidation is reduced, although the relation between intake and exercise may correspond to normal. The thyroid influence may be primary or secondary, hypofunctioning of the thyroid being the result of distant action from other organs, the pancreas, the ovaries, hypophysis, suprarenals or thymus. This latter form has been very little studied to date. This classification has more than theoretic importance, as it is a guide to treatment. The first form requires the cardinal rule for dietetic antifat treatment: reduction of the intake of calories with ample supply of albumin. If dietetic measures fail, the thyroid functioning should be suspected and a systematic course of thyroid treatment instituted under constant supervision. He regards this thyroid treatment as much less taxing on the patient than ordinary antifat dietetic measures, especially "starvation courses." The patient can be allowed to eat freely, especially meat and albumin, with no dietetic restrictions, and this is often a great relief for patients who for years have lived in the strait-jacket of antifat diet. The thyroid treatment is directly contraindicated in the first form of obesity (*Mastfettsucht*), although both forms may be combined in some cases. In certain cases of this form of obesity dietetic measures prove useless or dangerous, and the only thing is to accustom the patient gradually to greater transformation of energy, as by muscular work or withdrawal of warmth. Restriction of the diet might be followed by collapse in these cases. In the thyrogenous cases these measures and dietetic restrictions are liable to produce no effect except debilitation of the patients.

115. **Treatment of Sciatica with Saline Injections.**—Flesch reports eight cases of sciatica in which he applied Lange's method of local injection of salt solution under pressure. Lange himself has reported 60 per cent. of cures, and Flesch also found that the affection was refractory in some of his cases, although the effects were ideal in others. According to his experience, the loss of the Achilles tendon reflex on the affected side is a sign that the Lange injections will prove useful. Without the loss of this reflex, none of the other signs, tender points or Lasègue sign is decisive. The presence of

the knee-jerk excludes tabetic sciatica. Excellent results can be confidently anticipated in suitable cases. (See abstract 90 in THE JOURNAL, Jan. 23, 1909, page 336.)

Münchener medizinische Wochenschrift

December 29, LV, No. 52, pp. 2699-2714

118 Inflammation of Bursa of Shoulder with Lime Deposit. (Die mit Kalkablagerung einhergehende Entzündung der Schulterschleimbeutel.) Bergemann and A. Stieda.
119 Tuberculosis as Children's Disease. (Tuberkulose als Kinderkrankheit.) F. Hamburger.
120 Increased Euphoria and Activity as Initial Symptom of Infections. Bleuler.
121 The Faradic Interval. Loewenthal.
122 Malignancy of Ovarian Cystoma. Lunckenbein.

January 5, LVI, No. 1, pp. 1-56

123 *Opening up New Sources for Production of Antibodies. (Erschliessung ergiebiger Quellen von Schutzstoffen.) L. Heim.
124 Hemolysis of Streptococci. Lüdke and Polano.
125 Benzin Poisoning. (Benzinvergiftung.) H. Wichern.
126 *Intravenous Arsenic-Tuberculin Treatment. F. Mendel.
127 *Surgical Treatment of Exophthalmic Goiter. (Chirurgische Behandlung des Morbus Basedowii.) Krecke.
128 "Prick Reaction" in Diagnosis of Tuberculosis in Children. (Stichreaktion bei der Diagnose kindlicher Tuberkulose.) F. Hamburger.
129 Macroscopic Asthma Spirals in Sputum. Riehl.
130 *Ferment Treatment of Tuberculous Abscesses. T. Goldenberg.
131 *Phonendoskiascope. R. Schmincke.

123. **Opening Up New Sources for Antibodies.**—Heim comments on the wasteful way in which the immune sera have been obtained hitherto, the assumption being practically universal that the immune substances were contained in the juices alone and the tissue residue being generally discarded as useless. His experiments have shown that the tissues abound in the specific antibodies in animals immunized against the pneumococcus. The muscle substance is particularly rich in these protecting bodies. He grinds the muscle tissue and organs in a mortar, then mixes with water, 1/10, and with a little broth or peptone water. After five days of fermentation the filtrate is condensed in a vacuum and it is found rich in immune bodies, being capable of protecting animals against otherwise fatal inoculations.

126. **Combined Intravenous Tuberculin-Arsenic Treatment of Tuberculosis.**—Mendel expatiates on the necessity for supplementing tuberculin treatment with some drug which will promote the vital energy of the cells by favoring nutrition and thus increasing the protecting and resisting power of the cells. The combination has another advantage in that it utilizes the influence of the tuberculin in inducing an inflammatory reaction in the vicinity of the tuberculous focus. This local inflammatory reaction attracts the injected drug to the spot, so that the arsenic—if this drug be selected, which he strongly advises—accumulates in and around the tuberculous focus, stimulating the tissues at this point to extreme defensive and resisting action, and thus raising an effectual wall around the tuberculous focus, preventing its further spread. He has long been an advocate of the intravenous route for medication, and declares that it is particularly useful for injection of tuberculin, as many experiences have confirmed the surprising way in which minimal doses of tuberculin injected into a vein stimulate the production of the protecting substances in the organism infected with tuberculosis. The tuberculin by its exciting influence on the local focus and the resulting inflammatory reaction in the vicinity, acts like the express wagon which carries the package to the point where it is needed and leaves it there, while the arsenic stimulates the local curative action and at the same time has a general tonic effect. The combined tuberculin-arsenic treatment thus fulfils all the conditions which Ehrlich demands for an ideal chemotherapy: the supply of the "distributive substance" (tuberculin), and of a "pharmacophor group" with a specific action (arsenic plus tuberculin). Mendel has been applying this combined intravenous treatment for some time and has been much pleased with the results, not hesitating to declare that it offers the best chances for favorable influencing of the tuberculous process and that it should be introduced as a routine method of treatment in somewhat advanced cases in the sanatoria and also in dispensary treatment of cases in the first or second stage.

127. **Surgical Treatment of Exophthalmic Goiter.**—Krecke reviews his experience at Munich with 160 operations for goiter, including 17 of the exophthalmic form. He remarks that it is amazing to see how the nervous symptoms of the latter form subside after the operation. Within a week the patients are tranquil and sleep better, there is no more tremor and the pulse rate is slower. The mortality in 188 operations for exophthalmic goiter collected from five different clinics has been 9 per cent. His own experience indicates that it is wiser to operate at more than one sitting in the more serious cases or, better yet, to ligate first the afferent arteries. All his patients are delighted with the results of the operation, but the exophthalmos has not entirely subsided in any case; the operation does not seem to influence this. Eleven patients operated on more than two years ago have been in excellent health since. He had one fatality in his series, and he urges earlier resort to surgery and careful examination for a persisting thymus. In case the thymus is found enlarged he advises against operating. His experience has been favorable to general anesthesia. He advises operative intervention when the condition grows worse under internal measures, without further delay.

130. **Ferment Treatment of Tuberculous Abscess.**—Goldenberg does not use the ready-made ferment, but injects a solution of sodium nuclein to induce leucocytosis in the tuberculous abscess. This is supplemented later by Roentgen-ray treatment. His first case was a tuberculous abscess in the soft parts of the thigh, which healed completely in three sittings after it had long resisted ordinary treatment.

131. **Phonendoskiascope.**—Schmincke's combined fluorescent screen and phonendoscope allows the movements of the heart to be inspected at the same time that the heart sounds are heard. The glass is etched in centimeters to measure the extent of the excursions of the heart. The tube for auscultation passe through the center of the glass. By thus seeing and hearing simultaneously the movements of the heart, a number of important points can be learned.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXIII, No. 2, pp. 217-405. Last indexed Dec. 19, p. 2198

132 Participation of Blood-Producing System in Metastasis of Uterine Carcinoma. (Beteiligung des hematopoetischen Systemes an der Metastasierung beim Uteruskarzinom.) H. Offergeld.
133 Management of Childbirth with Contracted Pelvis, and its Transformations. W. Hannes.
134 *Pathogenesis of Eclampsia. F. Ahlfeld.
135 Determination of Opsonins in Puerperal Infection. T. Heynemann and C. Barth.

134. **Renal Basis of Eclampsia.**—Ahlfeld's attention has been called to three special features in eclampsia: its preponderance in primiparæ, the rarity of recurrence, and th far more unfavorable course, both for mother and child, in multiparæ. He has been making a special study of recurrin eclampsia as liable to throw light on the etiology, and wa able to find in the literature records of 108 cases in which th woman had eclampsia a second time, and has observed thre in his own practice. The facts observed show an unmistakabl connection between the eclampsia and some kidney affectio existing before the pregnancy. Only when eclampsia in th first pregnancy recurs in the second, without abortion in th interim, is it possible that this recurrence may be independen of a chronic kidney affection. As it seems to be establishe that the eclampsia in multiparæ is connected with insufficienc of the kidneys, this suggests that some functional disturbanc in the kidney may also be responsible for it in primiparæ. Th eclampsia poison is probably the products of decaying matte which are liable to get into the blood in any pregnancy, bu which normally do not accumulate in the maternal body, bu are harmlessly eliminated through the kidneys. This poiso is not primarily and exclusively responsible for the eclampsi but rather the functional disturbance in the kidney, partly a physiologic and mechanic nature, partly pathologic. He summarizes his impressions in the assertion that there are thr forms of puerperal eclampsia: the pure typical form whi occurs only in primiparæ; the eclamptic-uremic form whi occurs in multiparæ or whenever there is chronic insufficien of the kidneys; and pseudoeclampsia, which really has nothi to do with true puerperal eclampsia, but may occur at chil birth, independent of any kidney affection, from the acti of some septic poison or chemical or from a brain affection as a simple reflex phenomenon. Epileptic or hystero-epilep convulsions may also simulate eclampsia.

Zentralblatt für Chirurgie, Leipsic

January 2, XXXVI, No. 1, pp. 1-40

136 Successful Treatment of Angioma with Carbon Dioxid Snow. (Behandlung der Angiome mit gefrorener Kohlensäure.) F. Sauerbruch.
137 Drainage of Hepatic Duct. (Zur Hepaticusdrainage.) H. Kehr.
138 Technic for Removable Sutures, especially in Herniotomies. (Zur Technik entfernbarer versenkter Nähte unter besonderer Berücksichtigung der Bassininaht.) Kirstein.

January 9, No. 2, pp. 41-72

139 *Extravesical Suprapubic Prostatectomy. W. J. van Stockum.

139. **Extravesical Suprapubic Prostatectomy.**—In the case described, the patient was 80 years old, and 12 c.c. of ethyl chlorid were used to induce anesthesia. A soft catheter was introduced into the bladder and a vertical incision was made on the median line from the root of the penis upward. The recti were drawn aside and the upper part of the urethra and prostate were exposed, working down to them with the finger, drawing up the fat tissue and the reflection of the peritoneum on the anterior aspect of the bladder, but no more than was strictly necessary to expose the prostate. The connective tissue on each side of the bladder was not disturbed. A small vertical incision was then made in the capsule over the most prominent portion of the prostate, a little to one side of the median line. Through this small opening in the capsule he was able to scrape out with one or two fingers the entire prostate, the catheter helping to locate it and an assistant's finger in the rectum pushing the gland into constant prominence. The enucleation proceeded as readily as with the Freyer technic and the bleeding was moderate. A large gauze sponge was packed into the wound to prevent hemorrhage later, which is one of the greatest dangers in prostatectomy. The wound was sutured except where the end of the sponge protruded below. Considerable blood escaped into the dressings and through the urethra for a few hours, but then ceased. By the twelfth day healing was complete and the patient was urinating spontaneously. van Stockum regards this technic as progress. In this case he made a buttonhole in the vertex of the bladder to drain the bladder, but thinks that a retention catheter would probably answer the purpose just as well. The neck of the bladder is not stretched as much as with the Freyer technic and the blood does not get into the bladder, consequently there is less danger of the catheter becoming obstructed with blood clots, which often occurs with the Freyer technic.

Zentralblatt für Gynäkologie, Leipsic

January 2, XXXIII, No. 1, pp. 1-40

140 *Sacral Anesthesia. (Ueber sakrale Anästhesie.) W. Stoeckel.
141 *Thrombosis and Allowing Patients to get up Early after Childbirth. (Thrombose und Frühaufstehen im Wochenbett.) F. Fromme.
142 *Frequency of Thrombosis after Gynecologic Operations and Childbirth. (Häufigkeit der Thrombose nach gynäkologischen Operationen und im Wochenbett.) M. Hofmeier.
143 Gallstones in Bladder. (Gallensteine in der Harnblase.) F. Michel.

January 9, No. 2, pp. 41-72

144 Best Fixation Method for Treatment of Immovable Retroversion with Flexion. O. Küstner.
145 Case of Primary Peritoneal Pregnancy. (Fall von primärer Peritonealschwangerschaft.) O. Gröné.

140. **Sacral Anesthesia.**—Stoeckel has revived Cathelin's method of epidural injections, that is, injection of the anesthetic into the sacral canal below and outside of the dura, thus avoiding all direct contact with the spinal cord. He has found that this is a most excellent means for anesthesia in obstetrics, as it blocks the nerve tracts transmitting the labor pains without noticeable general action. It is thus an obstetric local anesthesia, and he has applied it in 141 childbirths. His patients included 89 primiparæ, and all deliveries were normal, the measure not being tried in any case suggesting possible complications. In 2 cases a second injection was given. In 96 cases the injection was made in the first and the others in the second stage of labor. In 18 cases no effect was apparent; in 12 it was dubious, but in 111 cases a favorable influence was unmistakable. In many cases the musculature of the perineum and of the floor of the pelvis seemed to be much relaxed, which rendered protection of the perineum easier. In 72 cases the pains in the sacral region were entirely or nearly abolished and in 39 cases both the sacral and abdominal pains. In 9 cases there was no pain as the head passed the vulva, and in 16 only very slight pain. In 3 cases the child was delivered with forceps, and in 2 a tear was sutured without the woman feeling it. The injection evidently has a tendency to check the contraction of the uterus when made as labor first begins. In 23 cases the contractions became weaker and less frequent; one woman was given an injection at the first slight pains and labor was suspended. It did not set in again in earnest until four days later. This suggests the possibility that impending abortion or premature delivery might be arrested by the sacral technic. The injections did not seem to have any effect on the labor contractions when once well started. No injurious influence on the child was observed in any instance, and strange to say, no retention of urine during the puerperium. He injected from 3 to 83 c.c., the dose of 33 c.c. being found most effectual. The method also proved successful in dysmenorrhea when the pain was in the back, and he suggests that this sacral injection might give relief in numerous cases of sacral neuralgia accompanying a gynecologic affection. He discusses the mechanism of the injection and gives illustrations of the exact technic. The effects demonstrate that the pain of labor and of menstruation does not originate in the uterus itself.

141. **Allowing Women to Get Up Early After Childbirth.**—Fromme has not found any lesser frequency of thrombosis when the women are allowed to get up earlier than the customary two or three weeks. He describes a case in which the patient was allowed to sit up in a chair beside the bed for an hour the second day after delivery. The next day there was rise of temperature and the day after streptococci could be cultivated from the lochia. The postmortem findings the tenth day showed thrombosis and embolism but no pyemia. The case illustrates anew the insignificant clinical signs that may be made by even very extensive thrombosis. He thinks it probable that the getting up early hastened the development of the thrombosis, and he warns urgently against it.

142. **Frequency of Postoperative Thrombosis.**—Hofmeier reviews his experience with 389 operations for myoma, with thrombosis in 6 cases, for which the operation was responsible in only 3 instances. In 10,000 obstetric cases there was thrombosis in 12 but no embolism or fatality. His statistics speak against the assumption that reduction in the proportion of cases of thrombosis is the result of any recent innovation, but that it is rather the natural progress of general asepsis.

Hygiea, Stockholm

October, LXX, No. 10, pp. 899-1058

146 *Diagnosis of Renal Tuberculosis. (Om diagnosen vid njurtuberkulos.) G. Ekehorn.
147 *Continued Experiences with Mercurial Treatment in Form of a Snuff. (Forstatta rön med kvicksilfversnusningskuren.) C. Cronquist.
148 Methods for Determining Outlines of Stomach. (Om metoderna för bestämmande af magsäckens gränser.) T. Fischer.

November, No. 11, pp. 1059-1234

149 Case of Diabetes Insipidus Successfully Treated with Subcutaneous Injections of Strychnin. E. Rohde.
150 Auscultation Methods of Determining the Blood Presure and their Practical Value. (Den auskultatoriska blodtrycksbestämningsmetoden.) K. A. E. Fries.

146. **Diagnosis of Renal Tuberculosis.**—Ekehorn states that he has been able to diagnose tuberculous processes in the kidney by a simple bacteriologic technic. The course of the cases confirmed his diagnosis in every instance. This is particularly noticeable in the cases with negative findings, as none of these patients has shown signs of tuberculosis since. These experiences extend over a number of years, and he commends his technic for general adoption. The urine is drawn with a catheter (by the physician) after disinfection of the region, and the first portion of the urine is thrown away. The remainder is centrifugalized at once and as soon as the sediment is dry, Ziehl's solution of carbol fuchsin is poured on the object glass which is then heated until it steams but not boils. After a few minutes the stain is poured away and the object glass is placed, without rinsing, in a glass containing two parts nitric acid to one part water. The nitric acid solution can be used over and over again. The specimen is kept in the nitric acid for an hour. It is then rinsed and stained

at once with malachite green, 1 part to 20 parts alcohol. The contrast stain is left in contact for one minute or longer and is then entirely rinsed off. The tubercle bacilli are the only ones that stain red, and they show up well on the green background. The vessels used are kept filled with caustic soda in the intervals. One interesting case is described at length in which a bilateral tuberculous epididymitis, with numerous tubercle bacilli in the urine, was accompanied by pains in the left kidney region but tubercle bacilli could not be detected in the urine from the kidneys. The patient recovered completely after removal of the testicles, and there has been no sign of tuberculosis of the urinary apparatus during the year or so since. With care it is possible to obtain the urine without contamination with smegma bacilli from the vicinity.

147. **Experiences with Mercury Given in the Form of Snuff.** – Cronquist has now an experience of 19 cases of syphilis treated with mercury in the form of hydrargyrum cum creta or a finer powder containing 40 per cent. metallic mercury. He orders 4 gm. of the powder inhaled during the day in the form of snuff at four different times, never more than five times. When his instructions are properly carried out, this method of treatment proves powerful and effectual, not only as an adjuvant to other measures, but as the main reliance. He gives the details of his 19 cases to sustain his assertions. He first described this treatment in 1907; his later experiences have confirmed his first favorable impression.

Norsk Magazin for Lægevidenskaben, Christiania

December. LXIX, No. 12, pp. 1121-1200

151 *Treatment of Pulmonary Tuberculosis with Artificial Pneumothorax. K. Thue.
152 *Glycerin Treatment of Pernicious Anemia on Basis of Recent Research. (En kasuistik meddellelse til belysning af de nyere undersøgelser over perniciøs anæmi.) H. J. Vetlesen.

151. **Artificial Pneumothorax in Pulmonary Tuberculosis.**—Thue observed some years ago the case of a young man with tuberculosis in the left lung, under treatment for some months when hydropneumothorax developed on that side and the patient began to improve. For twelve years longer he was in comparative health, doing hard manual labor, when he succumbed to sudden hemorrhage. The left lung was found still compressed with a pneumothorax and the tuberculous process had become entirely obliterated. In this case the natural pneumothorax accomplished the desired result and for the same purpose Thue has made an artificial pneumothorax in eleven cases and Saugman has done it in thirteen. The results as Thue describes them are encouraging, although the treatment was applied in such advanced cases that a cure could not be expected. The details of his eleven cases are given in full. He thinks that the method should be given a trial even in the afebrile cases when the tuberculous process continues a progressive course rebellious to other measures.

152. **Treatment of Pernicious Anemia on New Basis.**—Vetlesen refers to Tallquist's research on anemia from the bothriocephalus in which he found that a hemolytic substance present in the parasite is responsible for the anemia. This hemolytic substance proved to be oleic acid, both its cholesterin and its sodium salt having hemolytic properties. In normal conditions there is not much cholesterin in the blood, but when it reaches a certain concentration the hemolytic action follows. Tallquist suggested administration of calcium to form an insoluble compound with the oleic acid, or of glycerin which unites with the oleic acid to form ordinary olein, the harmless oleate of glyceryl. Vetlesen has been applying the results of these abstract researches in the clinic, and reports a case of progressive pernicious anemia with hemoglobin, 40 per cent., and only 1,110,000 red corpuscles, in which after failure of other measures he gave the patient a tablespoonful of glycerin, with a little lemonade, three times a day. In the course of five months of this glycerin treatment alone the hemoglobin increased to 100 per cent. and the number of reds to 4,400,000, while the patient gained about 25 pounds in weight. Vetlesen continues that the favorable results sometimes observed in pernicious anemia from treatment with bone marrow extract may have been in reality due to the glycerin vehicle.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

YEAR-BOOK OF THE ANGLO-AMERICAN MEDICAL ASSOCIATION OF BERLIN. Annual Report and List of Members for the year closing with the Summer Semester of the University of Berlin, 1908. Including a list of Courses given in Berlin, and other Information. Paper. Pp. 72. Published by the Association. (President, Dr. James H. Honan, Lützowstrasse 78, Berlin, W., Germany.)

DISEASES OF THE DIGESTIVE CANAL. By Paul Cohnheim, Specialist in Diseases of the Stomach and Intestines in Berlin. From the Second German Edition. Edited and Translated by Dudley Fulton, M.D., Lecturer on Medicine, University of Southern California, Los Angeles. Cloth. Pp. 373 with illustrations. Price, $4. Philadelphia: J. B. Lippincott Co.

DISEASES OF THE NOSE, THROAT AND EAR. By Francis R. Packard, M.D., Professor of Diseases of the Nose and Throat in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine. Cloth. Pp. 369, with illustrations. Price, $3.50. Philadelphia: J. B. Lippincott Co.

AMERICAN PRACTICE OF SURGERY. Edited by Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Vol. V. Cloth. Pp. 965, with illustrations. Price, $7 per volume. New York: William Wood & Co., 1908.

NEW YORK STATE LIBRARY, YEAR-BOOK OF LEGISLATION. Legislation Bulletins 35-36. Vol. 9, 1907. Edited by Frederick D. Bramhall, Legislative Reference Librarian. Cloth. Pp. 599. Price, $1. Albany: University of the State of New York, 1908.

HYGIEA FESTBAND, Utgifvet af Svenska Läkaresällskapet till Minne af dess Hundraåriga Verksamhet den 25 Oktober 1908. Redigeradt af Prof. Dr. Carl Sundberg. In 2 parts. Paper. Stockholm: Isaac Marcus' Boktr.-Aktiebolag.

TRANSACTIONS OF THE FOURTEENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY. 1908. Cloth. Pp. 548, with illustrations. St. Louis: Published by the Society, 1908.

PROCEEDINGS OF THE AMERICAN SOCIETY FOR PSYCHICAL RESEARCH. Vol. II. December, 1908. Part 3. Paper. Pp. 674. Price, $2.50. New York: Published by the Publication Committee of the Society.

THIRTY-THIRD ANNUAL REPORT OF THE LADIES' UNION CHARITABLE SOCIETY, Conducting the LAWRENCE GENERAL HOSPITAL AND CHILDREN'S HOME, 1908. Lawrence, Mass., 1908. Paper. Pp. 72

THE AMERICAN TROPICS. By William Thomas Corlett. Half cloth, boards, top edge gilt. Pp. 221, with illustrations. Price, $1.50. Cleveland: The Burrows Brothers Co., 1908.

New Patents

Recent patents of interest to physicians:

908388. Air-purifier. W. G. R. Braemer, Buffalo, N. Y.
907749. Massage machine. W. D. Davenport, Kaufman, Texas.
907784-5. Bandage. W. R. Green, Kansas City, Mo.
907839. Douche-chair. S. A. Mendenhall, Hamburg, Iowa.
907875. Sanitary receptacle. R. W. Pritchard, Portland, Ore.
908150. Device for production of medicinal baths. R. Schubardt, Berlin, Germany.
908171. Oxidizing camphol for making camphor. A. Verley, Paris, and E. Urbain Feige, Gentilly, France.
39732-3. Design, neck and chest protector. J. S. Mead, Milwaukee, Wis.
908959. Bandage support. C. M. Cooke, New York.
908845. Lift strap for recumbent patients. D. Curtin, Villanova, Pa.
909077. Truss. J. S. E. Freel, Newark, N. J.
908855. Massage apparatus. H. Ginnel, Garden City, N. Y.
908998. Truss. C. A. Jensen, Bailey, Nebr.
908573 and 909093. Nozzle for syringes, etc. H. A. Kaysan, Cassel, Germany.
909002. Respirator. N. Lambert, Rolla, N. D.
908881. Artificial hand. A. F. Nelson, Renton, Wash.
909020. Hospital cup. H. J. Potter, Boston.
909129. Attachment for crutches. J. W. Ricks, Gloversville, N. Y.
908533. Abdominal supporter and suspensory. P. Zuckriegel, Cleveland, Ohio.
909527. Composition for antiseptic and other purposes. H. S. Blackmore, Mount Vernon, N. Y.
909309. Apparatus for generating ozone. W. Kolle, Stuttgart, Germany.
909627. Therapeutic lamp. E. W. Locke, Chicago.
909435. Truss. E. Mayer and E. Strahlmann, San Diego, Cal.
909635. Sanitary comb. H. T. Moler, Pitcairn, Pa.
909224. Adjustable crutch. G. S. Rhodes, Fremont, Ohio.
909827. Crutch-tip. E. H. Seibert, St. Louis.
909823. Vibratory massage apparatus. E. N. Sipperley, South Norwalk, Conn.
909349. Catamenial bandage. J. A. Treber and B. Simon, Deadwood, S. D.
909859. Artificial leg. J. T. Apgar, New York.
910270. Sheet-metal disinfectant cabinet or holder. E. W. Carnes, Chicago.
910362. Remedial head-band. C. C. Dieudonne, Washington, D. C.
910004. Truss. W. Lennox, Philadelphia.
910303. Truss. R. R. McGregor, Covington, Tenn.
910144. Atomizer. F. E. Nelson, Los Angeles, Cal.
909948. Suspensory. E. A. Schmertz, Atlantic City.
910154. Poison indicator. J. B. Smith, Knoxville, Tenn.
910440. Distilling glycerin. F. J. Wood, New York.
909979. Respiratory apparatus. E. E. Zerkle, Chicago.
39777. Design, poison bottle. A. J. Iwan, Marshfield, Wis.

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Original Articles

CONCLUSIONS FROM 1,087 CONJUNCTIVAL TUBERCULIN TESTS BY A UNIFORM METHOD *

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SARANAC LAKE, N. Y.

The reports which form the basis of this contribution ere obtained from forty physicians engaged in tuber- ulosis work, most of whom are clinicians, and to whom ıy acknowledgments are herewith made with thanks. he same preparation of tuberculin was furnished to ll, together with an eye-dropper graduated to 0.25 c.c. he material was obtained from 500 c.c. of old tuber- ulin (human) precipitated with alcohol and redis- lved in normal salt solution when sent out from the boratory. It had been filtered through a thick Berke- ld bougie and contained no dead tubercle bacilli or agments recognizable by staining. Some preliminary sts which I made indicated that the percentage used Calmette (1 per cent.) was dangerously strong, at ast for this preparation. Hence the solutions were ade 0.3 per cent. and 0.5 per cent. in sterilized sealed bes and provisional directions given to begin with the eaker and repeat it in the other eye with the stronger no reaction occurred to the first instillation. It was nsidered a contraindication to the employment of the t if any eye disease existed. To the use of a small easured drop, weak, sterile solutions and the observ- ıce of contraindications may be attributed in part the rity of severe or prolonged reactions and sequelæ. But e instance of keratitis has been reported, and that in scrofulous subject who recovered completely without acity. The reports herein contained do not comprise [1] the tests made with the same preparation of tuber- lin, but a request made to those clinicians who were able to report their tests in detail for a report of any jurious effects noted has not produced any further es. Six hundred additional tests were cited with- t resulting injury, 100 being on infants.

Practically all of the tests were made within three nths of the date when the solutions were prepared, d no deterioration in strength was noted except in ue tubes kept six months. It is probable, however, t some reactions failed to appear from this cause.

SUMMARY OF RESULTS

In the following tables are presented the results as lated from record charts sent to all the recipients of the tuberculin. They include 887 individuals, in 190 of whom a second instillation was made in the opposite eye and 10 in the same eye, a total of 1,087 instillations.[2]

There were 310 cases of tuberculosis in some form, 265 suspected tuberculous, 127 subjects of other diseases and 185 supposedly healthy subjects. Doubtful reactions are excluded from the tables.

TABLE 1.—Summary

Pulmonary Tuberculosis.	No. Cases.	+ Reactions.	Per cent.
Stage I.—Incipient.			
Tb. bc. demonstrated	33*	20	60.6
Tb. bc. not demonstrated	49	35	71.4
Total	82	55	67
Stage II.—Moderately advanced.			
Tb. bc. demonstrated	96†	76	79.2
Tb. bc. not demonstrated	22‡	13	59.1
Total	118	89	75
Stage III—Far advanced	36	18	50
Clin. healed	24	17	70
Other forms of tuberculosis	50**	39	78
Grand total	310	218	70
Pul. Tub. suspected	219	73	33.3
Other forms suspected	46	22	47.8
Total	265	95	35.9
Other diseases	127	19	14.1
Healthy subjects unsuspected	185	34	18.3

* Nine were under tuberculin treatment and failed to react.
† Nineteen were under tuberculin treatment of whom 10 reacted positively.
‡ One was under tuberculin treatment and failed to react.
** Eight were under tuberculin treatment of whom one reacted.

In reviewing the percentages in Table 1 it is apparent that a considerably greater number of patients with pulmonary disease reacted in the moderately advanced class than in the incipient, while in the far advanced the number of reactions was less. It is probable that the patients forming the moderately advanced class, being taken from sanatoria in the greater part, were in better condition than the hospital patients tested by Wolff-Eisner, who found a decreased percentage of reactions with the advance of the disease. The influence of tuberculin treatment in lowering the sensitiveness of the conjunctiva brought down the percentage of reactions appreciably. It is also noteworthy that fully 70 per cent. of persons who had been healed in the clinical sense from two to thirty years reacted positively. The chief interest relates to the clinically incipient (71.4 per cent. positive) and suspected cases (33.3 per cent. positive), in which the test would be expected to assist in diagnosis. The results fall considerably short of the requirements for an ideal diagnostic method in suspected tuberculosis, though relatively good in confirmation of the clinically tuberculous cases. The percentage of supposedly healthy subjects and patients with nontuberculous diseases reacting positively closely accords

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[*] A contribution from the Saranac Laboratory. Read at the rnational Congress on Tuberculosis, Clinical Section, Wash- on, Sept. 29, 1908.

[1] They include the cases published by Drs. C. Floyd and J. B. ves 2d (Jour. Med. Research, 1908, xvli, No. 4) and also most those reported by the writer of this paper in The Journal M. A., Dec. 14, 1907, xlix, 1969.

[2] A few received a third instillation with another tuberculin.

with that found by Wolff-Eisner and Petit in a larger number of cases.

AGE DIVISIONS

Table 2 shows the age divisions and positive reactions. From this it will be seen that 15.2 per cent. were children under 15 years of age. The number of cases in the youngest and oldest classes is too small to give any importance to the percentage of reactions. The high percentage of positive results in the age division 10-15, is noteworthy, especially in the non-tuberculous diseases, when compared with the older classes. Probably no significance can be properly given to such small numbers of cases.

A history of tuberculosis in the family or of exposure to the disease was not fully reported, but in 62 suspected cases with family tuberculosis 50 per cent. reacted; of 35 healthy persons with like history 25.7 per cent. reacted.

SEVERITY OF REACTIONS

The grade of reaction severity was not recorded as fully as desired, although the schema in Table 3 was originally suggested for this purpose to the recipients of the tuberculin. The following meaning is to be understood from the signs:

+ Distinct palpebral redness with secretion.
++ Ocular and palpebral redness with secretion.
+++ Deep injection of entire conjunctiva with edema of lids, photophobia and secretion.

TABLE 2.—Age Divisions

	Ages 0-10. No.	+ Reactions. No.	Per Cent.	Ages 10-15. No.	+ Reactions. No.	Per Cent.	Ages 15-40 No.	+ Reactions. No.	Per Cent.	Ages 40 + No.	+ Reactions. No.	Per Cent.	+ Total Reactions. No.	Per Cent.
Tuberculosis, all forms	20	8	40	26	24	92.3	238	162	68	39	24	61.6	218	70
Suspected	5	1	20	45	21	46.6	193	69	35.7	22	4	18.1	95	35.9
Other Diseases	16	5	31.2	16	7	43.7	73	3	4.1	22	4	18.1	19	14.1
Healthy	3	0	0	4	0	0	157	27	17	21	7	33.3	34	18.3
Total	44	..	....	91	..	....	661	..	....	104	..	....	..	....

TABLE 3.—Severity of Reactions

	+	++	+++	Prolonged Conjunctivitis.	Sequelæ.
Pulm. tuber. I—					
Tb. Bc. demonst'd.	9	11	3	....	....
Clinical	16	13	3	....	....
Pulm. tuberc. II.—					
Tb. Bc. demonst'd.	50	22	4	5— 5 days	....
Clinical	11	1	1	....	....
Pulm. tuberc. III.	12	4	2	1 — 8 days	....
Clinically healed.	14	5	1	1—10 days	....
Other forms tuberc.	11	22	6	1—12 days 2— 7 days	1 keratitis (scrofula aged. 22)
Pulm. tuberc. suspected	48	14	1	....	....
Other forms tuberc. suspected	22	?	?	....	....
Other diseases	13	6	?	....	....
Healthy (unsuspected)	19	8	3	....	....
Total	225	106	24	10	1

Comment may be made on the fact that severe reactions were not confined to the well-marked tuberculous subjects, but occasionally were produced in apparently healthy persons. The strongest reactions, however, were more frequent in the first stages of tuberculosis. The small number (24) of very severe and (10) prolonged reactions has already been noted. Three severe reactions were accompanied by coryza in the corresponding nostril and constitutional symptoms — slight fever, malaise and muscular pains; one of these had a nosebleed.

REPETITION OF THE TEST

Repetition of the test in the same eye was recorded in 10 cases and in the opposite eye in 190 persons who had not reacted to the first test. All the first were tuberculous or suspected, so that little value can be placed on the reactions (which occurred in all) as indicative of acquired sensitiveness in hitherto uninfected subjects. The reactions to repetition in the same eye were, nevertheless, severe, as shown in the following table, and illustrate the heightened sensitiveness produced by the first instillation. The interval between the first and second instillations in the same eye was from two weeks to two months, which was sufficient for the creation of antisubstances.

TABLE 4.—Second Instillation

	No.	+	++	+++	Per Cent.
Same Eye	10	1	2	7	100
Opposite Eye	190	29	7	0	18

Only 18 per cent. of the opposite eyes responded positively, nearly all of which were in suspected or tuberculous subjects and instilled within a week after the first test. The value of this method in increasing the percentage of reactions would seem to be relatively small.

INFLUENCE OF FEVER

The presence of fever was reported in 67 tuberculous and 25 suspected cases. Where the degree was noted only those of 99.5 F. and over are included in the following table. Mouth temperatures are to be understood.

It is apparent that the presence of fever does not diminish the chance of reaction, for even in the cases in Stage III, in which the highest fever prevailed, th percentage is the same as in Table 1 for the whol number. The same may be noted in the suspected clas in which the subcutaneous test could not be employe in the presence of fever. On the other hand, the tuber culous of Stages I and II show a higher percentage.

TABLE 5.—Influence of Fever

Pulmonary Tuberculosis.—Stage I.	Cases.	Reactl n +
Tb. bc. demonstrated	10	8
Clinically	10	6
Stage II.		
Tb. bc. demonstrated	22	21
Clinically	1	0
Stage III.	17	9
Other forms	7	7
Suspected	25	8

COMBINED CONJUNCTIVAL, CUTANEOUS AND SUBCUTANEOUS TESTS

The next table shows the results in the cases su jected to control tests. The cutaneous tests were usual made subsequent to the conjunctival and all the subc taneous tests were thus made.

In addition four tuberculous patients were tested the percutaneous method of Moro, with positive resu in all.

Without mention of details as to maximum doses full discussion of these tests is unprofitable. In ma cases the reports were incomplete, but it is sufficient note a fair correspondence between the reactions amo the tuberculous and the larger proportion of reactio to the cutaneous and subcutaneous tests among the s pected and healthy. So far as they go these cases conirm previous observations of the relative reacting power f the tests, but no data of value were brought forward s to the prognostic value of the conjunctival reaction. Among the tuberculous patients whom I tested no such egular correspondence between the degree of the reacions and the clinical prognosis was observed as found y Wolff-Eisner and Stadelmann except in the far adanced class. Among 90 patients of all stages recorded s favorable, only 67 reacted; of 11 doubtful, 9 reacted, nd of 35 unfavorable, 29 gave a strongly positive reacon in most cases.

TABLE 6.—CONTROL TESTS

	Conjunctival.* Total.	Conjunctival.* Pos.	Cutaneous. Total.	Cutaneous. Pos.	Subcutaneous. Total.	Subcutaneous. Pos.
	23	11	23	13	..	..
berculous	31	13	..	..	31	18
	20	4	20	10	..	..
spected	35	7	..	..	35	18
	2	1	2	0	..	..
her Diseases	9	1	..	..	9	1
	7	1	7	4	..	..
althy	14	0	..	..	14	3
Total	141	38	52	27	89	40

* The conjunctival reaction appeared for the first time in 4 ses during the subcutaneous reaction and recurred in 2 cases at s time. Three of the first mentioned were suspected and the ers clinically tuberculous.

The future history alone can show whether the connctival reactions among the apparently healthy subts betokened a state of greater danger of the outbreak active tuberculosis in them than to the non-reacting lividuals. It is too much to assert on the basis of se experiments that only those healthy persons reed in the eye who had a more dangerous infection.

he conceivable causes of non-reaction to the conictival test must be regarded in estimating its diagstic as well as its prognostic accuracy, and the value such a standard is impaired for the following reas: 1, Uncertain absorption of the tuberculin, due lachrymation and spasm of the eyelids which may eeze out the drop; 2, smallness of the dose required safety, it being insufficient to react all the known t-stage tuberculous individuals; 3, variations in iniduals as to local sensitization acquired from tuberus infections of equal amount.

y repeated instillations in the same eye, as pracd by Roepke and others with increasing doses, no bt a majority of all infected individuals would react with the subcutaneous test.

part from the danger to the eye it is by no means ed that uninfected individuals can not be sensitized his way even if but slightly.

his naturally leads to the consideration of the value ny tuberculin reaction. The wide use of the contival and skin tests during the past year has imsed many clinicians for the first time with their tations. A positive reaction can not be interpreted n infallible criterion of existing disease. It only ys the presence of the infection; whether recent or healed is to be determined by other means. In ty reactions which take place only to large or reed doses are of little clinical value considered apart other symptoms. The absence of reaction after methods is of far greater value in excluding tubersis. In a general way no doubt the more marked and pt the reaction and the smaller the dose, the ter is the probability of the presence of an active cent infection. In this way the conjunctival test may help, but it is possible that with suitable dilutions of tuberculin the cutaneous test will be found to have the same value for adults as for children. There will then be no advantage in the use of either the conjunctival or subcutaneous method except that when it is desired to produce a focal reaction at the site of disease the latter would be required. It follows from these reflections that only positive reactions to very small amounts of tuberculin have much diagnostic importance in the presence of disease symptoms except where focal reactions can be observed, while only absence of reaction to repeated and large doses has any value in excluding tuberculosis.

DANGER OF THE CONJUNCTIVAL REACTION

The reports from physicians who have employed the method and observed the precautions at first promulgated do not speak for a great risk to the eyes, yet the fact that harm can be done is undeniable and, in my opinion, should banish the promiscuous use of the conjunctival test. When governed strictly by the indications as to the absence of past or present eye disease or scrofulous history and the use of weak solutions not repeated, the risk is very slight, but as a few cases of corneal injury in alleged healthy eyes have been elsewhere reported, no one should employ the test without a feeling of responsibility. As compared with the subcutaneous test any injurious results that may follow are less easily ascribed to coincidences, even if justly so.

CONCLUSIONS

1. The conjunctival tuberculin test performed with weak solutions by a single instillation has some value in confirming the presence of tuberculosis in the early stages.

2. It has little value in confirmation when the symptoms of tuberculosis are only suspicious.

3. Its value in distinguishing "active latent" from healed tuberculosis in apparently healthy persons has not yet been determined.

4. Repetition of the test in the same eye has no advantage over the cutaneous and subcutaneous tests in the percentage of reactions produced and may be misleading and dangerous.

5. Repetition in the other eye by the author's method offers so little advantage that it can not be recommended.

6. The conjunctival reaction is unreliable for prognosis.

7. Used with the proper precautions, danger to the eye is slight and need not preclude the test when other methods are inapplicable, as when fever is present. It should be restricted to adults, since the cutaneous test has been found equally valuable for children and is harmless.

8. The cutaneous test by the simultaneous use of dilute and strong tuberculin offers a method of detecting at once or excluding tuberculous infection with no danger or inconvenience. Experience is needed to show the value of this method.

9. The subcutaneous test should be restricted to those cases in which a focal reaction at the site of the disease is desired and when the other tests result negatively.

NOTE.—The following may be consulted on this subject:

Wolff-Eisner, A.: Die Ophthalmo- und Kutan-Diagnose der Tuberkulose, Würzburg, 1908.

Petit, Leon: Le diagnostic de la tuberculose par l'opthalmoreaction, Paris, 1907.

Roepke, O.: Die Ergebnisse gleichzeitig angestellte Tuberkulinreaktionen, Beitr. z. Klin. d. Tuberk., 1908, ix, No. 3.

THE MUNICIPALITY AND ITS RELATION TO PREVENTABLE DISEASE *

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It affords me great pleasure to attend this convention, devoted to the consideration of practical problems of administrative science as they relate to the municipality.

It is particularly appropriate that North Carolina, the first state during colonial days to move for independence with all that word implies, should maintain organized effort of this character for the betterment of social, economic and hygienic conditions among her citizens.

As a member of the Public Health Service of the United States the problems of sanitation are of greatest interest to me, and it is, therefore, deemed appropriate, in response to your invitation, to outline briefly certain responsibilities and privileges of the municipality in its relation to the health of the country at large.

The health of the people of a country stands in the front rank of public considerations. On it depend their individual health and happiness, and ultimately the material prosperity and very existence of the nation itself. With the rapid development of our country and consequent growth of urban life, there have arisen sanitary problems of increasing complexity, and their solution is necessary in order that men may live and mingle together without being a menace one to another.

The occupant of the isolated country home has with apparent impunity been able to disregard many of the laws of hygiene respecting his habitation and surroundings, since he spends the greater part of his life in the open air, surrounded by the natural agencies which destroy effete matter and render it innocuous through biologic changes. Even in the open country, however, certain diseases, such as malaria and hookworm disease, flourish, causing excessive morbidity and great economic loss. The dweller in the city, on the other hand, is constantly forced to take cognizance of conditions that breed disease. In addition he is oftener exposed to the communicable diseases by reason of more intimate association with his fellow-men.

Through intelligent cooperation, however, urban residence has become more comfortable, and in many places the duration of life in the city has been prolonged over that in the country. These results on the part of the municipality predicate, first, the enforcement of efficient ordinances for the prevention and suppression of communicable diseases, and, second, the inauguration of sanitary measures which have for their object the abatement of nuisances detrimental to life and health.

Under modern conditions of city life the individual is himself unable to exercise the full measure of protection, and it is only through official agency that this can be accomplished. I believe that governments will eventually hold themselves responsible for preventable diseases and reimburse the individual accordingly. In fact, this provision in a measure exists in Germany to-day, where through national insurance laws partial provision is made for the wage-earner and his family during periods of illness. If any man in this audience contracts yellow fever in North Carolina it is because somebody has been careless. Such carelessness can be prevented by governmental agency, and the victim should not be made to suffer pecuniary loss in addition to the danger he is forced to undergo by reason of his affliction.

If the public had to pay a man because it allowed him to contract a preventable disease there would be more interest in preventive medicine and a more rapid advance in public health work in this country to-day.

PREVENTION OF COMMUNICABLE DISEASES A FUNDAMENTAL NECESSITY

The primary object of sanitation is the prevention o communicable diseases. The Surgeon-General of the Public Health and Marine-Hospital Service, throug representations made to the Secretary of State and presented to the Third International Conference of American Republics at Rio de Janeiro, in 1906, emphasize this fact and declared that the sanitation of seaport would obliterate foci of infection and thus obviate th necessity of expensive quarantine and the restraints i imposes on commerce.

The prophylaxis of these diseases is becoming bette understood, and that community is culpable which neglects to take cognizance of modern advances and t eliminate conditions within its borders which foste infection. Among the more important measures to thi end may be considered the prevention of promiscuou expectoration, destruction of tuberculous sputum, an condemnation of insanitary dwellings; the preventio of soil pollution and consequent elimination of hookworm disease; the destruction of mosquitoes and eradication of their breeding places for the prevention o malaria and yellow fever; the thorough disinfection a the bedside of dejecta of typhoid fever patients; th vaccination of all persons within the first year afte birth and again before the end of their twelfth year fo the prevention of smallpox; the registration of statistics of sickness and death; the humane isolation of ca of communicable diseases; the sanitary supervision o food and water supplies, and the hygienic disposal o sewage and wastes.

"DO NOT SPIT ON THE FLOOR; TO DO SO MAY SPREA DISEASE"

The influence of tuberculosis on the hygienic an economic welfare of the community and state is becoming more and more recognized.

In the United States alone 150,000 persons die annually of the disease—more deaths than have resulte from all the epidemics of yellow fever in our countr during the past 115 years. Statistics were quoted b the Secretary of the Treasury at the opening of tl International Congress on Tuberculosis in Washingto September last, showing that during the last four yea tuberculosis caused more than three times as ma deaths in our country as occurred in action and fro wounds received in action during the entire period the Civil War.

Such facts are of great significance and have contri uted to the recent sanitary awakening with respect this disease. The movement against tuberculosis is n world-wide in extent, as was shown by the internation exhibit recently held in Washington. This exhibit al demonstrated the utility of modern methods of contro but for their perfection and practical execution sta and municipal activity are indispensable.

Through such activity the mortality from tuberc losis in the city of Boston has been reduced 55 per ce

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* Presented before the Municipal Convention of North Carolina, Charlotte, N. C., Nov. 17, 1908.

vithin the past twenty years—a result that plainly indi-ates what may be done by other municipalities.

I believe that the future attitude of municipalities in he struggle against tuberculosis will be taken as an ndex of their sanitary enlightenment, and I would urge hat every municipality participate in this campaign, he extent of which is now remarkable. In this work rivate philanthropy has been an important factor; but n order to prevent duplication of effort and loss of nergy, municipalities should maintain a wise oversight nd utilize all private initiative to the best advantage.

Tuberculosis is directly due to promiscuous expecto-ation, insanitary housing and ingestion of infected ood. Ten years ago the cars and pavements of our ities were veritable spittoons. To-day, through anti-pitting agitation, they are reasonably clean passage-ays. The time is ripe for the enforcement of uniform ws and ordinances against the disgusting practice of itting and other insanitary conditions which breed the isease.

Every child should be taught in the public school. Do not spit on the floor; to do so may spread disease." hrough the children we can hope to educate the fathers d grandfathers, thus exerting a favorable influence on e sanitation of our homes. Tuberculosis is a house sease, and authorities should see that insanitary dwell-gs are not allowed to continue as foci of infection and menace to the community.

Defective ventilation should be absolutely prohibited, pecially in houses offered for rent. I believe that the me is approaching when outdoor sleeping-rooms will required, and when people will be forcibly prevented om smothering themselves in their own stale breaths. ow better can tuberculosis be prevented when we know at pure air is practically a specific in its cure?

On the discovery of victims of the disease among the stitute it becomes the privilege and duty of the nicipality to care for them and to prevent their be-ming a source of infection to others. In the smaller nicipalities sanatoria may not be feasible, but munic-l dispensaries and house-to-house visits by the health thority can be maintained at slight expense. They a valuable means of relief and offer an excellent portunity for instituting necessary disinfecting pro-lures, which should invariably be required in all in-ted houses before their reoccupancy. In addition, they mit the spread of the gospel of pure air, pure food l right living—the most effective weapons in the war-e against tuberculosis.

DO NOT POLLUTE THE SOIL

ndirectly associated with conditions causing tuber-osis is the pollution of the soil. This latter practice ters hookworm disease, a malady which is due to the sence of hookworms in the intestinal canal and which duces serious anemia, thereby predisposing to tuber-osis.

n the Philippine Islands the prevention of hook-m disease is regarded as the initial step in the solu-n of the tuberculosis problem, wholesale treatment of kworm disease having recently greatly reduced the h rate of tuberculosis in certain limited areas.

ecent investigations made by Dr. Stiles, chief of the ision of Zoology of the Public Health and Marine-pital Service, in cooperation with the State Board Iealth, have demonstrated the undue prevalence of kworm disease in the sand districts of North Carolina. These studies have also emphasized the influence of this disease on the health and productivity of rural inhabitants and the consequent economic importance to the community at large.

There is no more fertile field in the sanitation of this state to-day than the suppression of this one disease, and it is incumbent on every infected community by law or ordinance to prevent soil pollution as well as to treat those individuals already infected. Treatment may be given by the establishment of dispensaries in each municipality, as is being done in Porto Rico, and at slight expense.

NO MOSQUITOES, NO MALARIA OR YELLOW FEVER

Malaria and yellow fever are propagated only by the mosquito, and the corollary, therefore, follows: no mosquitoes, no malaria or yellow fever. While the elimination of these insects presents a task the magnitude of which demands state aid, much also may be done by the municipality, as the yellow fever mosquito (*Stegomyia calopus*) particularly is domesticated and breeds only in artificial bodies of water, such as in cans, barrels, etc., found around habitations. In addition, mosquitoes do not voluntarily migrate any considerable distance from their breeding places.

It is, therefore, a part of good municipal sanitation to do away with such breeding places and to enforce efficient screening against both flies and mosquitoes, the former being also a known agent in the transmission of typhoid fever.

NO RATS OR FLEAS, NO PLAGUE

The rôle of insects and vermin in the transmission of communicable diseases is becoming more and more emphasized. Vermin and domestic animals have since antiquity been known to suffer with bubonic plague, and there can now be no doubt that the disease in rats is identical with that in man. Furthermore, these animals are responsible for the transmission of the disease to man.

During a tour of duty in Hongkong, China, it was my privilege to observe several striking illustrations of this fact. The observation was also made that in infected districts rat plague always precedes the disease in man and that the infection persists among rats for some time after human cases have ceased to occur.

In the fall of 1901 systematic examinations of rats, collected at random through the city of Hongkong, were made by me in company with Dr. Bell of the Civil Government Hospital, and it was observed that the disease lingered among rodents long after the last human case was reported.

Many facts indicate that an intermediary agent is responsible for the transmission of the disease from rat to man. Since then observations of Thompson in Australia have gone far to corroborate this belief, but it remained for the British Plague Commission in India to prove by a series of brilliant experiments that the rat flea *Pulex pallidus*[1] is capable of carrying plague from one rat to another. They also demonstrated that the closest contact of plague-infected animals with healthy animals, in the absence of fleas, does not give rise to the disease among the healthy animals, but that if fleas are present the infection will spread from animal to animal until all are infected. Animals placed in plague-infected houses but surrounded by sticky fly-paper did not develop plague, while animals not so protected died of the disease. During these experiments many plague-infected fleas were captured on the fly-paper.

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[1] Journal of Hygiene, vi, No. 4.

In view of these observations, there can be no doubt that in the transmission of plague the flea is the intermediary between rats and man.

With the view to determining whether the particular flea used in these experiments exists in seaports of the United States, investigations are being made by the Public Health and Marine-Hospital Service, and it has been shown thus far that such is the case in a number of municipalities.

While no case of plague has ever been reported in North Carolina, its consideration here is pertinent, as our country has twice been visited by the disease, and fifty-one countries have been infected since the present pandemic began in Canton, China, in 1894.

Such visitations of the disease are of national importance, and every municipal health authority should be on the lookout for its appearance and be prepared to institute preventive measures.

These, in brief, consist in the discovery of cases among rats or human beings, the depopulation and disinfection of infected houses or localities, the destruction of vermin therein, and the rendering rat-proof and sanitary all buildings occupied by human beings. By these means apparently brilliant results have been accomplished in San Francisco and elsewhere, and it is through them that further spread of the disease in the United States has been prevented.

TYPHOID BACILLI SHOULD BE KILLED IN THE BED-PAN

The undue prevalence of typhoid fever in the United States is a notorious fact, and its prevention is a duty devolving on every community. The infection is contained in the dejecta of typhoid fever patients and is most easily destroyed by disinfection in the bed-pan. It is the province of the attending physician to see that this measure of prophylaxis is observed, and he should be held responsible for its observance by means of ordinances properly enforced. In one city in Holland this all-important duty is performed daily under the supervision of the proper health official after due notification of the disease—an arrangement that might with advantage be adopted in the larger municipalities of our country.

In the absence of such precaution the infection may be transmitted by means of food, flies or fingers. Compilation of statistics made by Passed Assistant Surgeon Trask of the Public Health and Marine-Hospital Service during the past two years have shown that infected milk alone has been responsible for more than 500 epidemics of typhoid fever, scarlet fever and diphtheria within the past fifty years. It is necessary, therefore, that this universal food should be produced and sold only under competent sanitary supervision, and when such supervision can not be maintained, pasteurization should be the universal rule if we would preserve the lives of our infants and children.

Such supervision should include other foods capable of conveying infection, as well as water. It is a singular fact that our barbers and other tradesmen in many places are required to secure licenses to pursue their vocations, while our cooks and venders of foods continue their calling absolutely without sanitary restriction, although in repeated instances they have been proved to be living reservoirs of transmissible infection.

That typhoid fever is a communicable disease is well known, and studies carried on by Rosenau, Lumsden and Kastle in the Hygienic Laboratory of the Public Health and Marine-Hospital Service at Washington during the past three years have led to the conclusion that isolation of patients suffering with the disease is necessary to its eradication.

HUMANE ISOLATION OF COMMUNICABLE DISEASES NECESSARY

I purposely omit detailed reference to diseases such as diphtheria, measles and scarlet fever. Their dangers are well known, as is their method of handling. Besides, they are only unfortunate incidents in the life of the community as compared with tuberculosis, malaria, hookworm disease and typhoid fever, which constantly affect its health and prosperity.

With the advent of certain of these diseases, isolation of the sick becomes necessary in the interest of the public health, but this does not imply that they should b confined in a pest-house and undergo additional hardships because of their misfortune.

The very word "pest-house," as well as what it stand for, should be abolished. Patients should be cared fo in a humane manner under authority of law or ordinance, and access should be had to comfortable isolation hospitals if the sick can not be properly isolate in their own homes. It is time that our people shoul take pride in their hospitals, clean alleys and well ventilated houses rather than in public monument municipal buildings, etc.

In order to carry out isolation effectively, there mus be prompt and accurate notification of the infectiou diseases as well as causes of death.

MORBIDITY AND VITAL STATISTICS THE BOOKKEEPING O SANITARY SCIENCE

There is no more urgent duty in the domain of sanitation to-day than the accurate record of morbidity an mortality statistics, which are the bookkeeping of sanitary science. They are the fundamental basis of al effective sanitation, and it is the province of local governments to insure their accurate collection. Notwithstanding this fact, the collection of such statistics i the United States has been exceedingly unsatisfactor and to-day there are but fifteen states, seventy-eig cities and the District of Columbia included in th registration area.

The first law to my knowledge in this country for t registration of vital statistics was enacted in the colon of Virginia in 1631. In 1907 a bill for the registratio of such statistics in the state of Virginia was defeate in the legislature—not a very brilliant commentary o the advance in sanitary practice during the past tw and one-half centuries.

In North Carolina, on the other hand, provision law now exists for the collection of morbidity and mo tality statistics. Its enforcement is of vital interest the state, and there can be emphasized before this bo no more important measure from the standpoint of sa itary administration.

While the reporting of infectious diseases is a du every physician owes to his community, it is the pa of good municipal government to see that it is do enforcing the law by means of penalties if necessary.

Provision also exists for the collection of vital stat tics, and I would urge greater effort to render th ccurate. This duty devolves primarily on the munici- pality, but the state and the nation are also charged by aw with their collection, and the state board of health hould be provided with facilities to see that this duty s faithfully performed.

Both the state and municipal authorities should be ustained by public opinion and provided with ade- uate funds to carry on their work. This consists in he strict enforcement, in every community, of ordi- ances requiring burial permits before a corpse can be uried or removed. Such permits should be based only n a proper death certificate signed by the attending hysician, and falsification or failure of record of either ocument should be a punishable offense.

The data thus accumulated are enduring records of e effectiveness of preventive measures and serve as a uide in the adoption of further necessary sanitary laws d ordinances.

IE ABATEMENT OF NUISANCES NECESSARY TO PREVENT DISEASE

As previously stated, the second great function of unicipal sanitary administration is the abatement of uisances, which have been defined as "whatever is ngerous to human life or health, and whatever ren- rs soil, air, water or food impure or unwholesome." From a sanitary point of view "none of us liveth to mself and no man dieth to himself," and this espe- ally applies to the individual, his habits and sur- undings as they affect the health and comfort of his ighbors. Community life, therefore, implies sanitary straints, especially in regard to the disposal of waste oducts.

HYGIENIC DISPOSAL OF SEWAGE AND WASTES

With the installation of a modern sewerage system, important phase of the problem has been met, as the lividual's responsibility is assumed by the munici- lity. The construction of such a system is an engi- ering problem, but after the work of installation is npleted the municipality must exercise authority r its operation in order that no part of it may be- ne a nuisance. Then, too, the final disposal of the age must be accomplished in a manner to insure inst the pollution of natural bodies of water.

The common law grants to riparian owners the rights water from streams in its natural state. It may, refore, be postulated that no man or community has right to defile our rivers or lakes with sewage or stes, and it is the duty of the state or federal gov- ment, depending on whether the waterway is intra- te or interstate, to prevent such pollution.

Municipal crematories and sewage disposal plants are s made necessary, and the latter should be con- cted so as to make use of septic tanks, followed by r-beds or broad irrigation.

n the absence of a sewerage system, every house- der must, of necessity, provide for the disposal of te matter, but the method should be subject to sani- regulation, and ordinarily he should have the choice nly two methods, viz., bacteriologic purification by ns of the septic tank, or the pail system for slops dry earth-closet for human excrement.

n the former, sewage is decomposed through the on of anaërobic bacteria, or bacteria which grow in absence of oxygen, in a septic tank, and prepared final oxidation, that is, the bacteria in the tank grow in the absence of oxygen and really cause putrefaction. The mass is decomposed and for the most part becomes liquefied. The resulting liquid is then allowed to flow over land or filter-beds when through the action of aërobic bacteria it is oxidized and rendered harmless. Such tanks are well suited for use in small towns and isolated houses, and a large number are now in operation in different parts of the country.

In the dry earth-closet system, the excreta are exposed to loam, or ashes, which, through biologic changes, cause complete disintegration of the effete matter and render it odorless and harmless to the community. With the use of this method, a separate receptacle must be provided for slops and kitchen waste.

The method to be adopted must depend largely on local conditions, and in any event sanitary supervision on the part of the municipality should be maintained.

In the sanitation of cities and towns as nearly uniform measures as possible should be practiced. A better knowledge of the modern principles of hygiene will eventually bring this about, but for their speedy adoption uniform laws and ordinances are indispensable, and it is through the agency of such organizations as this that unity of action and model sanitary laws might be secured. The question finally arises: Who shall exercise the necessary supervision and be responsible for the enforcement of all these health measures?

TRAINED HEALTH OFFICERS NECESSARY

In this and many other states, executive power in local sanitary matters has been delegated to the municipality, and in such matters the state health authority only acts in an advisory capacity. It is important, therefore, that each political unit be provided with a trained sanitary expert capable of advising with the mayor and enforcing existing health laws and ordinances.

In no other way will the public health problems of the country be met in an active and scientific manner. In this respect, our progress is unsatisfactory as compared with that of England, where every small town or county has a medical officer of health, who is a doctor of public health and possesses a knowledge of sanitary practice not required by the practicing physician.

In order that physicians may undertake this work with the view to making it their life occupation, it must be made more attractive through education of the public as to its necessities.

Public health officials, including municipal health officers, must in future be selected with the view to permanent service, and appointments should depend, not on political preferment, but on professional qualifications and executive ability. In the efficient discharge of his duties, a medical officer of health must possess these attributes in more than ordinary degree.

In the interest of the public health he may, of necessity, antagonize selfish interests, thus jeopardizing the comforts of himself and family. For these reasons his position should be secure, his removal should only follow dishonesty or inefficiency, and he should, whenever practicable, be relieved of the necessity of private practice.

There is increasing demand for further protection of the public health, and I believe that preventive medicine will eventually be practiced in much greater degree by municipal, state and federal governments.

To secure men capable of doing this work, provision must be made for advanced instruction in preventive medicine. There is now practically no provision for such advanced study, and no institution in our country offers a course leading to the granting of the degree of doctor of public health.

A NATIONAL SCHOOL OF HYGIENE NEEDED

With the view to meeting this deficiency, a bill has been introduced in Congress to provide, among other things, for a national school of hygiene in connection with the Public Health Service at Washington. It is intended that the advantages of this school shall be available to health officers only, and that, on completing the prescribed course of study, students shall be given certificates testifying to such completion.

The bill has been passed by the Senate and favorably acted on by the Interstate and Foreign Commerce Committee of the House of Representatives, and it is fully expected that it will be enacted into law.

The establishment of this school of hygiene will encourage those best fitted to undertake public health work and bring about continuity of service in the field of preventive medicine. This provision will also insure closer cooperation between the national public health service and state and municipal health authorities and insure further uniformity of action in matters pertaining to the public health.

Unity of action is necessary in the struggle against disease, and it can be brought about only through efficient cooperation of existing national and local health agencies.

HOW, THEN, CAN THE NATIONAL HEALTH SERVICE AID STATE AND MUNICIPAL HEALTH AUTHORITIES?

The government of the United States is unique in that it blends national sovereignty and local self-government in such manner as to preserve the integrity of each.

While police powers with respect to sanitation within the states have been reserved to the states themselves, the national government is responsible for insanitary conditions affecting more than one state or territory, and in the exercise of its authority it can protect and aid local governments without usurping any of their powers or privileges.

As I see it, the cardinal duties of the federal government in conserving the public health are, first, the prevention of the introduction of contagious and infectious diseases from without as well as their spread from one state or territory to another; second, the investigation of communicable diseases, the conditions favoring their spread, and the methods necessary for their prevention; third, the dissemination of sanitary information thus acquired; and, fourth, cooperation with state and municipal health authorities for the protection of life and health. All these measures are of direct interest to municipalities, and their enforcement by the national government will result in improved municipal sanitation throughout the country. Provision now exists in law for the performance of certain of the duties outlined above, but additional legislation is necessary to enable the national health service adequately to meet the demands made on it in the interest of the public health.

At the same time there must also be granted more authority to state and municipal authorities if we would attain the standard of sanitary excellence which is to be expected of us.

In this address I have endeavored to point out the most important factors that operate against the public health. I have tried to indicate what the local authorities can do to prevent disease and to prolong life in the communities they govern.

The problem is a question of education. Men must be taught the necessity of sanitation and the dependence on it not only of the health, working efficiency and well-being of themselves and their families, but of the future prosperity of the communities with which they have cast their lot.

A community in which there is a low standard of public health can not escape race deterioration and with it an inevitable loss of industrial prosperity.

If the people are convinced by education of the importance of sanitation the barriers of prejudice and carelessness will yield and laws not only will be passed but, what is more important, will be observed.

What is necessary, then, is a propaganda founded o the basis of well-known hygienic facts and extended to every class of population. The active work in this propaganda must be pushed by the municipalities and local authorities whose representatives I have had the pleasure of addressing to-night.

THE PLANNING AND CONSTRUCTION OF HOSPITALS FOR SMALLER CITIES AND TOWNS *

MEYER J. STURM, B.S.

CHICAGO

The ever-increasing demand for hospitals has brough into existence a new specialty, that of hospital architecture. Those who follow this new branch of the architectural profession have not found their road an eas one, inasmuch as each individual who has had the direction of the building of a hospital has his fad or hobb to work into the general order of things. It may b safely said that there has not been a hospital planne in the last twenty years wherein there has not bee something injected of these hobbies and foibles, whic are expensive at best and often absolutely unnecessar

The general idea, the initial thought for the plannin is practically the same for all hospitals—the greate amount of serviceability at the lowest cost consisten with a first-class structure, and a minimum of fixed an maintenance charge for the maximum work to be don

Primarily all hospitals are the outcome of somethin that has already been done. In this work much that original has been introduced, and it is safe to say tha not one hospital which is being built to-day but ha some innovation which is the outcome of existing co ditions, either good or bad.

This paper will deal with hospitals containing fro 20 to 150 beds. It is a common error to figure the co of a hospital by the number of beds it contains. T number of beds in any hospital is the index to t scope of the building, but does not in any way give idea of its size. For instance, a hospital with but wards, containing 10 beds each, would be a 20-bed h pital; but while it fulfills all the requirements of su an institution, its cost of construction, its maintenan and organization are wholly out of proportion to a h pital with 20 private rooms.

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* Read before the American Hospital Association, Toronto, Ca Oct. 1, 1908.

Often, too often, the argument is advanced that $1,000 per bed is approximately correct for the calculaion of cost of a hospital, but this is a fallacy.

Dr. A has a hospital in Allentown, of ordinary con-truction, containing all modern conveniences, and 20 eds, which cost $18,000 complete. Why, therefore, it nay be asked, can not Dr. B build a hospital of 20 eds in Bennington for $900 per bed? But as a matter f fact Dr. A's institution contains 2 wards of 8 beds ach and 4 private rooms, whereas Dr. B wants no ards, but 20 private rooms. Moreover, Dr. A's 2 ards, if divided, would make but 2 rooms each, which ould mean that if his building were divided into the nits that Dr. B requires he would have practically 8 rivate rooms, or 10 at the most, cost $18,000.

How, then, can we arrive at a basis for figuring such ildings so that there may be some uniform method of certaining their cost? No sliding scale or le of thumb can be devised for this.

Recently, when I was planning a hospital r 150 beds, my attention was directed by ose who were going to build, to the fact at a Masonic temple in the same town was out the size of the hospital being planned, d that inasmuch as the temple had cost but 50,000 the hospital ought not cost in excess hat amount, despite the fact that the latter was 6 ies in height, divided wholly into private rooms and es with baths, and contained an unusual amount of nbing, electric work and special contrivances, which ably amounted to six times that contained in the ner. This hospital will cost, owing to advantageous racts, about $1,000 per bed.

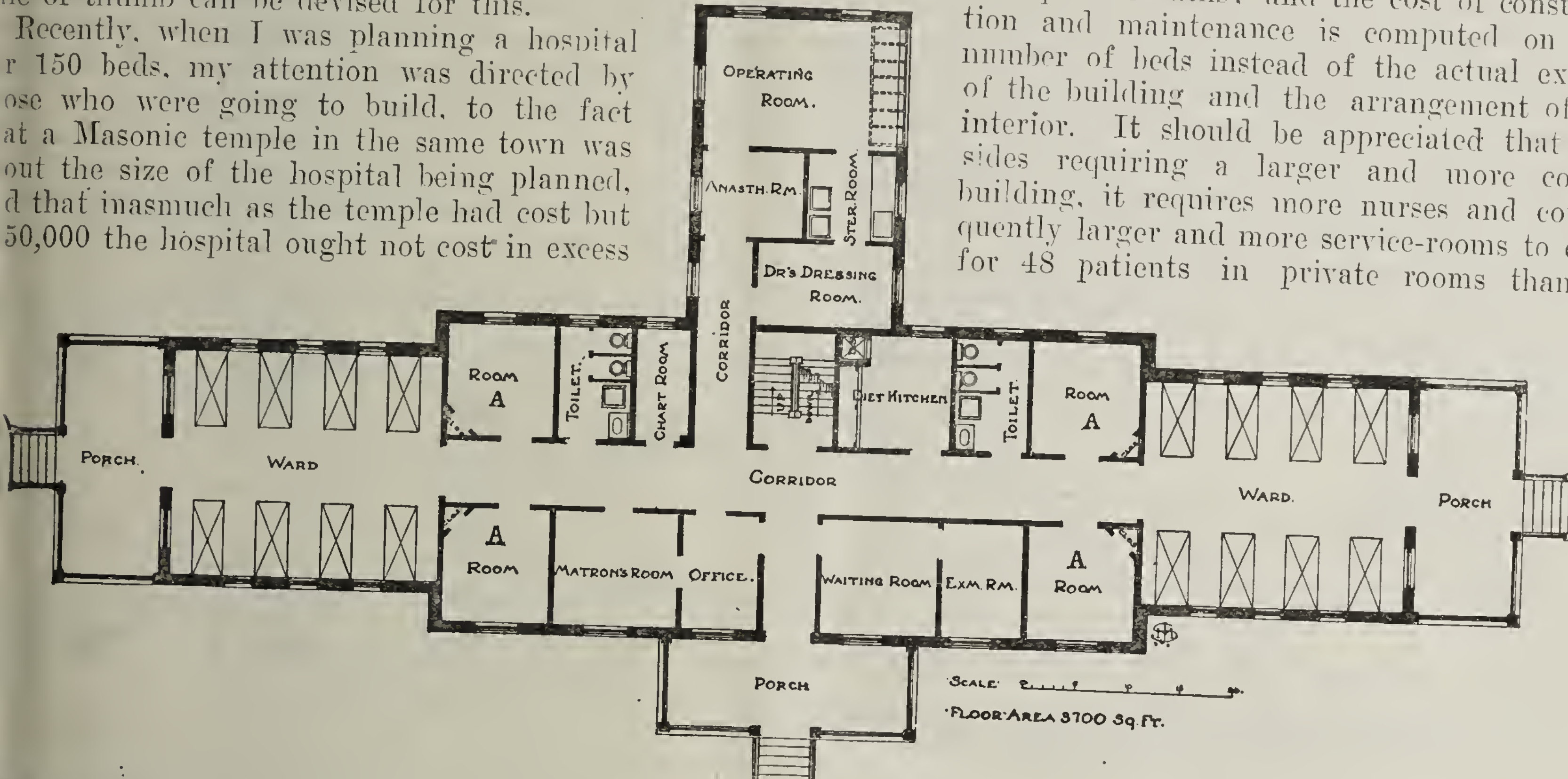

Fig. 1.—Plan of a 20 bed hospital, containing 2 wards of 8 bedseach, and 4 private rooms. A 20-bed hospital with 2 wards of 10 ls each would shorten the building by eliminating rooms "A" andenlarging the 2 wards sufficiently for the 2 additional beds in each, ing a floor area in such a hospital of 3,400 square feet.

he only definite basis for figuring the cost of a hos- . is to ascertain the number of beds required, pri- rooms and wards to house these, the extent of inistrative rooms (by which is meant offices, diet ens, toilet- and service-rooms and servants' and es' quarters, if no separate provision is made for atter); then decide what would be the best ma- l or method for building, have preliminary draw- made, and figure the approximate cost. No archi- or contractor, or even a hospital superintendent, ver much he may have to do with the erection of buildings, can answer the question, "How much 20-bed hospital cost?" or "How much will a 20- ospital cost containing an office, nurses' rooms and kitchen, 2 6-bed wards, or 3 4-bed wards and 8 s with the necessary rooms that go with them, 2 operating-rooms, etc?" A wide guess can be made, but there is such a difference of opinion as to what constitutes proper arrangement and size of rooms and the thousands other points, that it is practically impossible to determine the cost without more specific data. All this applies particularly to the smaller hospitals, for in the greater number of instances the idea of having a hospital precedes the obtaining of funds for its erection by so great a period that there is no basis for exact figuring at the outset.

I wish I could bring about a realization of these conditions. In each case there is an individual problem for solution, generally with no definite knowledge of what is entailed on the part of the founders. A hospital is ordered which shall contain 20 beds or 8 beds, or perhaps 150 beds with so many wards and so many private rooms, or all wards or all private rooms, some with private baths; and the cost of construction and maintenance is computed on the number of beds instead of the actual extent of the building and the arrangement of its interior. It should be appreciated that besides requiring a larger and more costly building, it requires more nurses and consequently larger and more service-rooms to care for 48 patients in private rooms than it would to care for the same number in 8 wards of 6 beds each.

There can be no difference of opinion on one point in the construction of hospitals, namely, the obtaining of the most in construction at the minimum expenditure. The single building is the best for this purpose for many reasons. The first requisite in planning a hospital is to make the building a basic unit so that while in itself it contains everything complete for such an institution, it shall be a nucleus for future enlargement without in the least disturbing the general arrangement.

In the latter would be included the administration department, the toilet- and service-rooms and the operating and kitchen departments.

PRIME REQUISITES

In a hospital of simple plan this could be readily accomplished by extending along the main axis. But, primarily, this basic unit should be built so that it fulfills certain fixed requirements as follows: 1, compactness; 2, the maximum of specific advantages in construction at the least cost; 3, the maximum efficiency in maintenance at the least possible cost.

1. Compactness can be obtained by building on a regular plan, superimposing stories of similar arrangement on each other, so as to economize plumbing and suiting the size of rooms and heights of ceiling to the needs of the hospital, basing the calculation for these on an intermediate rather than a minimum or a maximum.

2. Advantages can be secured at the least cost by the elimination of all unnecessary features which are usually adopted to "make a show" or, because some institution with unlimited means has these luxuries, to gratify a whim not at all in accordance with utility. I do not wish it to be understood that I advocate prisonlike hospitals; but marble and tile walls and ceilings, costly woodwork, offices and elaborate board-rooms do not serve their purpose to any better advantage and probably not as well as neat, simple and homelike treatment.

3. The maximum efficiency can be attained at the least cost by the erection of the buildings on a simple plan which contains the first two requisites, namely, compactness and maximum of specific advantages and a conservation of the so-called working parts of the hospitals so as to make what might be called the mechanical plant simple in installation and operation.

The different items under this heading have been taken up separately, namely, the superimposed bathrooms, service-rooms and toilets, the greatest facility in handling the food from the main kitchen to the diet kitchen and from the special diet kitchen, the drug-room, the installation of the signal systems to expedite the work of nurses and attendants, and proper arrangement for the facilitating of the routine work; also the installation of the special apparatus on each floor so that each may be handled independently without the increase of labor or the necessity of large quantities of supplies.

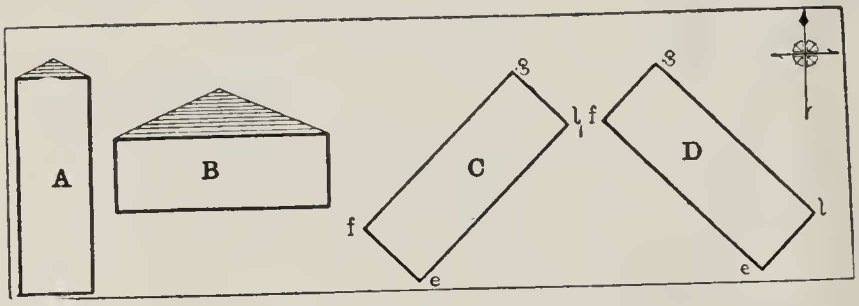

Fig. 2.—Diagram showing position of solid rectangular hospital building. The shading in A and B shows that the north walls of buildings so located receive practically no sunlight.

This particularly applies to such apparatus as bed-pan sterilizers, warming closets and general preparation tables in service-rooms, linen-room and diet kitchen arrangements.

The organization of hospitals I need not dwell on at any length, as this subject has already been fully treated,[1] and it would be somewhat aside from the scope of this paper to give the many methods followed for such organization.

There is one subject which requires special comment. After the organization is perfected the selection of a building committee should be carefully considered. The fewer members there are on such committees the better the results in all particulars. A good working committee of three can accomplish considerably more than a larger committee, and if the chairman of such a committee is given discretionary powers to make all preliminary arrangements it is needless to say that this will expedite matters. The building committee of three can then take up the final arrangements and adhere to a definite system of developing the needs of the hospital for the present and for the future.

In general, it is a safe rule to follow that the time expended on preliminary plans should be sufficient to develop all of the ideas perfectly before the final plans are started. This will obviate the necessity for changes which are difficult to make as well as expensive, and will result in the completion of the plans and the consequent expediting of the erection of the building.

The specifying of materials for the building should be left entirely in the hands of the hospital expert, who in all instances ascertains the local conditions of both labor and material, and whose wide knowledge of the subject gives him the advantage of being able to make the fine discrimination between what is best suited at the least cost, and what would be considered as luxurious or expensive and would under no circumstances serve the purpose to any greater advantage.

LOCATION

So much has been said about the location of hospital that only the general requirements for such location ar given here. The larger the ground and the farther fro the street that the hospital is placed the more advan tageous is the location. The principles which have be laid down so often are that there should be: 1, a abundance of sunlight; 2, an absence of noise; 3, fre dom from dust; 4, freedom from smoke; 5, a natur system of ventilation; 6, a proper disposal of all se age; 7, safety from fire; and, 8, accessibility.

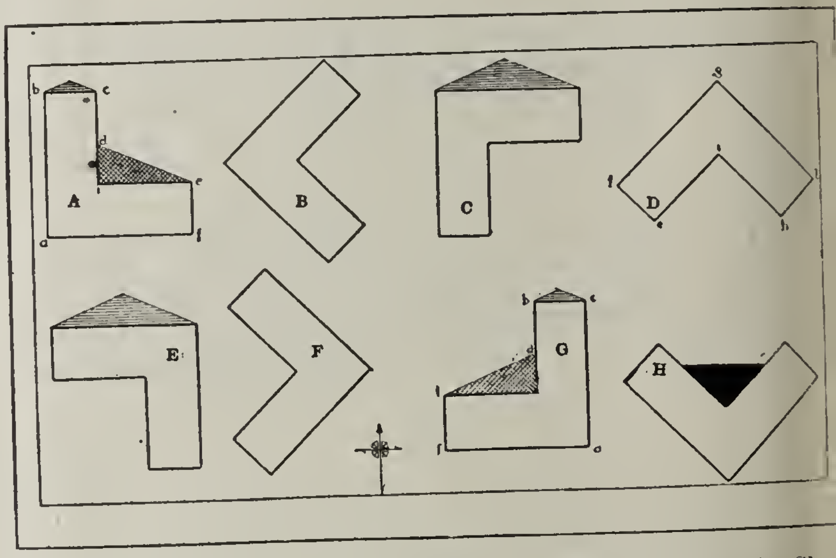

Fig. 3.—Diagram showing position of L-shaped hospital. Sha ing denotes degree of shade thrown on north sides of buildings.

For smaller hospitals, up to 150 beds, depending e tirely on conditions, either the solid triangular plan the L-shaped plan is the best for many reasons. Eith of these forms is readily enlarged with the conservati of all the requirements in building and maintenan mentioned. For solid quadrangular buildings the po tions of those marked A, C and D (Fig. 2) are es cially recommended. In A the slight shading at t north of the building indicates that between 8 a. m. a 4 p. m. there is practically no sunlight at this wa but this would be of no great consequence, inasmuch there could be east and west windows in the rooms f ing this part of the building, and as the operati rooms are always placed to the north the direct no and south plan shown at A is the one that is usua adopted. The one at B running east and west is not recommended under any circumstances, for the shaded portion shows that from 8 a. m. to 4 p. m. during the entire year, and for a great period of the year, that side is in shadow the entire time, meaning that the rooms on this side are practically without sunlight.

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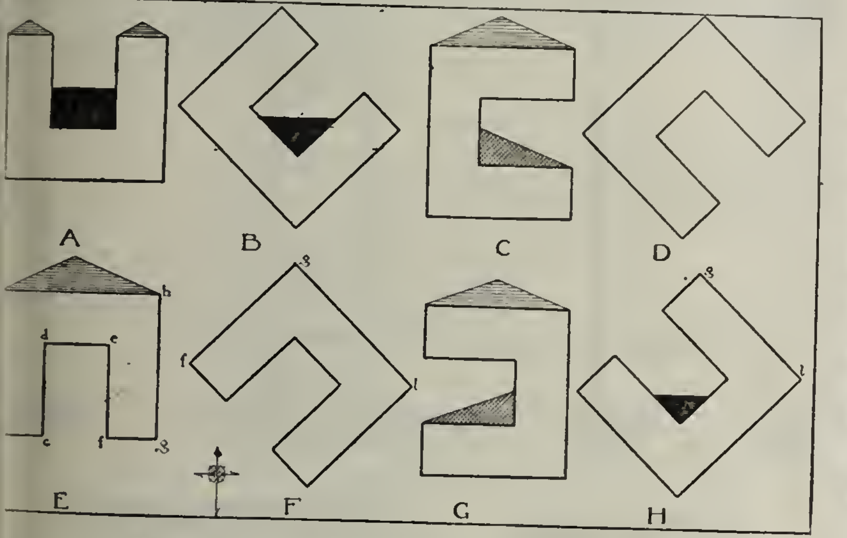
[1] Ochsner, A. J., and Sturm, M. J.: The Organization, Construction and Management of Hospitals, Cleveland Press, Chicago.

For L-shaped hospitals the positions of those shown t B, D or F (Fig. 3) should be used, and these are articularly recommended where there is an extent of round because such a building is easily enlarged and an be placed in such manner that the entrance would e in the angle at I in D, making a very sightly and ven imposing structure or one having a homelike and uaint appearance.

There are only two ways in which U-shaped hospitals an be placed so that every room obtains sunlight; the ne shown at E is used quite frequently, but this plan not applicable to hospitals of less than 100 beds.

Locations like those shown at A, B and H (Fig. 4) ould be avoided, as there are deep shadows thrown at ll times where the black is shown. Figure E can be sed, inasmuch as all of the service-rooms can be placed n the side where there is shade, including the stair hall nd elevators and the room for eye patients, and on the p floor the entire working department.



ig. 4.—Diagram showing position of U-shaped hospital and the ount of shade thrown.

MASONRY

In the construction of hospitals only those points ich are of special interest need be mentioned. Attion is called to the necessity of waterproofing the ndations so as to exclude any possibility of soil gases l dampness which will be found even in the dryest tions. The illustrations (Fig. 6) show the method which this should be done, running the waterproofing ler the basement floor to connect with that of the ls. This is to be done with successive layers of burand marine cement.

CARPENTRY

t is hardly necessary to state that when the building eing trimmed the minimum of woodwork should be in, on the supposition that all hospitals constructed he future are to be fireproof, and that even if they not entirely fireproof, the rule holds that the trim ld be simple in design and that there should be as e of it as possible, as it requires constant attention. pen-grained woods are not recommended. The e-grained woods like maple and birch are best pted to hospital use. It is necessary to treat openned woods with fillers, whereas with the close-grained woods a harder and smoother surface can be obtained.

The doors can be without panels, but this is a matter of taste rather than of expediency, except for the fact that without panels there are no moldings to catch dust and, therefore, less cleaning is necessary, and one of the objects in designing the trim and finish of hospitals is to do away with as much labor as possible. Where this can be reduced to a minimum by the simple expedient of excluding the moldings of panels it is well to do so.

FIREPROOFING

Assuming that all hospitals should be fireproof, the question arises, what is the best as well as the cheapest material, and the best and quickest method of erecting such a building? Shall the building be built entirely of reinforced concrete or entirely of brick and clay materials with structural steel members, or are the walls to be built of brick, the floors of reinforced concrete and the partitions of tile or one of the plaster products? Local conditions and the distance from the base of supplies, the experience of local contractors, and in some instances the minor details which so often determine such questions, naturally must be considered.

The selection of materials is, after all, only a question of expediency so long as it is borne in mind that the building must be fireproof. In a wide range of experience it has been found that building the foundations of concrete and the superstructure of brick with reinforced concrete floors and reinforced structural members, and by making the partition of hollow tile or one of the plaster products, under ordinary conditions, will fulfill all requirements. In the small nonfireproof hospitals, large, easily accessible porches should be built, having stairs to the ground.

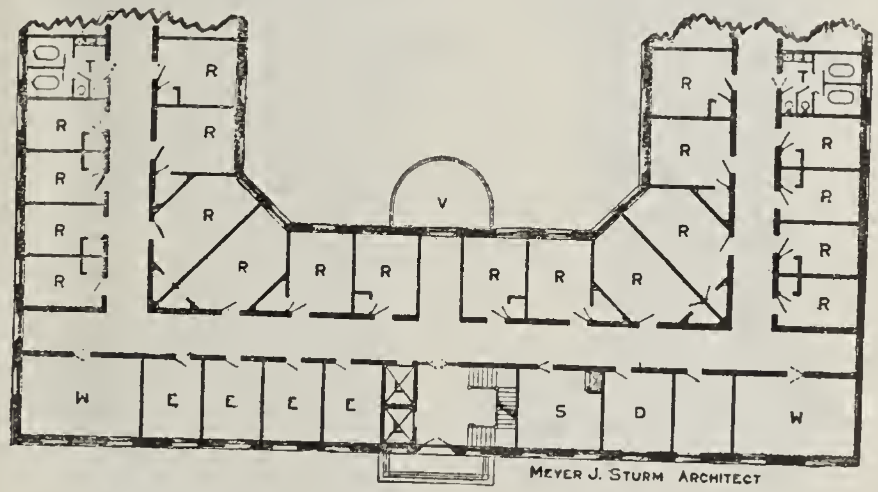


Fig. 5.—Developed plan for U-shaped hospital. In the development of the U-shaped hospital, by removing the partition between the rooms, wards are formed on such floors as required. The wings on either side of the center are extended to the required length for the capacity of the hospital.

PLUMBING

So much has been written on this subject, and the progress has been so rapid in this branch of construction, that it is unnecessary to go into detail, but there are a few points which are worthy of consideration. The first requisite is necessarily a good drainage system which will work perfectly and which has an outlet of sufficient capacity and at a distance below the sewerage system of the building adequately to dispose of the sewage at all times.

The size and pitch of all drains should be carefully calculated. Tile sewer-pipes should never be used inside the building. In the installation of water-supply, exact calculation should be made for the quantity of water for all of the fixtures and should be designed to prevent all water hammer or noise, both by putting air-chambers on the pipes themselves and on each supply on the fixture. There should be sufficient shut-offs so that all the supplies can be properly taken care of.

In the selection of fixtures, tubs of the pattern which are set to the floor are recommended, as these can be put into the floor at the base, thus precluding the possibility of the lodging of dirt under the tub. All tubs should stand free so that a person can have access on at least three sides. The equipment of toilet and bath and service-rooms should contain slop-sink, slop-hopper and bed-pan sterilizer.

The service and toilet-rooms should be separated so that there is no interference of patients and nurses, and also that the odors from the service-rooms may not be offensive, even momentarily, in the toilet-room. Between these two rooms there should be a space of about three feet to facilitate access to all of the plumbing-pipes and wires, and to supply the ventilating ducts for the ventilation of the toilet and service-rooms on all floors.

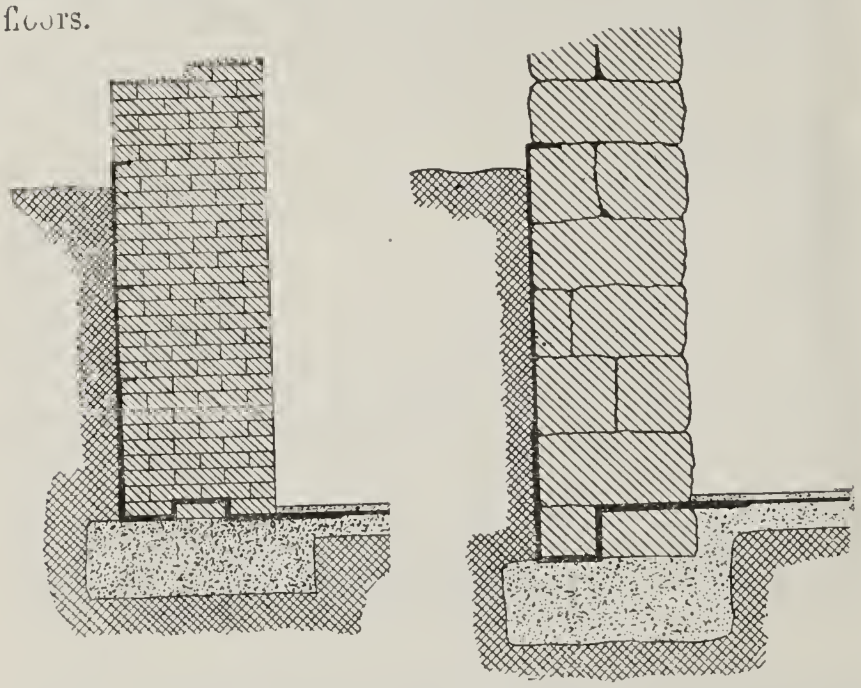


Fig. 6.—Proper method of waterproofing walls and floors in hospitals. It is necessary to waterproof walls and floors to exclude all dampness and soil-gases.

The fixtures in rooms so arranged can be set so that all sides are accessible. The closets are of the wall pattern in which no part of the fixture is on the floor, the slop-sink being of the ordinary type and the slop-hopper having a deep water seal with the flush and water-supply operated by the foot-pedal valves, so that the nurse's hands are free.

The fixtures for operating-rooms, the kitchen and other departments need not be gone into here, as they are usually a matter of individual choice.

PLASTERING

What is the best manner of treating the walls and ceilings in hospitals? This would depend entirely on the plastering of the walls themselves primarily, but it is a universally understood fact at present that the only economical plaster to use is the prepared hard wall plaster. After the walls are thoroughly dry, they should be treated with a solution which will preclude any possibility whatever of the paint or enamel being chipped, stained or damaged by the action of the partition material and the brick walls, and then they should be given at least three successive coats of the paints and enamels specially prepared for this purpose.

PAINTING

The use of gloss enamels and of paints left in the gloss is not to be recommended, inasmuch as these are hard on the eyes. The dull-finished enamels are as easily cleaned as the high gloss, although they are more susceptible to finger-marks, but this is of minor importance when the effect on the eye and the disconcerting reflection are taken into consideration. Paints should not be stippled to take the gloss from the last coat, but should have a dull finish when applied. Varnish on woodwork can be left in the gloss.

ELECTRIC WORK

The matter of wiring need not be dwelt on, except t say that all such wiring for power, lighting and eve telephones should be done in conduits so that, in cas any of the circuits need repairing, the wires can b easily withdrawn and new wires run into the pipe wit the least possible delay and expense. In fireproof hos pitals this is the only method which can be used.

Cut-out boxes, or centers, as they are sometimes designated, should be of the buss-bar type. These shoul have branch circuit switches. These circuit switches a important, inasmuch as, if they are used, it is not nece sary to shut off the current from the entire floor wh repairs are to be made on one or two lights on a giv circuit. Only the circuit controlled by these seconda switches need be put out of service for the short time takes to make repairs, instead of inconveniencing eve one on the floor. Each floor should be independen controlled from a cut-off on that floor only. In th way each floor is independent of every other floor. a each circuit is independent of every other circuit. condition which has its self-evident advantages.

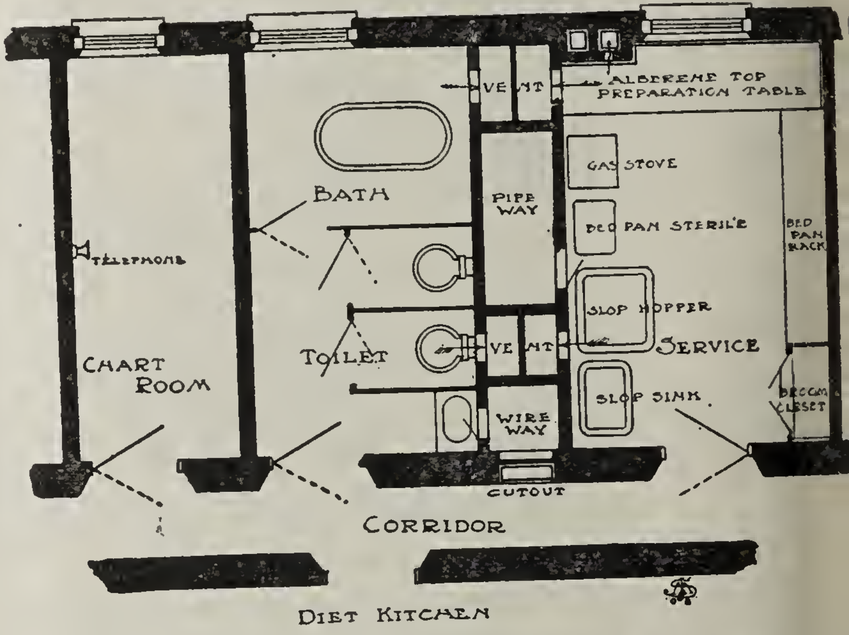


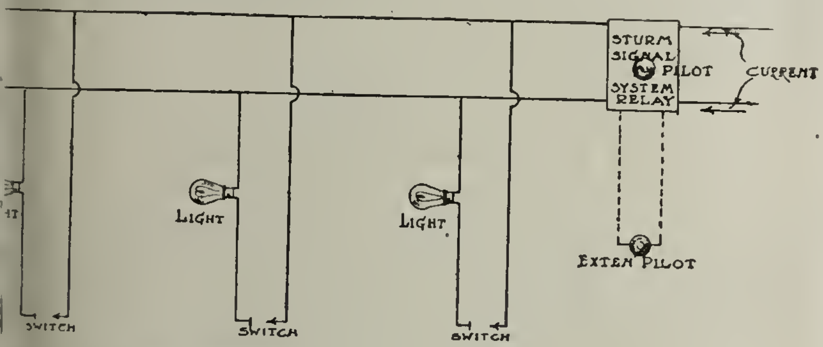
Fig. 7.—Plan of toilet and service-room, showing proper arrang ment and fixtures required. There should be in the service-ro an Alberene table for the preparation of hot-water bags, douch etc., also a broom-closet for the hanging of mops, brooms a cloths, and a special sink for keeping flowers over night.

The number of outlets for fans and lights in roo is a matter which must be determined for each ca but there is no question that in the service-rooms a operating-rooms and even diet-kitchens there should full circuits sufficient to take care of the ever-increas demand for electric apparatus.

Probably the principal part of the installation electric work, aside from the lighting, is the insta tion of a system for calling nurses. In Figure hown in simplified form the best system that has been evised for this purpose for the following reasons: It equires only the ordinary wiring that is necessary for he straight electric work, and is absolutely quiet and ositive. There are no bells, drops or other complicated iechanism in this system, which consists merely of an lectric light over the door, preferably with a red globe) that it can be seen both night and day, and either an xtension cord with a push-button or a switch which is . the bedside of the patient and, when operated, lights ie lamp over the door, at the same time lighting a ilot-light in the diet-kitchen or in the nurses' room or iart-room, as the case may be; or, if desired to have ie light at all three stations, this can be done by simy putting these lights in multiple with extensions.

It is absolutely necessary for the nurse to go to the dside of the patient before the light over the door id the pilot-light and its extensions can be extinished; and the pilot-light can not be extinguished itil all the lights on the floor have been put out, mely, by the nurse going to the bedside of each and ery patient who has called, attending to their wants d extinguishing the light from the bedside.

Telephones in hospitals should have some arrangeent by which they can be connected to the outside ephones, but the inside telephones should be of the ig pattern and should be of the intercommunicating, n-interfering type so that conversation can be carried between any two stations without interference from other station.



ig. 8.—Wiring diagram for signal system for calling nurses by tric light.

HEATING AND VENTILATION

'robably the most vital subject, aside from the gen- arrangement of a hospital, is ventilation and heat- The one method of ventilation which is beyond dispute the best both in simplicity, efficiency and iomy is what is known as a natural system of ven- :ion, namely, the wind, or, as it is sometimes called, lation. Artificial ventilation at best can be only a ' substitute for the open window or some substitute this which will give direct outside air.

he method now in vogue consists in taking air into ilding, running it across hot coils and scorching it, running it through some sort of air-filter or air- ier to take out the particles of dust, then letting it across another radiator and scorching it again, and unmercifully spanking it until it is supposedly g our behest; but, turning and twisting and fight- against this unseemly conduct on the part of the ker, it goes its devious ways, sulking and often ing about and going in the opposite direction ist all coaxing and importunities. By the time the s ready to enter on its duties it goes with such tuosity or so slowly that it is of little use for its ided purpose.

In this climate and as far south as the extreme southern states, the open window can be used only for several months in the year, and some other means must be devised for taking care of the ingress of fresh air and the egress of foul air during the remainder of the colder months.

I do not advocate at all the heating of hospitals by the same means as that employed for the ventilation, namely, the hot-blast system, as I think that heating and ventilation should be entirely independent. The direct radiator with preferably a hot-water heating system is the best system for warming, and the subject is being treated with this in mind.

By building a hospital on the solid rectangular plan or the variation from this on the U-shape, in which there are continuous corridors, the entire corridor can be taken as a ventilating duct. Ventilators are placed in the lower sash of the windows, and transoms are made over all the doors, swung in such a manner that there can be no draft. The fresh air comes in at the ventilators and goes out through the halls by way of the transom. Large openings are provided at the top or above the windows or doors at both ends of the corridor with a good radiator below, it being, of course, necessary as far as possible to put the radiators in the rooms under the windows having the ventilators. In this manner a gentle current of air will pass at all times from the rooms into the corridors and out through the ventilators.

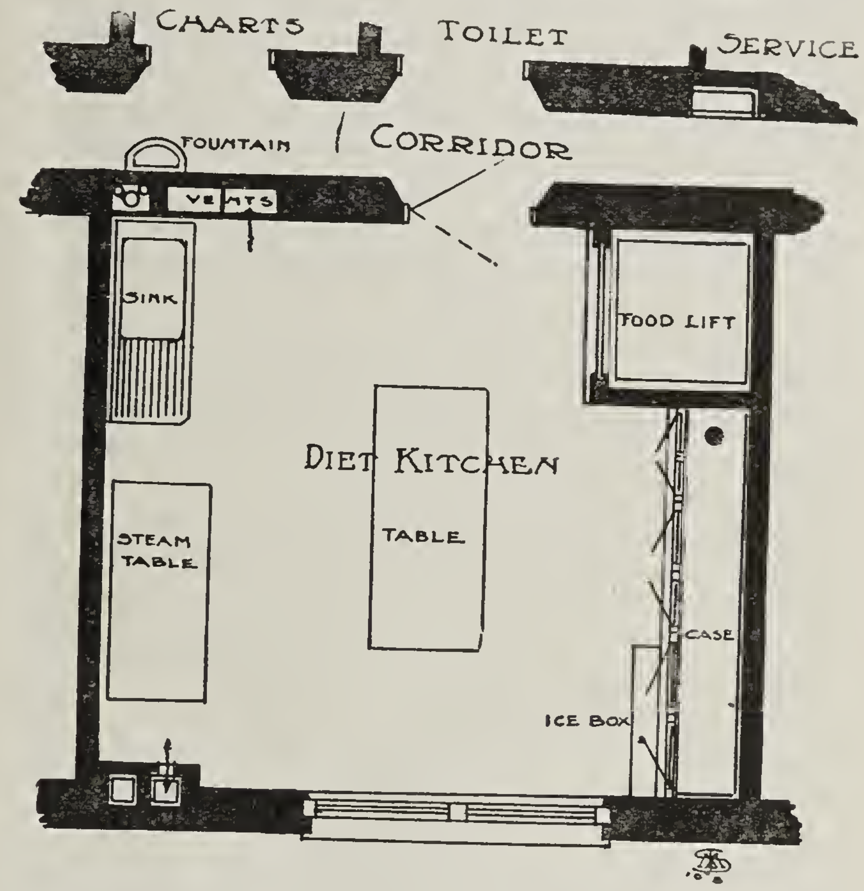


Fig. 9.—Plan of diet-kitchen; table in center is built on pipe stands with dish racks over and tray-racks under the top. The case at the side is for dishes, linens, etc.

The bugaboo about drafts is gradually being dispelled, for a gentle draft of even partly temperate air is an indication that the air is being changed and will hurt no one. In extreme cases a light hood could be worn over the head of the patient to ward off any possibility of earache or neuralgia, if the patient were susceptible to these, but in most instances the bed is so placed that drafts come across the foot and not across the head of the bed.

When the air comes into the room and is heated it will naturally travel toward the ceiling, go out by the transom, and the vitiated air, being warmer than the air at the floor of the corridors, will naturally go along the ceiling. I have employed this means of ventilation in practically all hospitals of the size under discussion, and have never found it to fail; in fact, it has worked admirably in all such cases, and I consider it in the ordinary hospital to be as effective as any mechanical system that could be devised under present conditions. The economy of such a system is manifest.

In a system such as I have described an excellent auxiliary for the additional ventilation which would be required in toilet- and service-rooms and diet kitchens, and also in operating-rooms, is to have large ducts, running from the basement to a point above the roof, with heaters at the foot of each duct.

FLOORS

The much-discussed subject of floors and the oft-repeated question as to what is the best material for floors will ever arise, for whenever the supposedly ideal floor has apparently come to stay it is found to lack some requisite qualification. It has been said that "precedent bears no relation to the subject, apparently, for what is considered as ideal by one authority will be disparaged by another until there is a divergence of opinion that is both confusing and unfortunate."

There are so many so-called sanitary floors on the market to-day, each with its claim that it is the only floor which is sanitary, acidproof, waterproof, fireproof, even crackproof and all other proofs, that one hardly knows which of these floors is the real floor. Recently one or two companies have put floors on the market which, if they do not fulfill all requirements and all claims, at least have the backing and the guarantee of men who are financially responsible.

The subject of wainscoting has always been an open one, but recently there has come into the market a glass tile which is both made and treated in a mechanical manner; that is, put up without the unsightly spalled patches, and which is put on with cement consisting to some extent of litharge and other ingredients; thus it is practically impossible even to tear it from the wall without breaking it. This, in my estimation, would make the best of all wainscoting for operating-rooms, as it does not craze or crack as does the ordinary tile. It is non-absorbent and has a great advantage over such materials as soapstone and slate, in its perfectly white appearance. But so far as sanitary qualities are concerned, the hard plaster properly treated and well enameled fulfills every requirement.

Without going into detail, all floors should have coves at the walls.

ILLUMINATION

There is nothing in the hospital which has been left to chance so much as illumination. The subject includes the placing of plugs in the rooms for portable or reading-lamps, the former for the use of the doctor in examining the patient, and the latter for the convenience of the patient for reading-lights, fans and warming pads.

Illumination should be considered not from the point of view of what has been done, but from that of the actual conditions which exist, namely, the plan of the floor and the height of the ceiling, the purpose for which the various rooms are intended and the luminant or means of producing the light. The first of these depends entirely on the architect's plan, and the second is always a matter of arrangement. The third is on
which is rather open. The different luminants, o
course, are gas and electricity.

Globes for various purposes have been fully discussed
as also the methods of lighting different rooms, all o
these being subject to exact calculation, and they shoul
be so handled.

The ideal light for operating-rooms has thus fa
never been used to my knowledge, namely, the syste
of rarefied gas, electrified, in tubes of one form or a
other, so that a white light can be obtained that has
low relative intensity with an extremely brilliant ill
mination.

The Cooper-Hewitt light is the one with which w
are most familiar, which has a mild and clear light
great magnitude and low intrinsic value, but is impo
sible for use in operating-rooms owing to the extremel
bad color distortion to which red is subject under th
light. This objection can not be waived.

The Moore continuous tube, which runs around t
entire room and can be made ornamental as well
useful, has solved this problem of color distortio
From this tube can be obtained light either of pu
white or sunlight color with varying degrees between.

Why it has not been used in hospital operating-roon
is a question which can not be answered here. Th
mode of lighting is new and operators as a rule pref
to stick to the old method of having the hot unsight
cluster of incandescent lamps over the table so th
they can swing the fixture.

DECORATION

Decoration in relation to illumination is of ve
great importance. In a recent article W. J. Clar
states that in new buildings, in nearly all cases, the wa
are of white alabaster finish, and for the first year
change is made as the owner usually wishes the wa
to dry out before he puts on decorations.

In the second year the walls are painted or paper
and if the taste of the individual or those in charge ru
to dark colors, especially dark reds or greens, col
which are lowest in reflecting properties and whi
absorb about all of the light thrown on them, the res
is that where formerly one or two burners were su
ficient to light the room satisfactorily, now three
four are required.

Complaint is made that the increase in the lighti
bills is out of proportion, inasmuch as rooms are bei
occupied in the same manner that they were before a
that the light is burning to no greater number of ho
and the fact that the entire trouble is due to the sel
tion of the colors is entirely overlooked. This oversi
is the more curious since everybody knows and und
stands the bright, cheerful effect of light colors.
desired effect can be obtained by using soft stipp
colors or soft tones, with a slight stenciled decora
border, or a change of color between the walls and
ing, or the thousand and one methods of obtaining a
tic effects without in the least sacrificing any of
light.

In rooms where there are eye patients the walls
ceilings should be of neutral tints, and the illuminat
should be carefully considered with a view of having
possible, no direct light at any time which would
from the source of light to the eye of the patient.

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2. How Color of Walls Affects the Cost of Lighting, The I
inating Engineer, iii, No. 3.

I have found that in corridors as well as in rooms a niform scheme of decoration can be easily followed by aking the lower floors of a very light shade of color n the rooms, say green, in its various shades, and darkning these colors by a shade or two in the higher ories, making a progressive color scheme. Since most f the daylight would be in the upper stories, even nder this condition, these upper stories should be exemely light in color without having a glare.

The corridors could best be treated for the lighting fect in the very light tans or chromes.

REFRIGERATION

In smaller institutions, especially those having about 0 beds, mechanical refrigeration can be installed so at the main refrigerators and the small diet-kitchen xes could be run from such a plant and sufficient ice r ordinary purposes could be made.

There are small plants now made which are very economical and which fulfill every requirement at a cost out equal to that for icing a number of boxes and th much less inconvenience and considerably less dirt d disturbance.

The brine system is the only one which can be practally used in boxes as widely distributed as they are a hospital. Ammonia expansion is not particularly apted to places where it is liable to do the harm that eak in a pipe would cause in a hospital. The brine tem should be installed in such a manner so that it uld be necessary to operate the machine for cooling brine from six to eight hours only, with a small iliary pump to keep up the circulation when the in pump was not working.

EQUIPMENT IN CONSTRUCTION

need not dwell on the vacuum cleaning systems and general equipment of kitchen, laundry, sterilizingm and morgues. The general equipment of the toilet bathrooms and of the service-rooms for the nurses e been mentioned. In reference to special equipit, attention is directed to the necessity for bed-pan ilizers and specially constructed bed-pan racks in all ice-rooms on each floor.

n the main kitchen there should be a large steam e. and in the diet kitchens smaller steam tables with bination gas stove so that food may be served at all s hot and palpatable.

he equipment of diet kitchens varies so that no def- details can be given, but an arrangement of plan equipment that has been used considerably and has very successful is to place the equipment on one and a long table in the center of the room for the e-up of the trays. This table has racks underneath at trays can be made up ready for the food at con- nt times.

e ordinary sterilizing apparatus for the sterilizing- is familiar to all, but the arrangement can be ob- d by having the preparation table and sink and the izers with the small supply-room to which the nurses go to get their supplies, without the neces- of going through the operating-rooms or into the izing-rooms.

e pathologic laboratory should not be left to e; that is, provision should not be made for every else and the laboratory put in the space left, if The laboratory is one of the most important fea- of well-planned and properly-conducted hospitals.

In the general arrangement of the hospital provision should be made that the matron and superintendent should have each a private suite of bedroom, office and bathroom. There should also be provided trunkrooms and storerooms, the latter for the storing of quantities of supplies to get the advantage of price.

The matter of linen-rooms, chartrooms and space for carts should also be given consideration.

84 La Salle Street.

AN EPIDEMIC OF ACUTE ANTERIOR POLIOMYELITIS

OCCURRING IN SALEM, VA., AND VICINITY

R. MINOR WILEY M.D., AND J. C. DARDEN, M.D.
SALEM, VA.

During the past summer there occurred in Salem, Va., and the adjacent country a small epidemic of anterior poliomyelitis. The first case developed June 2 and the last one reported to the Board of Health was August 10. Some time previous to this outbreak the weather had been intensely hot, while the prevailing humidity was high. After several cases had developed they were reported to the State Commissioner of Health, and he was asked if the disease was prevalent elsewhere in the state. Singularly enough, he reported that it was not reported from any other locality. Just why this town and the adjacent territory were visited by this epidemic we are entirely unable to explain, as the authorities do not class this as a contagious disease, and, so far as we are aware, there were no local conditions which might have produced this epidemic, outside of the intense heat and high humidity, which, however, obtained generally in this section of the state. Neither did this epidemic follow in the wake of an epidemic of any acute infectious disease, as is sometimes the case. There were twenty-five cases in Salem and the adjacent country, a strikingly large number; whereas Roanoke, a city of about 35,000 inhabitants, seven miles east of Salem, connected by a trolley line, and daily visited by scores of Salem people, escaped, as we are informed by the Roanoke health officer, with only a single case, occurring in September, quite a while after the development of the last one of our cases.

The reports in some of these cases are not so full and complete in detail as we would desire, because in some cases the attending physicians did not record notes and, therefore, were able only to recall the main points in each one. The main purpose of our paper is to call attention to the occurrence of such a large number of cases of this disease, practically amounting to an epidemic, which, so far as we know, is without precedent in this section of Virginia.

Authorities are not agreed whether the disease is of microbic or toxic origin, although in our opinion it is due to a specific organism. We regret our inability to shed any new light on the obscure points in this disease, either as regards etiology, pathology or treatment, but we hope by this report to evoke an interest in, and a discussion of, this subject.

REPORT OF CASES

REPORTED BY DR. J. P. KILLIAN, SALEM, VA.

Case 1.—The patient, male, was aged 3; family history good. The physician was called June 19, 1908. The patient was prostrated; the pulse was rapid, the temperatue 103, the left arm partially paralyzed and the left leg entirely so. This condition continued for about ten days; then the patient began to improve slowly, and in three weeks was able to walk by dragging the leg, and now, after nine weeks, is able to walk very well.

Case 2.—The patient, a boy, aged 3½ years, was first visited June 27, 1908. His temperature was 104. He had a severe headache and rapid pulse; his left leg was completely paralyzed. Within a few days the fever disappeared and the patient began to improve. Now, at the end of nine weeks, the patient can walk across the room.

Case 3.—The patient, a boy, aged 3 years, had partial paralysis of the right arm and the right leg. The patient has made perfect recovery in eight weeks.

Case 4.—The patient, a girl, aged 2 years, had partial paralysis of the left leg and the left arm. This was a mild case, with apparent complete recovery.

Case 5.—The patient was a girl, aged 14 months. The physician was called August 16. The patient's temperature was 101, pulse 120, with complete paralysis of all the limbs. This case had a fatal termination on the tenth day, as the result of the involvement of the respiratory center, which became manifest on the sixth day of the disease.

REPORTED BY DR. J. L. STEARNES, SALEM, VA.

Case 6.—The patient was a girl, aged 18 months. The physician's first visit was June 2, 1908. The child had paralysis of the left leg and retention of urine, and evinced great pain when moved. The temperature was 103. On August 24 the patient showed gradual improvement, as she could move her leg, though she was not able to walk.

Case 7.—The patient, a girl, aged 2 years, was unable to walk or stand alone at the physician's first visit, and suffered pain when moved. The temperature was 102, and there was difficult urination. This was a case of partial paralysis of both legs, with full recovery.

Case 8.—The patient was a boy, aged 18 months. This was a case without special interest, in which both legs were paralyzed. One leg has regained its function, but the other remains almost entirely paralyzed.

REPORTED BY DR. SAMUEL M. TERRILL

Case 9.—The patient, a boy, aged 4 years, was first visited July 13, 1908. He then had pain in his head, nausea, profuse sweating and mild fever. Next day his temperature was 104, and he had pain in his head, back and limbs. On July 15 his temperature was 105, with continuance of severe pains in his head, back and limbs. The child was slightly delirious. On this day it was first discovered that all the limbs were partially paralyzed, and there was a complete right-sided facial paralysis. The fever and pain subsided in a few days, and in ten days from the onset of the disease there began a gradual recovery from the paralysis of the limbs, which at this time has completely disappeared, though the facial paralysis still exists to a noticeable degree.

REPORTED BY DR. S. I. CUNDIFF, HOLLINS, VA.

Case 10.—The patient, a girl, aged 2½ years, white, had had none of the infectious diseases, and prior to this attack had been perfectly healthy. Her temperaure was 103; there was vomiting, general malaise, and profuse sweating. On the second day diarrhea developed, lasting three days. The child was extremely sensitive to touch or any movement of the body, and preferred to lie quietly in bed. On the fourth day paralysis of both legs developed. The temperature returned to normal on the seventh day. The child had retention of the urine beginning with paralysis and lasting four or five days. The acute symptoms lasted ten days, since which time there has been a gradual improvement.

Case 11.—The patient was a boy, colored, aged 3, with a previous history of uniform good health. The attack was ushered in by headache; the temperature was 102; there was vomiting, pain in the head, back and limbs, with a decided objection to being moved. On the fifth day the patient developed a paralysis of both legs; one eye and corresponding side of face were also affected. The paralysis of the legs has improved to the extent that the boy can walk, but with a staggering gait, which, however, is greatly lessening. The paralysis of the rectus externus, however, shows no improvement.

REPORTED BY DR. J. C. DARDEN, SALEM, VA.

Case 12.—The physician was called July 1 to see a boy, aged 3½ years, who had been complaining for three or four days. The patient was suffering from pain in the spine, head and limbs, and the skin was sensitive to the touch. The temperature was 102. The child had no desire to eat and had vomited a few times. There was profuse sweating. A slight limping was discovered in the right leg. Two days later the right leg was completely paralyzed and the left leg slightly involved. Further than this the paralysis did not extend. Within two weeks the child began to move the toes of his right foot, and since that time there has been a slight but gradual return of the use of the paralyzed muscles. The patient is at the present time able to walk unaided, though there is some drag of the right foot.

Case 13.—On August 6 the physician was first called to see a girl aged 16 months, white. The parents said that the child had been feverish and fretful for three days, and the day previous to calling me they had noticed that she could no walk as well as usual. The temperature was 101, the tongue coated and the bowels constipated. There was considerabl sweating. The child cried when touched, and objected to being turned over in bed. The left leg and thigh were completely paralyzed. Within a week the fever subsided, and twelve day from the onset of the disease the child was able to flex he toes. During the succeeding week she could move her leg At the present time she can walk by the aid of her mother' hand, but the affected muscles are very weak and considerabl atrophied.

REPORTED BY DR. R. M. WILEY, SALEM, VA.

Case 14.—The patient was a boy, aged 3. The physicia was first summoned on June 26, 1908, because the child ha been complaining a few days before, and could not now wall Complete paralysis of the left leg was present at this tim the temperature was normal, though the patient had no doul had fever previously. The child had pronounced hyperesthes when moved, and begged not to be disturbed. When lifte his head would fall back, showing a loss of power in nec muscles. In course of two and one-half weeks he began show improvement; could move his leg and hold it up. suffered a relapse July 26, and again the leg was paralyze In the course of a week he regained use of leg and on Augu 10 he had been walking, but with a decided limp.

Case 15.—The patient, a boy, colored, aged 4, was first vi ited July 4, 1908. The child had then been sick a day or He complained of headache, backache and pain in the limb had vomiting and moderate fever. Paralysis of one leg veloped on July 7, and the next day the other leg was pa alyzed, and the day following both arms were paralyz Fever of a high type continued, and the respiration and hea action both became irregular. Both sides of the face and muscles of both eyes were also paralyzed, showing that inflammatory process in the cord had extended to the medu oblongata. In fact, paralysis was so complete that the ch could not move either leg or even turn his head or rotate eyes. Sphincter control was entirely lost.

This patient also showed a characteristic symptom, fuse sweating. In about two weeks from the onset of disease the breathing improved in character and the ch was able to slightly flex his fingers and toes. The prospe for recovery appeared good, but within another week respiration became more involved, and child died from respi tory failure after surviving four weeks. This case serves an exception to the statement of Starr, that the prognosis favorable if the child survives as long as ten days from onset of paralysis.

Case 16.—The patient was a girl, aged 3, white. This proved rapidly fatal; the physician's first visit was on J 17 and the child died on July 19. At the first visit the c had moderate fever, complained of headache, and evinced upon being moved. A paralysis of one leg was then evid and on the second day there was a complete paralysis of the limbs; respiration was much embarrassed, being irreg and rapid; the heart action was also irregular and ra he child's expression was one of extreme terror. She died on ie third day of cardiac and respiratory paralysis. There as in this case a paralysis of the muscles of deglutition as ell as of the muscles of the face and eyes.

CASE 17.—The patient was a boy, aged 6, white. This was very slow case in development; the child had been sick for x days, complaining of general malaise, with a moderate ver, before any signs of paralysis appeared, which was on e sixth day. This consisted of a partial paralysis of one g. This case was so insidious in its development that the agnosis of the consultant and myself was typhoid fever. is proved to be a mild case, with complete recovery.

CASE 18.—The patient, a boy, aged 3, white, had experienced ne of the infectious diseases of childhoood. When first vis- d. the patient showed moderate fever and complained of neral aching. Paralysis of one leg was discovered on the ird day. Beyond this the trouble did not extend. A gradual provement began in two and one-half weeks from the onset, d in a few days the child was able to walk, but even at the sent time there is a decided dragging of the affected leg.

REPORTED BY DR. E. W. DAVIS, SALEM, VA.

ASE 19.—The patient was a boy, aged 3, white. This case sented no points of special interest. Both legs were com- tely paralyzed. The child has recovered from the paralysis h the exception of a slight dragging of the left foot.

ASE 20.—The patient, a boy, aged 3½, colored, affected h partial paralysis of the left leg and right arm, recovered pletely.

REPORTED BY DR. W. P. NORRIS, SALEM, VA.

ASE 21.—The patient, a boy, aged 4, colored, had had ola, but no history of other disease. When first seen he constipated and languid; his temperature was 102, his gue white-coated, and his pulse about 110. On the third paralysis of left arm and leg developed. Recovery is now rly complete.

ASE 22.—The patient, a boy, aged 13 months, white, was iting, had two or three degrees of fever and very restless n the physician was called. The child seemed to improve r first visit, until the fourth day, when paralysis of the t leg came on. Recovery was almost complete in two s; is now complete. The patient had had no previous ase.

ASE 23.—The patient, a boy, aged 3, colored, with negative ry, when first seen was paralyzed in the left arm. He d not swallow well for two or three days. Recovery ed in ten days

SE 24.—The patient, a girl, aged 2, white, had no history revious disease. She vomited, was restless, and had high . Her bowels were very loose for several days. Fever inued until the fourth day, when paralysis was first ed, which affected the left arm and leg. No improvement noticed for six weeks. The child is now much better, but t completely recovered, and in all probability will never It is feared that the leg will never be normal, as there w indication of atrophy.

SE 25.—The patient, a girl aged 15 months, white, had rtial paralysis of the right leg. There was complete re- y in three weeks.

ANALYSIS OF CASE REPORTS

n analysis of these cases shows the following points terest: The disease was confined to children under ars of age, except in one case, a boy of six. The gest patient was 13 months old. There were 7 in which one leg was involved, 1 case in which one only was affected, 5 cases in which one arm and leg were paralyzed, 1 case in which one arm and eg of the opposite side were affected, 6 cases in h both legs were involved, 4 cases in which all the were paralyzed, 5 cases showing bulbar paralysis, 3 deaths, which shows a mortality of 12 per cent., r than is commonly attributed to epidemic infan- aralysis, the authorities stating it to be 6 or 7 per cent. In the sporadic form of this disease fatal termination is said to be a rare occurrence. In all the fatal cases there was respiratory and cardiac paralysis. A feature in many of these cases worthy of note, because it misleads many of the laity, and possibly some of the profession, who have not had experience with this disease, is the extension of the head, which is due to a paralysis of the neck muscles, in contradistinction to the rigid retraction of the head in meningitis. There were 8 cases of complete recovery, and 14 of incomplete recovery. Each of these incompletely recovered patients has shown some improvement, and it is possible that some of them may yet ultimately recover, as it is stated by M. Allen Starr that "as a rule such improvement is likely to go on for two years." A striking feature in a majority of these cases was pronounced hyperesthesia. Another was profuse sweating. The fact that not more than one case occurred in any house, although in many instances there were other children in the family who associated with the affected child, would seem to prove that the disease is not contagious. Following a decided drop in the temperature of the weather, which occurred in the latter part of July, no new cases developed for three weeks, until a return of the hot wave, which occurred early in August, when two additional cases developed on August 6 and 10, respectively, thus apparently sustaining the belief that hot weather is in some way essential to the development of this disease.

TREATMENT

In regard to the treatment, we regret that our colleagues failed to make any report. We ourselves administered salicylates and applied counter-irritation, either in the form of mustard plasters or of tincture of iodin to the spine during the acute stage. The subsequent treatment consisted of ascending doses of potassium iodid to promote absorption in the inflammatory area in the cord, and strychnin in increasing doses to the point of toleration for its tonic effect. We also employed massage, warm baths, and whenever practicable the galvanic and faradic current. None of these patients have as yet developed deformities, consequently we have nothing to report in the way of orthopedic treatment, although we are well aware of the great importance of orthopedic apparatus and of nerve and tendon transplantation in the later treatment of these cases.

MECHANICAL (DYNAMIC) OBSTRUCTION OF THE BOWEL *

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It is not the purpose of this paper even to touch on all of the various phases of intestinal obstruction, but merely to call attention to a few features of this interesting affection. The first is the abuse of purgatives in this condition. Every surgeon has seen deaths caused by the injudicious use of purgatives. There are few things that require more judgment or skill than the correct exhibition of a suitable purgative at the proper time. Certainly in acute infectious diseases or in any case in which a toxemia is primarily present, a purgative is not only advisable, but absolutely necessary. It is dif-

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* Read at the meeting of the Medical Society of Virginia, Richmond, Oct. 23, 1908.

ferent, however, with acute obstruction from any other cause than that which has just been mentioned. A sudden obstruction, not due to nervous affections, always means one of two things: either an inflammatory condition of the peritoneum or else some form of mechanical obstruction, as bands, strangulated hernia, intussusception, volvulus, stricture, or tumor.

When an inflammatory condition is present, purgatives are contraindicated. The great principle of rest is applicable in every form of therapeutics, whether medical or surgical, and inflammation of the outer coat of the intestines is no exception to the rule. This principle is recognized so universally in other instances that it should be superfluous to call attention to it here. A fissure of the anus is best cured by temporarily paralyzing the sphincter, so giving the fissure rest, when it will promptly heal. The object of using splints for broken bones and retentive apparatus in injury of any portion of the body is solely to secure rest for the injured part. In order to give rest we must first find the function of the organ involved and attempt to suspend this function, either completely or partially. Affections of the eye, for instance, would not be benefited by rest in bed, unless light was cut off and the patient prevented from seeing, nor would a darkened room help the patient with a broken leg unless the bones were properly set and retained in a position of rest.

One of the chief functions of the intestines is to propel the food it contains, and this is accomplished by peristalsis. In the inflamed bowel we should apply the principle of rest by restricting this function as much as possible, so we should attempt to inhibit peristalsis rather than accelerate it. If we give purgatives in such conditions, whether the inflammation is due to appendicitis or to whatever cause, we not only tend to spread the infection, but we fly in the face of the practice we follow when other organs are affected, and instead of lessening the function of the bowel and so giving rest and an opportunity to recuperate we make matters worse by increasing peristalsis with the purgative.

There are some instances in which a purgative apparently does good in inflamed conditions of the peritoneum, because the toxemia from the infection is so great that the purgative causes elimination of the toxins and benefits the patient in a constitutional way, while really making the local condition worse. If such patients were given an abundance of water, and if enemas were used, which empty the lower bowel with a minimum amount of peristalsis, a sufficiently beneficial effect could be obtained in an eliminative way with but a small increase of peristalsis, while at the same time more work would be thrown on those great eliminative organs, the kidneys, by means of the copious supply of water. In this way the excretive function of the bowel would be partially suspended and the rest necessary to repair would be obtained.

When the acute obstruction is due to some mechanical cause, the contraindication for a purgative is even plainer. All purgatives act either by promoting peristalsis in some way or by stimulating the secretion of the intestines. As a matter of fact, while some purgatives act more decidedly in one of these two manners, they all tend to increase peristalsis either directly or indirectly. The more vigorous the purgative in mechanical obstruction the more absolute the obstruction will be. Just as pulling on a string increases the security of the knot, so purgatives by stimulating peristalsis will make the obstruction from any mechanical cause more complete, whether it be due to volvulus, bands or stricture. Besides this deleterious effect, the increased secretion within the bowel, caused by the purgative, augments the normal contents of the alimentary canal and causes greater distention, which rapidly adds to the seriousness of the condition. Food of any kind in the stomach aggravates the obstruction by giving the bowel more work, thereby stimulating it to greater activity.

The other point to be considered is the surgical method of dealing with the obstruction. The earlier surgical interference is attempted after reasonable efforts have been made with enemas to produce an evacuation the better for the patient, as the mortality rate increases with each hour's delay. When distention afte an obstruction is very marked, frequently an enterostomy is indicated for drainage to carry off the dangerous toxins that have formed. Whether this should b done depends on the findings during the operation, an must necessarily be left to the judgment of the surgeon When resection is attempted, the method by which th bowel is united is of great importance. A fixed metallic body, with a small lumen for drainage, such as th Murphy button, which by its weight may cause a kinking or volvulus of the portion of intestine in which i has been inserted, is hardly the logical thing to use i such conditions. Intestinal sutures, carefully place by one who has acquired skill in this line either b clinical or by experimental experience, are much saf and can be inserted in but little longer time than takes to insert the Murphy button. Of course, whe the bowel can not be delivered into the wound and s tures can not be accurately placed, the Murphy butto may be indicated; but, judging from my experienc such conditions are quite uncommon.

Since the opening of Memorial Hospital, July 2 1903, about five years ago, I have done eleven resectio of the bowel. These cases will be reported more ful in a subsequent paper, but I will here give a brief su mary of them. Of the eleven cases, two were of such nature that union could not be later accomplished.

In one instance, resection of a large, malignant tum of the cecum was done, and an artificial anus was ma The patient left the hospital, but soon developed meta tasis in the liver, from which he eventually died. The was no time at which a subsequent operation would ha been justifiable.

In the other case, which is reported below, the i volvement of the rectum by gangrene made union he impossible, so a permanent artificial anus was esta lished.

Of the other nine cases, in one, resection invol the upper rectum, was deep in the pelvis, and on count of the adhesions and raw surface left after moving very adherent pus tubes, suturing was appare ly contraindicated. The patient made a satisfact recovery.

Another patient was a feeble man whose intestine gangrenous from a strangulated hernia. In order make assurance doubly sure, a Murphy button was n and sutures were inserted over this. This was one of early cases, and I believe I made a mistake in using button, as events subsequently proved, for the pati developed a large fecal fistula evidently due to presence of the button. The fistula closed rather s denly two months later.

In seven cases union was effected solely by suturing.)f these patients six recovered uneventfully. One paient died the third day after the operation. He had strangulated hernia and two different loops of intes- nes were involved, which made a double resection ecessary. The patient was a chronic alcoholic, and onsiderable chloroform had been administered to him or some time before he came under my care in order reduce the hernia. A postmortem was held by Dr. . G. Williams, pathologist to the hospital, and showed hobnailed liver and other evidences of chronic alcoolism. Both resections were intact, and there was no gn of leakage from either of them, nor was there any dication of peritoneal inflammation. The small bowel ntained a few ounces of blood, but hardly enough to fect materially the fatal issue, which was, in all probility, due to the suspension of the functions of the er and kidneys following the large amount of anesetic necessary in a man who had been a heavy drinker r many years. Certainly this death can not be atbuted to any technical defect in the operation. In ne of the cases in which suturing alone was used was re a fecal fistula or subsequent trouble in any way ributable to the resection. The clean and uneventful overy of these cases so far as the resection is conned contrasts strongly with the stormy convalescence netimes seen after a Murphy button has been used, en the formation of fecal fistulas and anxiety about passage of the button, which may require a subsent operation for its removal, often afford an occan for considerable apprehension.

The two cases reported below occurred within three ks of each other and are selected to illustrate two es of mechanical obstruction in adults.

ASE 1.—Intestinal obstruction from a band. Enterostomy, owed by resection of the bowel and union by suturing.

atient.—D. T., female, aged 21, colored servant. Admitted Iemorial Hospital, Aug. 2, 1908. Discharged Sept. 9, 1908. rred by Dr. Angus Nichols, of Richmond, Va. Family hisand personal history of no significance.

resent Illness.—Three months ago the patient complained evere pain in the right side of the abdomen, which was acpanied by vomiting. Three days after this the patient was ated on in Norfolk, but it is impossible to learn the nature e operation except that drainage was used. She left the ital after one month and was apparently well until Friday, 31, when she suffered severe pain in her abdomen, pararly in the right side, with diffuse tenderness and pernt vomiting. On the following Sunday she was referred to nd admitted to Memorial Hospital. After her stomach been washed out and the administration of everything by h discontinued she seemed much better. Soapsud enemas ordered and a small bowel movement obtained. On the day, August 3, the patient was considerably worse, with a of 120 and the abdomen becoming much distended. An tion was decided on at once.

eration.—Under ether anesthesia an incision just to the of the old median scar was made. A considerable quanf blood-stained serum was found in the peritoneal cavity. small intestine was distended and congested. At a eight inches from the cecum a firm band crossed the and completely occluded its lumen. The band ran from ght iliac fossa to the root of the mesentery. The intes- elow this point was collapsed. The band was divided and owel underneath it was found to be partly gangrenous; esentery for several inches above this point was infiland thrombotic. The patient's condition was becoming y worse, her pulse being 180, and very weak. On this nt and because drainage of the distended bowel seemed ted, an enterostomy was done. The affected loop of in- was drawn into the wound, sutured to the skin, and sured by iodoform gauze. It was then incised and a large rubber tube inserted in the proximal end. She left the table with a weak pulse of 180.

Postoperative Treatment.—The patient was put in the Fowler position with continuous rectal saline infusion and hypodermoclysis of saline solution. This is, practically, the treatment recommended by Murphy and has proved most efficient, not only in curing peritonitis, but in preventing it. Under this treatment she rapidly improved, and on the following day, August 4, her pulse was 110 and of good volume and there was a profuse discharge of fecal matter through the enterostomy. Her improvement was continuous, and on August 15, twelve days after the enterostomy, she was operated on with a view to re-establishing the continuity of the intestine. For several days before this second operation the patient was given sterile food and careful mouth toilet was done every few hours.

Second Operation.—Under ether, an elliptical incision was made, including the enterostomy, the old scar, and the adjacent skin. The bowel opening had been covered with moist gauze to prevent infection from this source. When the peritoneal cavity was entered very dense adhesions were found around the intestines. They were separated and two clamps were placed on the intestine, one above and another below the enterostomy. All of the bowel between these points, including the enterostomy opening and its adjacent skin, was excised in one mass, the surrounding intestines and peritoneal cavity having been carefully protected with moist gauze. The ends of the bowel were then united by a continuous right-angled suture of linen penetrating all coats. A few reinforcing sutures were placed at the mesenteric border, as the infiltrated mesentery made approximation at this point more difficult than usual. Several inches above the line of union a tear was discovered which had probably occurred during separation of adhesions when the abdomen was first opened. This was closed by a right-angled continuous suture, reinforced by mattress sutures to relieve tension. The appendix was congested and very much enlarged. It was removed, being tied off at its base by a kangaroo tendon which included both the mesentery and the appendix. The stump was disinfected with pure carbolic. The patient's condition had become gradually worse until it was quite desperate. Her pulse was 190 and respirations exceedingly bad, necessitating the use of oxygen and at one time artificial respiration. The abdominal incision was rapidly closed with through-and-through silkworm-gut and a large drainage tube was left in the lower angle of the wound.

Postoperative History.—The patient was put to bed with continuous rectal saline injection and hypodermoclysis of saline solution, and as soon as she had reacted sufficiently was placed in the Fowler position. Under this treatment her pulse gradually came down until by the next day it was less than 120. She made an uninterrupted recovery from this time on, except that she suffered a great deal of pain for the first ten days after the operation. This was to be expected from the large amount of raw surface necessarily left after this operation. At the end of two weeks the pain had practically disappeared. On September 9 she was discharged from the hospital after being up for several days previously. There was a small raw surface about an inch in diameter at the lower corner of the wound where the drainage tube had been inserted. There was practically no discharge from this, as there had been but little from the tube at any time. The patient was comfortable and feeling well and her bowels were moving regularly.

CASE 2.—Volvulus of the sigmoid; gangrene of the sigmoid, rectum and descending colon. Resection of the gangrenous bowel and colostomy.

Patient.—S. F., male, aged about 40, colored. Admitted to Memorial Hospital Aug. 17, 1908; discharged September 11. The patient was a deaf-mute and it was impossible to secure a satisfactory history, but he had evidently suffered from this condition for several days and had not been relieved by purgatives.

Present Illness.—The abdomen was enormously distended and coils of intestine could be distinctly outlined. The patient's pulse was weak and about 140 to 150.

Operation.—The patient's condition was so desperate that an operation under general anesthesia could not be considered. Consequently, cocain was used. I thought that the obstruction was in the sigmoid and probably due to cancer, so an incision was made over the cecum with the idea of making an artificial anus and doing a radical operation for cancer of the sigmoid later on; an artificial anus in the region of the sigmoid would have made a subsequent radical operation in this region much more difficult. After opening the peritoneum a considerable amount of brownish fluid was evacuated. Toward the median line a large cystic mass was felt. Another incision was made in the median line and disclosed an enormously dilated, slate-colored sigmoid which was at first difficult to identify. The gas it contained was evacuated by a trocar and canula and the intestine drawn into the wound. It was found to be a volvulus of the sigmoid which had turned through 180 degrees. The whole of the sigmoid, the upper part of the rectum, and the descending colon were gangrenous. Along the mesenteric border of the affected intestine were numerous black thrombotic areas. Healthy bowel was found about the splenic flexure of the colon, which was pulled down and the intestine divided at this point. The proximal end was temporarily clamped and all of the gangrenous intestine excised, after ligating the mesentery in sections, down to the rectum. The rectum was gangrenous as far as it could be inspected, and it was not thought proper to leave the rectal stump free in the pelvis, so the intestine was amputated through the affected area and the lower portion, which consisted of the upper part of the gangrenous rectum, was sewed in the lower angle of the wound. A tube was inserted in this stump and was packed around with iodoform gauze. The rest of the wound was approximated with sutures except at the upper angle, where the clamped end of the colon was brought down and sewed to the skin. The end of this bowel was drawn snugly around a tube with a purse-string suture. A large drainage tube was put in the primary opening over the cecum to drain the peritoneal cavity and a liberal amount of gauze surrounded the openings of the intestines in the median line to prevent infection of the wound.

Postoperative History.—The patient stood the operation very well. He was put to bed and the head of the bed elevated about two feet. He was given salt solution by hypodermoclysis. There was an abundant fecal discharge within a few hours. By the next day the patient had improved markedly, though there was some difficulty in respiration, and on September 19, two days after the operation, his pulse was only 100 and of good volume, with a temperature of 100. He made an uninterrupted recovery from this time on. The part of the rectum that was sutured in the wound gradually sloughed away. The patient was up and walking about three weeks after the operation and was discharged in good condition on Sept. 11, 1908, twenty-five days after admission to the hospital. On account of the affection of the rectum and the amount of sigmoid and colon removed it will be impossible to restore the continuity of the intestine and the artificial anus will be permanent.

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THEORETICAL AND PRACTICAL CONSIDERATIONS CONCERNING THE SIGNIFICANCE OF THE CONJUNCTIVAL REACTION (OCULAR TUBERCULIN TEST)*

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The new tuberculin reactions have opened up a wide field in connection with both theory and practice and have revived the discussion of many questions that had come to a standstill. I do not regard it as my task now to take up all of the theoretical questions; the lack of space would preclude this. I shall occasionally refer to the papers in which those interested may find further data that may interest them. I believe it would be best
to pick out a few practical questions and try to come t
a conclusion concerning them.

Recently a number of new tuberculin reactions hav
been placed at our disposal for the diagnosis of tuber
culosis. A large amount of literature has followed th
first publication about these matters, a great part o
which is worthless because of an insufficient knowledg
of the fundamental basis of the reactions on the par
of the observers. A recital of such examples is not i
place. Such publications have caused confusion an
dispute, a fact which has made the practitioner avoi
this field of contest. But the time of toil and troubl
will pass. It was the unavoidable result of an unsu
stantiated approval of methods, from which I ke
aloof, as is shown in my first communication on th
subject.

We have now first the old subcutaneous metho
of Koch; second, the *Stichreaction,* just as old. b
newly applied; third, the cutaneous and the conjun
tival reaction; fourth, a series of so-called "new" rea
tions which I will not discuss.

The subcutaneous reaction is a specific one; it is
very sensitive test. A positive result indicates the pre
ence of tuberculosis, but does not demonstrate nece
sarily an active or clinically evident tuberculosis. T
occurrence of a positive reaction in 50 to 80 per cen
of clinically healthy individuals tested by the sub
taneous method should guard against such an error.
would not mention such a self-evident fact before th
assemblage were it not that such errors are made dai
in practice and being stated in literature. (Cf. Röp
and others.)

On the whole, the cutaneous and the *Stichreacti*
give the same results as the subcutaneous method, whi
fact establishes their importance for clinical purpos
They are simple, safe methods which can be substitut
for the subcutaneous method, demonstrating the sa
facts. They demonstrate a tuberculous focus, whic
however, may be inactive or latent.

The conjunctival reaction differs materially from t
cutaneous and the *Stichreaction,* being a reaction on
mucous membrane. It is positive in active tubercul
processes which are not too far advanced, and does
react in those cases in which a clinical examination
negative. It has already been shown that some of t
apparently healthy people who gave the reaction h
active tuberculosis. The future will tell whether or
tuberculosis is present in the remaining 5 to 8 per ce
But we can say to-day that, in contradistinction to
other tuberculin reactions, the conjunctival reaction
the one which indicates an active tuberculosis. An
parently healthy individual showing a positive conju
tival reaction is to be regarded in a suspicious light
being afflicted with an active tuberculosis.

These facts are proved by the records of reaction
4,000 cases obtained under all precautions. The di
nostic value can be found only in the positive reacti
I have never stated that the negative conjunctival r
tion excluded the presence of active tuberculosis, bu
is improbable, except in cases in which clinicall
active tuberculosis is present. For this reason the c
junctival reaction has a greater diagnostic value t
the subcutaneous reaction. At first we considered t
of equal value, but comparative examinations in a
100 cases have convinced us of the greater clinical v
of the conjunctival reaction.

The inherent difference between the tuberculin
reaction and the subcutaneous method lies in the

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*Read by invitation at the meeting of the New York Pathological Society, Oc . 14, 1908.

iction of a typical tuberculin reaction far from the eat of the existing disease, that is, the avoidance of the ghting up of a fresh process at the seat of the original sion. The rise of temperature in the subcutaneous iethod is not the element of danger, but the starting p of activity at the seat of the old lesion is the serious onsequence, a process the progress of which can not be mited. In the recognition of this specific advantage the conjunctival reaction the contraindications beome evident; to these I have adhered from the beginng, having neglected them only once, in consequence an error. In a paper read before the Berlin Ophthalological Society, Jan. 7, 1908, I stated the contradications. This was before the time when unfortunate periences proved the correctness of my theoretical ductions. The prevention of reaction in the primary ens of the disease is the cardinal point.

Therefore, the conjunctival reaction is contraindited if the eyes are or have been the seat of tubercuns diseases, or even if there is a suspicion of the existce of such lesions in the eye. Again, the application the conjunctival reaction in an eye which has reted is inadmissible and useless, because it would bring out a reaction at what is practically a tuberculous cus. This would not have any diagnostic value. It uld act just like a cutaneous reaction, indicating a ocess which may have been latent. Another contralication lies against the use of too concentrated prepitions, especially the so-called "test" preparations. eir harmfulness especially appears when, as someles occurs, the conjunctival reaction is contraindied for one of the reasons given above.

I recommend for use for the conjunctival reaction "Ruete-Enoch tuberculin* for ophthalmo-reaction" 1 to 2 per cent. solution, the efficacy and safety of ich I have tested; as to its activity I can vouch. With re concentrated solutions better statistics can be obned, because in persons with active tuberculosis a her percentage of positive results will be produced. t I consider such statistics valueless, because they orce a reaction in cases which are clinically evident. n cases of tuberculosis in the early stages the reac- used according to my directions gives such distinct is that no reason exists to vary my form of using reaction, so often proved to be absolutely harmless. negative result of conjunctival reaction, in using solutions I suggest, gives important prognostic evice which is not to be obtained by the use of other centrations.)

admit freely that ophthalmologists are competent udge the value of the conjunctival reaction, but they t recognize the above-mentioned contraindications must get their experience from general medical s. I am sorry to say that the ophthalmologists hardly ever studied the contraindications, in conence of which the conjunctival reaction will become ninent only after overcoming many prejudices ided on ophthalmologic publications.[1] It is not a e coincidence that the ophthalmic clinic of Silex ined very favorable results by using the method tly according to my directions (tests made by nger).

have already said that the conjunctival reaction can mployed in diagnosis in internal medicine. But you will hear occasionally that the reaction is uncertain because it may be negative in tuberculous patients and positive in clinically healthy persons. This only confirms my statement and shows the clinical inexperience of the observer, because he does not appreciate that these negative reactions may be found in consumptives and that healthy people who give positive conjunctival reactions should be regarded with ten times as much suspicion as those who react positively to a subcutaneous injection of tuberculin. And you know that many clinicians consider even such a subcutaneous reaction as quite important from a diagnostic standpoint.

Mistakes are also made concerning my opinion that there is a prognostic value to the reaction. Nevertheless, I can state that this opinion, so seriously opposed, is coming slowly but surely to the front. Therefore, I am anxious to correct mistakes in literature. I declared that a negative conjunctival reaction is to be taken as evidence of unfavorable prognosis in manifestly tuberculous individuals (where bacilli are found), but I never said that a positive reaction indicates a favorable prognosis. Furthermore, I never stated that a negative conjunctival reaction occurring with a positive subcutaneous one indicated an unfavorable prognosis. In such cases I decide on a latent tuberculosis, while Röpke[2] actually states that I believe the opposite. This can be satisfactorily explained by the fact that Röpke and I differ[3] in the interpretation of what constitutes an active tuberculosis.

The prognostic conclusions of Teichmann and myself[4] are based on the course which the cutaneous reaction pursues. I wish it clearly understood that the prognostic deductions which I pointed out from the first have at least as great importance as the diagnostic ones, and have not been changed in any important features. This prognostic application is the reason why I practice both the cutaneous and the conjunctival reaction in all cases at the same time.

There is not, as may seem, anything mystical about making the prognosis depend on the course of the reaction. Let us consider a continued reaction (*Dauerreaction*) which indicates, according to my conclusions, a cure or a favorable course. Such a reaction indicates that at the point of reaction the tuberculous poison causes a connective tissue formation. It is only necessary to suppose that the seat of disease reacts or has reacted in the same manner through the incorporation of these poisons, and then the result obtained by the continued reaction is easily understood. It is not to be wondered at if empirical observations have led to the same conclusions.

Here we find a strictly logical state of facts whose correlations are not at first recognizable. Wolfson and I have made a great number of opsonic examinations, and we arrived at the conclusion that this trying procedure gives no better diagnostic results than an exact clinical examination in combination with the use of local reactions. The control of a tuberculin treatment by the determination of the opsonic index is another matter.

We supposed that we would find a high opsonic index in cases of strong tuberculin reactions, and particularly in cases showing a *Dauerreaction*. This was not at all the case, and it only gradually developed why this was

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Ianufactured in Hamburg, Hermanstrasse, 5.

Die Gefahren der Ophthalmoreaction und ihre Vermeidung, . klin. Wchnschr., 1908, No. 33.

[2] Beitr. z. Klin. d. Tuberk. (Brauer's), ix, No. 3.

[3] Röpke and Wolff-Eisner: Beitr. z. Klin. d. Tuberk., 1908, x, 2.

[4] Die prognostische Bedeutung der cutanen und conjunctivalen Tuberkulinreaction, Berl. klin. Wchnschr., 1908, No. 2.

so. A high opsonic index is produced by absorption of tuberculous poison from the focus of disease. This is prevented by the formation of connective tissue and explains, therefore, the absence of a high opsonic index.

These opsonic experiments, together with our experiments concerning the binding of complements in tuberculous subjects,[5] prove that the poisons from the tubercle bacilli are absorbed, being identical in their effect with tuberculin. This fact is of great fundamental importance, because it explains the difference in the opinions of many observers which could not otherwise be explained. It is well known that to-day there are adherents and opponents to the tuberculin treatment, both from a diagnostic and therapeutic standpoint, the one side continuously reporting injurious effects which have not been observed by others.

The above-mentioned facts demonstrate that when a patient is injected with tuberculin the same process takes place in him which would eventually develop as the result of absorption of tuberculin from his own tuberculous lesions. Under these circumstances it is dependent on the point of view of the observer whether he holds the tuberculin injection or the disease itself accountable for the result. The same fact explains, it seems, what is apparently paradoxical, that the statistics of the adherents of tuberculin do not differ greatly from those of its opponents. I wish to state, in passing, that no good basis exists for the compilation of statistics of pulmonary disease. I shall discuss this on another occasion.[6]

Inasmuch as in all tuberculous subjects tuberculin appears in the circulation, it can be easily understood that the results with or without tuberculin treatment can not differ very materially. It will remain for the future to determine which individual will require a tuberculin treatment. The observation of the local reaction, the study of the opsonins and the clinical course of the illness will be the determining factors.

Numerous experiments, the observation of local reactions and the work of others have convinced me that there is a certain immunity to tuberculosis, an immunity against poisons which have become soluble and another against the bacilli themselves. The latter is most likely a bacteriolytic one. The immunity against poisonous matter, freed by lysis, is not an antitoxic one, but corresponds to the mechanism of the natural immunity against toxins which I have recently described.[7]

The toxin immunity of the naturally non-susceptible animal consists of the binding of the poison by organ receptors. (This stands in contrast to active immunity of an animal originally susceptible.) If endotoxins are bound, as described above, for natural immunity, the fixation seems often to occur by means of the receptors in connective tissue.

Two cases will illustrate this. The cutaneous reaction was applied to both subjects. They then received 1, 3 and 5 mg. tuberculin by subcutaneous injection and reacted with increasing fever. When 7 and 9 mg. were used, the general reaction did not occur, but in place of it an intense inflammation of the old cutaneous reaction appeared (in one case erysipelas and in the other an intense furuncle). I have repeatedly produced these phenomena in cattle. Their interpretation involves great difficulty and is only possible for thos who have an experimental training in the fundamenta work of natural immunity against toxins. The tuberculin, which has probably been made absorbable by lytic processes, is carried to those points at which th receptors are located. These are essentially the foc of disease. but other places can act as foci with receptors. If all the tuberculin is bound here, a tuberculi injection will cause a local reaction. If it is only partially bound there will be a weakened or delayed reaction and a late general reaction. We are thus enable to protect the general organism from the influence o the tuberculin poisons by directing their action to les vital tissues, as, for instance, connective tissue, and w shall probably be enabled to make therapeutic use o the fact. Taking it for granted that the production o such receptors in the connective tissue will be of mos advantage, and considering the numerous observation made by Holländer, Joseph and others, that certai forms of skin tuberculosis preclude tuberculosis of th lungs, we can understand[8] that after an injection o tuberculin the local reaction can appear before th general reaction, or even that the general reaction tha is to be expected, does not appear at all or is influ enced by its progress. For some time past I have bee enabled by intracutaneous injections of small doses o tuberculin, or through the inunction of tuberculin oint ment, to obtain in patients with lung disease artif cial skin foci. In my second edition of my "Ophtha modiagnose"[9] it is my intention to give more accurat reports of the fundamental principles involved in th therapeutic measure, but I shall not allow myself to misled into reporting successful results too soon.

It can be easily seen how in this field purely theoret cal are most intimately connected with practical result of which the conjunctival reaction, the initial step i our observations, is the most palpable proof.

I should like to call the attention of veterinarians the fact that the application of the conjunctival metho in cattle presented points of extreme difficulty. In th experiments that I have made with the aid of the roy Prussian agricultural department, the principal dif culties have been overcome. It is to be hoped, therefor that in the veterinary practice the conjunctival reacti will be developed in as exact a degree as in the huma species.

SUMMARY

Let me give a summary of my remarks:

1. The subcutaneous and the cutaneous methods a specific reactions for tuberculosis. As they both demo trate active and latent tuberculosis, their use is tremely limited for clinical diagnosis.

2. The positive conjunctival reaction shows o active tuberculosis.

3. The conjunctival reaction in clinically healthy dividuals makes the suspicion that they are affect particularly strong.

4. A negative result in those manifestly tubercul justifies a bad prognosis.

5. In advancing tuberculous disease negative re tions become more frequent.

6. A positive conjunctival reaction does not just a good prognosis, but this is the case only in the

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[5] Ueber Ergebnisse der Komplementablenkung mit Tuberkelbazillenderivaten als Antigen bei Tuberkulose und Infektionskrankheiten, Wien. klin. Wchnschr., 1908, xxi, No. 37, p. 1296.

[6] Die Bedeutung der lokalen Tuberculinreactionen für die Heilstättenfrage, Ztschr. f. Tuberk., December, 1908.

[7] Die Bindungsverhältnisse der Organgewebe gegenüber Toxinen, Centralbl., 1908, xlvii.

[8] c. f. Wolff-Eisner: Ophthalmodiagnose, Würzburg, 1908.

[9] Issued January, 1909, by A. Stuber, Würzburg, and ent "Frühdiagnose und Tuberkuloseimmunität."

alled *Dauerreaction* (continued reaction), a form of
he cutaneous reaction.

7. It is possible to create receptors in tissues that
re indifferent as regards life, such as connective tissue,
iese receptors attracting tuberculin and localizing the
)xic action. This observation is of therapeutic value.

SUPPLEMENTARY REMARKS

My paper could not include all the investigations concern-
g the theory of the action of tuberculin, especially the lytic
eory of the tuberculin reaction. Some facts are given in the
st edition of my book, which was published in New York
Wood & Co., Oct. 10, 1908; new facts will be found in the
erliner klinische Wochenschrift, 1908, No. 30, p. 317. The
cond German edition will be published as mentioned above.

When I read my paper at the meeting of the German Med-
al Society last week, the chairman pointed out that the
me "ophthalmo-reaction" is a misnomer for several reasons.
the same time he stated my absolute priority. At the
me meeting he said that I came to America to stand up for
rights. This was not my intention, because I thought that
re was no necessity; but while in the library of the Rock-
ller Institute reading about one hundred papers of the
ierican literature concerning the matter, I found only
lmette mentioned. I claim that I made known the con-
ictival reaction in a discussion of the first paper of von
quet on May 15, 1907, while Calmette made his communi-
ion to the Academy of Sciences, June 16. To Calmette be-
gs the credit of having greatly assisted in having the reac-
n quickly adopted by the profession.

here can be no question about these facts; Calmette him-
points out that the paper of von Pirquet was the cause
his investigations, and this paper contains my communica-
about the discovery of the conjunctival reaction. It is
generally known that on the same day on which Calmette
his paper, Vallée also read a paper concerning conjunc-
l reaction in cattle in which he stated that his investiga-
is were undertaken in connection with my discovery.

am glad to state that there is no point of difference be-
en Calmette and myself after his publication at the In-
iational Tuberculosis Congress in Washington, but only
his above-mentioned investigators. I would like to sug-
to him the appropriateness of calling the reaction by the
ies of both authors.

f greater importance to me than the question of the pri-
of the discovery of the reaction is the part I took in
ding up the scientific structure which is based on it
its application for the prevention of tuberculosis. I should
nly too glad to work harmoniously with all those who have
same aim.

iere is no difficulty in applying the reaction, but the mat-
not as simple as it may appear. It took my collabora-
several months before they were able to carry out my in-
ons. In cases in which there is a contradictory result with
reaction, it is absolutely necessary to compare the results
the findings of the physical examinations in order to
l the wrong interpretation. I should like to have any one
can not exclude apparent contradictions bring the
er before me. Many a physician has come to me with a
critical point of view, but no one has departed uncon-
d.

rlin, N. W., 8 Albrechtstrasse.

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nciples of Animal Nutrition.—The natural foods of all
s of animals contain more or less proteids, mineral mat-
ats and carbohydrates. No matter how widely the forms
od eaten by different kinds of animals may differ, they
be found to contain these essential basic nutritive ele-
. The problem of nutrition is the same in all animals so
the principle goes, but there is a great variety of meth-
y which the necessary food elements are obtained and
ed, each species having organs specially adapted for se-
and digesting its natural food.—G. R. Pisek, in *Amer.
Obst. and Dis. of Women and Children.*

THE SURGERY OF SYPHILIS *

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CHICAGO

The time allotted to me will not suffice for more than a brief survey of the conditions demanding surgical intervention occurring in syphilis.

I first desire to emphasize the fact that many practitioners overlook most brilliant opportunities in the treatment of syphilis by regarding the disease too specifically. In other words, when they meet a condition which does not yield readily to antisyphilitic medication they appear to be helpless. As I will endeavor to demonstrate, there are many instances in which radical measures of a surgical character constitute the primary indication, internal medication occupying an almost secondary position in the cure of the given lesion. It is, of course, acknowledged that in such cases, once the lesion is under control, specific medication is a *sine qua non* to complete the cure of the constitutional condition and prevent recurrence of the lesion.

CHARACTER OF LESIONS WHICH REQUIRE SURGERY

The initial lesion *per se* rarely requires the knife. Time was when some of us were hopeful that excision of the initial lesion would at least modify the subsequent course of the constitutional condition. A large experience in this direction in an experimental way convinced me long ago that such hopes were ill-founded. An occasional case arises in which the induration of the initial lesion is very persistent, defying specific medication for a long period. Under these circumstances the persistence of the lesion may be very embarrassing, especially as regards the marital relation and the necessity of concealing the patient's condition from those about him. Here a clean free excision of the indurated area is sometimes of great advantage. It must be remembered, however, that unless the primary lesion has fully matured, induration is likely to recur in the incision, forming a chancre much more formidable than the original. The more thoroughly the patient has been treated by mercurials before the excision has been made, the less likelihood there is of its recurrence. The most frequent condition calling for surgical intervention in primary syphilis is concealed chancre or a mixed sore, with phimosis.

I long ago ceased delaying in cases of this kind, and am convinced that the risk of extensive infection of the wound in case a mixed sore exists, which, by the way, can not always be proven by autoinoculation, is much less than by allowing the lesion to progress without diagnosis or proper treatment. So far as my own experience goes, I have never had occasion to regret a dorsal incision of the prepuce for the purpose of freeing the glands and inspecting and treating the concealed lesion.

Marked edema occurring in the course of chancre sometimes demands multiple punctures for drainage. Where the edema is persistent and the lesion is true chancre, this method is preferable to allowing the edema to be replaced by connective tissue hyperplasia and extensive integumentary induration—circumstances which demand the knife later on.

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* Read before the South Side Branch of the Chicago Medical Society in a Symposium on Syphilis, Oct. 29, 1908.

In mixed sores and superadded pus infections of the initial lesion, with or without chemical or traumatic irritation, syphilitic lymphatics may be followed by abscesses in the course of the lymphatics of the penis. Obviously incision is demanded here.

It is hardly necessary to state that syphilitic bubo *per se* does not require surgical treatment. When chancroidal, pus, or tuberculous infection is superadded to the syphilitic, the knife is, of course, necessary.

I wish to make a special plea here for thorough extirpation of the infected glands; half-way measures are not, in my experience, productive of good results.

The surgery of secondary syphilis is in general still more limited in its scope than that of primary. Cases arise, however, in which edema of the genitals followed by permanent induration requires the use of the knife. These conditions rarely arise in well-treated patients, who are leading fairly correct lives and whose surroundings are hygienic. Occasionally in the course of secondary syphilis obstinate mucous patches and ulcers may do well under light curettement. Various conditions of the jaws and teeth bear a very important relation to mucous patches and ulcers and require surgical treatment.

As time goes on in cases of uncured syphilis surgery is likely to assume a more and more important position in the management of the case. The same condition of indurating edema to which I have already called attention is often met with in broken-down patients suffering from tertiary syphilis. The connective tissue hyperplasia not infrequently results in the formation of extensive tumors about the genitalia, tumors which have been mistaken for malignant disease or simple new growths of a non-syphilitic character. Indeed, the hyperplasic tumors may readily be said to be non-specific, inasmuch as they are sequelæ of syphilis rather than due to syphilis *per se*. They may persist long after the constitutional luetic condition is under control. The mistake is very often made of giving large doses of mercury and iodid of potassium for a prolonged period in these cases, in the fruitless attempt to cure a lesion which is no longer syphilitic, but of a purely surgical character and should be dealt with just as any other new growth would be dealt with.

Huguier long ago called attention to cases of this kind under the generic term of esthiomene. The late R. W. Taylor wrote a most classical treatise on this class of cases. I have at various times written papers along similar lines.

Broken-down hospital patients with chronic chancroid and old syphilitic infection are more likely than any other class of patients to develop connective tissue tumors about the genitalia. Gumma in certain situations should be treated surgically more often than is the custom. I believe that obstinate gumma of the brain, in which accurate localization is possible and the symptoms do not yield quickly and satisfactorily to internal medication, should be operated on, that is, they should be treated like any other tumor in the same situation. Obstinate gumma of the skin or other accessible situations should be removed by the knife more often than they are. It is by no means unusual in my experience to meet patients who have been dosed to the verge of the grave by mercury and iodid of potassium in a vain attempt to cause resolution of a gumma which a clean operation with the knife would have speedily removed. Many such patients need no specific medication, for, as a rule, they have had enough and to spare of that, but demand good food, fresh air, tonics, and steel in th form of the surgeon's knife.

What I have said of simple gumma is, in my opinion true of stubborn gummy ulcers. If the indurated are underlying these ulcers be cut away, healing is likely t be very prompt, always providing the constitutiona management of the case has been conducted judiciously Be it understood, I am not recommending the knife a a cure for syphilis, but as a substitute for irrationa over-medication in cases in which the patient is suffer ing not from syphilis *per se* but from sequelæ of th disease.

In syphilitic bone disease more barbarities are inflicted on the sufferer by overdosing with specific remedies than in any other lesion occurring in syphilis Cases of syphilitic periostitis in which the node is accessible obviously demand constitutional treatment; bu if they do not yield readily the knife should be freel used. Many a case of extensive caries and necrosis results from the practitioner's ignorance of ordinary surgical principles in the management of syphilitic bon disease. When caries and necrosis have occurred, nothing could be more absurd than an attempt to cure th bone condition by internal medication, and in nearly al of these cases the patient is overdosed. Mercury an iodid of potassium must, of course, be the mainstay i the constitutional condition, but the local conditio should be treated on its merits as though it were du to causes other than syphilis.

THE REPLACING OF GUMMATA AND ULCERS BY MALIGNANT DISEASE

I wish to call attention in passing to the frequenc with which gummata and obstinate ulcers of the tongu are transformed into or, more accurately speaking, r placed by malignant disease. I have had a large seri of cases under my observation in which ignorance this fact has resulted in the loss of the golden opportun ity for the cure of the case by surgery. In most of th cases that have come under my care the patient has bee dosed for months and perhaps years for syphilis. I microscopic examinations of the tongue have been mad the result has been either doubtful or negative, and s the practitioner has gone on and on with his iodid an mercury and the patient has got no better rapidly. I it noted that in this class of cases mercury and iodid potassium are not only beneficial but very injuriou In one case in which I operated for removal of th tongue the patient had been under constant observatio for three years, and about ten or eleven microscop examinations of the tissue of the tongue had been mad by different experts, the reports on which were negativ I made a diagnosis of probable epithelioma of th tongue and of undoubted malignant disease. My dia nosis was received with great incredulity simply becau the judgment of the surgeons who had examined t tongue was clouded by the undoubted fact that t process under consideration was a continuation of syp ilis of the tongue. Four days after my examinatio hemorrhage came on, which was so severe that emergency operation was performed and the tong removed. Extensive sections unequivocally demo strated epithelioma.

In another recent case in which I removed the tong one expert who examined the tissues microscopica pronounced the process benign; the other pronounc it malignant. I pronounced it "surgical," and remov

;he tongue. Sections after removal plainly showed the process to be epithelioma.

In another case of my own occurring some years ago had the patient under observation for nine or ten 'ears, during which time he had recurrent attacks of ·umma of the tongue. The gummy infiltration left circumscribed tumors here and there in the substance of he organ. He passed from under my observation and ome months later, while at Hot Springs, Ark., severe lceration of the tongue came on and the tissues began) break down very rapidly. Internal medication and aths having only a bad effect, he was referred back to ie. An examination by an eminent microscopist was egative, but I removed the entire tongue, with the ılvano-cautery, just the same. Extensive sections and icroscopic examination after removal showed the proc-s to be sarcomatous. Recurrence occurred about six onths later in the glands of the neck; there was ero-on into some large blood vessel, and the patient died ddenly of hemorrhage.

So many cases of a similar type have come under my servation that I have no hesitancy in saying that the ofession as a whole is woefully negligent and unob-rving in this particular class of cases. I have arrived the point where, when the microscope is guessing, I ı perfectly willing to hazard my reputation by playing e only surgical trump at my command and removing e tongue. I will say in passing that the removal by rgical measures of the hyperplastic nodules and thick-ed areas of the mucous membrane of the tongue re-'ting from gumma, ulcers and mucous patches will, if rformed early, prevent many of the serious conditions the organ encountered in tertiary syphilis.

CONCLUSIONS

I wish again to emphasize the fact that lesions due ectly or indirectly to syphilis should not always be 'arded as specific from the standpoint of treatment. ey often demand surgical intervention, based on the rits of the particular lesion, and more or less inde-ıdent of the constitutional infection, so far at least rational treatment is concerned.

n conclusion I wish to say that operations on syph-ic patients in whom the constitutional disease is ler complete or fair control by specific medication are ·ly to result in primary union of the wound just as ugh syphilis did not exist. In clean aseptic incised ınds repair will often occur quite as rapidly as in -syphilitic subjects. In open wounds or in chronic -specific lesions occurring in syphilitic subjects, ·re irritation is marked and persistent, the syphilitic stitution unquestionably retards repair. Here the onal employment of mercury and iodids is an indis-sable adjuvant to the knife. Briefly, I might say in chronic syphilitic lesions requiring the knife ;ery is the handmaiden of specific therapy. In oper-ns on non-specific conditions occurring in syphilitic ects the importance of respective rôles of surgery therapeutics is reversed, the knife playing the prin-l and therapeutics the secondary rôle.

) State Street.

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rds in Infants' Stools.—F. B. Talbot in the *Boston Medical Surgical Journal*, states that small curds are composed ly of fat, mostly in the form of fatty acids and soaps. is no evidence that they contain casein-like material, ike the normal stool, they have a low percentage of nitro- They represent the fat in food rather than the protein.

THE RELATION BETWEEN PSEUDOHEMISYSTOLE AND DROPPED BEAT

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Owing to the recent advances in the methods of investigation of the physiology of the heart, many interesting studies have been recorded and numerous hitherto doubtful phenomena have been explained. Special attention has been paid to the disturbances of the heart in those conditions known as "heart block," "arrhythmia" and "hemisystole."

It is our intention to present briefly a clinical study showing the relation between the so-called dropped beat and pseudohemisystole. Hemisystole is a condition allied to cardia bigemina, in which, during the second beat of the heart, the left ventricle fails to contract. This phenomenon was first described by V. Leyden;[1] Unverricht[2] next showed the relation between cardia bigemina, hemisystole and systolia alternans. The relationship of these conditions is shown in the following outline taken from Sahli:[3]

Condition.	Cavities.	First Beat.	Second Beat.
Cardia bigemina....	Right heart.	Effective.	Effective.
	Left heart.	Effective.	Effective.
Hemisystole........	Right heart.	Effective.	Effective.
	Left heart.	Effective.	Ineffective.
Systolia alternans..	Right heart.	Ineffective.	Effective.
	Left heart.	Effective.	Ineffective.

Although hemisystole has been observed in the exposed hearts of animals, most authors deny the possibility of its occurrence in man, except in the hearts of the dying (Mackenzie[4]). Most observers explain its occurrence in man (with Riegel[5]) on the basis that the left ventricle does not fail to contract but contracts ineffectually, thus being a pseudohemisystole.

MECHANISM OF ARRHYTHMIA

As pseudohemisystole is a form of heart irregularity, let us briefly consider the mechanism of arrhythmia. According to the studies of Wenckebach, Cushny and Mackenzie, arrhythmia is usually caused by the occurrence of a premature or extrasystole; these systoles are always excited by unphysiologic irritations. As is well known from experiments, the heart, shortly before its systole and lasting for a short period after, is in a condition of non-irritability; this period is known as the refractory phase. The irritability of the heart increases as the diastole advances. From what has been said it is clear that if a stimulus is liberated early in the period of diastole or, in other words, soon after the refractory phase, the heart will beat ineffectually, the inefficiency depending on the time the stimulus is liberated; should this occur very soon after the refractory phase the heart beat will be futile and will not propagate a pulse wave. This constitutes a dropped or missed beat. Marey very well illustrates this in the following diagram (Fig. 1), in which the dotted line shows the pressure necessary to open the aortic valves and consequently produce a pulse wave.

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[1] Virchow's Arch. f. path. Anat., 1868, xliv.
[2] Berlin. klin. Wchnschr., 1890, xxvi.
[3] Diagnostic Methods, p. 296.
[4] Study of the Pulse, 1902, p. 292.
[5] Deutsch. Arch. f. klin. Med., xxvii, 393; Samml. klin. Vortr. (Volkmann's), No. 227.

Premature systoles causing dropped beats may occur regularly or irregularly; the regularity may assume various groupings, as every other beat, every third beat, etc. If it occurs regularly every other beat we have a condition in which the heart beats in groups of two (bigeminus), the second contraction not propagating a pulse wave, these manifestations being likewise the characteristics of pseudohemisystole. The two cases to be described we have selected as illustrations, the first showing an irregularly intermittent dropped beat, the second a regularly consecutive dropped beat. The first preserves, during the intervals of drop-beat, the same relationship between the venous pulse, cardiac cycle and arterial pulse as is regularly shown in Case 2.

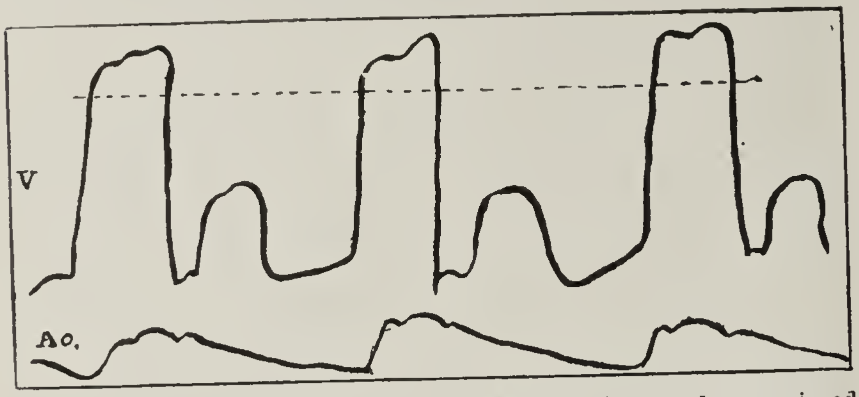


Fig. 1.—Diagram illustrating arrhythmia (dropped or missed beat). The dotted line shows the pressure necessary to produce a pulse wave.

The tracings of Case 1 (Figs 2 and 3) show the gradations from ordinary extrasystoles, the ventricle contracting effectually to a condition of ineffectual ventricular contraction or dropped beat. In Figure 2 we have a gradually decreasing efficiency of the ventricular contractions illustrated by the smallness of the pulse wave corresponding to the extrasystoles. The jugular pulse is of the auricular type.

In Figure 3 is shown the ultimate result of the progressively increasing inefficiency of the left ventricle during the extrasystole, and there is seen a condition in which there are two apex beats, to the second of which there is no corresponding arterial pulse and a double venous pulse of the auricular type.

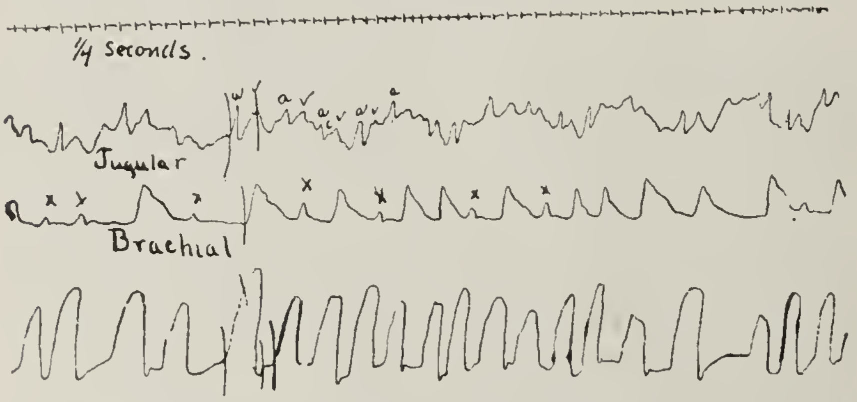


Fig. 2.—Tracing of heart action, Case 1. Gradually decreasing efficiency of the ventricular contractions illustrated by the smallness of the pulse wave corresponding to the extrasystoles. In tracing of jugular pulse (of the auricular type) a indicates auricular wave; c, the carotid wave, and v, ventricular wave. In tracing of brachial pulse, x indicates dropped beat.

The tracing from Case 2 (Fig. 4) shows constantly the above conditions, namely, a double apex beat, a single arterial beat and a jugular pulse showing a double auricular beat; that these findings indicate a double contraction of the heart is evident from the double apex beats, that the auricles participate in the double contraction is shown by the double venous pulse, that the left ventricle contracts ineffectually is shown by the want of an arterial pulse during the second beat. From the above it is clear that we are dealing with a case of pseudohemisystole. On one occasion during a marked irregular action of the heart several tracings were obtained showing not only extrasystoles with normally transmitted pulse waves but single extrasystoles with a dropped beat and double extrasystoles with a dropped beat within a short period of time.

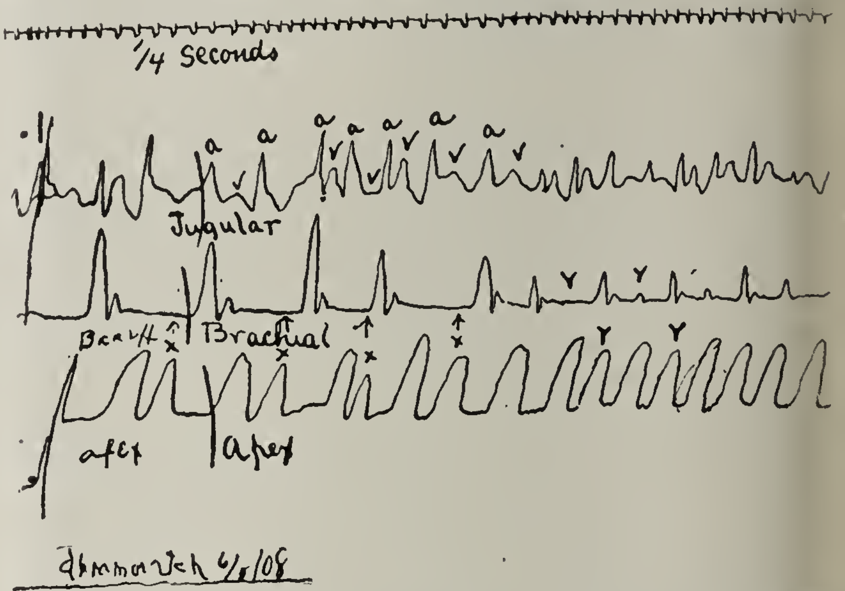


Fig. 3.—Tracing of heart action, Case 1. Progressively increasing inefficiency of left ventricle during extrasystole; two apex beats, to the second of which there is no corresponding arterial pulse and a double venous pulse of the auricular type. In jugular, brachial and apex tracings, a, c, v and x indicate same as in Figure 2; y indicates extrasystoles propagated.

Of special interest in Case 2 is the fact noted that the administration of atropin completely changes the character of the pulse; the ineffectual ventricle functionating properly, propagates an arterial pulse, and we have the tracing shown in Figure 5. This result was obtained by the administration of 1/50 gr. of atropin hypodermatically, and the condition lasted for five minutes; in spite of repeated attempts a jugular tracing could not be obtained during this period, probably due to the fact that as the heart was functionating properly there was no engorgement of the right side of the heart. During a period of administration by mouth of 1/100 gr, atropin thrice daily for a few weeks the same condition was presented several times a day. During this period it was noted that exercise and rest influenced the action of the heart, the former inducing an increase in the pulse wave, each wave corresponding to an apex beat, the latter causing the heart to assume its former condition of ineffectual contractions.

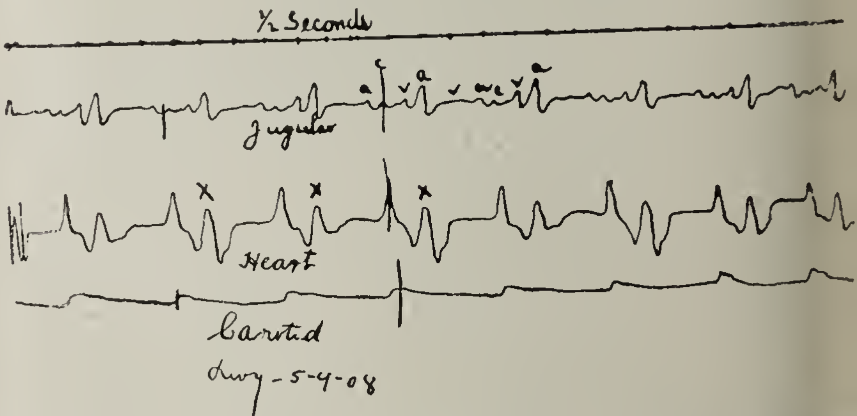


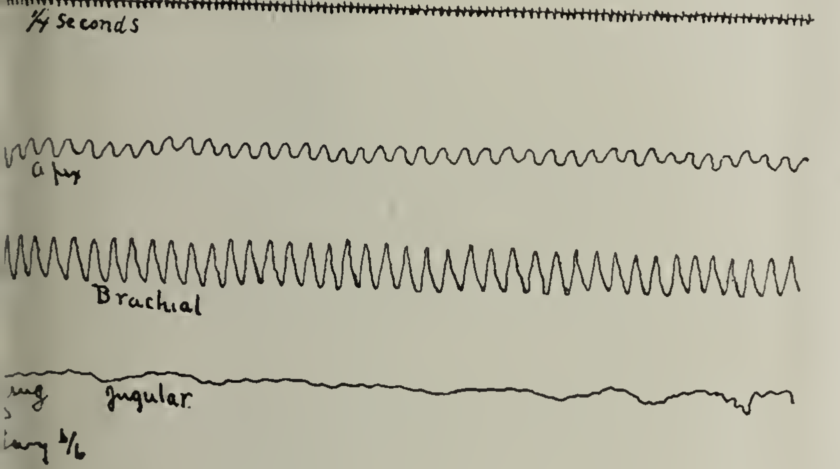
Fig. 4.—Tracing of heart action, Case 2. Double apex beat, single arterial beat, and a jugular pulse showing a double auricular beat; a, c, v and x, indicate same as in Figure 2.

It will be noted in the synopsis of Case 2 that over he apex are heard three sounds: *Lubb—Dupp—Dubb.* vith each double heart beat; that the absence of the econd beat is due to an ineffectual ventricular action s shown by the appearance of four tones, two to each eat of the heart during the above described action of he heart under the influence of atropin. It was noted n Case 1 that during the period of dropped beats there as heard at the apex a tumbling action of the heart, hich, when all systoles were effectual, was replaced by blowing systolic murmur.

From the evidence that extrasystoles can produce ropped beats as in Case 1, and the occasional occur- nce of indisputable extrasystoles in Case 2, we infer at the regularly consecutive dropped beats of Case 2 e due to premature extrasystoles which were insuf- ient to open the aortic valves and thus cause a pulse ave.

CASE 1.—*History.*—A. A., is a watchman by occupation, rried. Family history is negative: uses alcohol moderately, nokes excessively and takes tea and coffee moderately. Present ness began five years previously with loss of appetite, vom ng. epigastric pains, dyspnea, cough, heaviness after eating, elling of the feet, palpitation and occasional precordial ins, all of which the patient still complains of.

Examination.—Patient is fairly nourished, skin of face and remities cyanotic, superficial venules distended. Patient is neic, respiration 30. Chest is barrel-shaped, and capa- s. Apex beat is seen in the sixth space, seven inches from mid-sternal line. It is most conspicuous over an area of inches, acts in a see-saw fashion, and spreads concen- lly to the fifth and seventh spaces, and at times even to ourth space. Heart action is very irregular; dropped beats present at frequent intervals; the pulse rate varies from o 80, pulse is soft and there is a high grade of arterio- osis and visible locomotion. Systolic pressure, 120; olic, 80 (Erlanger). A well marked jugular pulsation nstantly observed. Percussion shows the upper border at d rib and right border at right edge of sternum; left r in the sixth interspace reaches to one-half inch within anterior axillary line. A blowing systolic murmur is le at irregular intervals, transmitted into the axilla. It und that the murmur occurs only when the heart pro- a radial pulse, and is absent when the beats are ed during the latter period the heart's action is tum- Lungs show a high grade of emphysema. Fingers are ed and finger nails curved. Legs are slightly edematous. shows trace of albumin.



g. 5.—Tracing of heart action, Case 2, obtained after adminis- ion of atropin.

SE 2.—*History.*—S. L., aged 34, is by occupation a r; married. Family history is negative; uses alcohol rly and sexually immoderate. Had gastroenteric disturb- twelve years ago. Present illness dates back seven s, commencing with pains in the joints and weakness in xtremities. At present he complains of pains in the when active. It is well to note that, despite the peculiar action of the patient's heart, he is apparently very slightly affected by it.

Examination.—His general development is good; chest and lungs negative. The apex beat is felt and seen in the fifth interspace within the nipple line. Area of dulness increases downward and to the left. Three sounds are audible at the apex, but no murmurs; first sound is muscular in quality, followed by two sounds in rapid succession. At the base the same sounds are also heard. Pulse rate is 42, radial artery slightly thickened. Systolic pressure, 150; diastolic; 115 (Erlanger). Pulsations in the jugular is distinctly visible. Blood and urine examination negative.

CONCLUSIONS

1. From our observations in numerous cases of cardiac arrhythmia, dropped or missed beats occurring from time to time are not rare. Such exquisite types as we have illustrated above are, however, exceptional.

2. A condition demonstrating the mechanism of pseudohemisystole is observed in irregularly acting hearts during the periods of consecutively dropped beats.

3. A regularly consecutive dropped beat constitutes pseudohemisystole.

4. That this condition is not due to disturbances of conductivity is shown by the response of the ventricle to the action of atropin.

5. The absence of a second sound to the second beat, so well shown by Case 2, is due naturally to the nonclosure of the unopened aortic valves.

6. The absence of a murmur during the period of dropped beat in Case 1 further demonstrates an ineffectual ventricular contraction, since the force exerted was insufficient even to cause a regurgitation of blood into the auricle and produce a murmur.

7. From a study of jugular tracing in both cases it is evident that the disturbance is caused by premature ventricular beat, as the auricles maintain their rhythm (see large auricular wave during irregular period and the absence of ventricular radials during these periods).

We take occasion to express our thanks to Dr. S. Wachsmann, medical director of Montefiore Hospital, for calling our attention to these cases.

Broadway and One-Hundred and Thirty-Eighth Street.

THE MEDICAL SOCIETY AND THE MEDICAL MEN OF ONE HUNDRED YEARS AGO *

LOUIS W. FLANDERS, M.D.
DOVER, N. H.

That medicine is an all-absorbing profession is a trite saying. If we were to bring two doctors into this room, the one from the coast of Maine, the other from the coast of California, the chances are more than even that they would be talking medicine within ten minutes. The one would brag a bit over a cure he had effected when recovery seemed impossible, and when even Dame Nature herself was wringing her hands in despair: the other would shake his head gravely over the mistaken diagnosis of a brother practitioner, a diagnosis that should have been as plain as the nose on one's face, and which was instantly made by the narrator when called in consultation. These little preliminaries settled, both would begin to discuss cases in which the patients obstinately refused to be cured in spite of diagnostic skill or scientific treatment.

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* Read at the centennial anniversary of the Strafford County and District (N. H.) Medical Society.

In order that medical men might do these things on a larger scale, societies were organized. The physicians of New Hampshire united in 1791 to form a state society, and seventeen years later the Strafford District Society, whose centennial we celebrate to-day, had its inception. In the summer of 1808 Caleb Morse, Ichabod Shaw, Joseph Boyer and Asa Crosby sent a circular letter to all the physicians of Strafford County, inviting them to assemble in Rochester on the 6th day of July to form a county medical society. Twenty-three men responded to the call. We find on the records of that day such names as Caleb, Jedediah, Ichabod, Zadoch, Jabez, Abner and Timothy. Surely, boys with names like these must have been sober-minded youngsters; and they have left plenty of evidence to prove that they became serious, hard-working men. Listen to the preamble of that circular letter:

"As health is essentially necessary to the happiness of society, and as its preservation or recovery is closely connected with the knowledge of the animal economy and of the properties and effects of medicines; and as the benefit of medical institutions formed on liberal principles, and encouraged by the patronage of the law, is universally acknowledged, we do, therefore, agree to be governed by the following, to-wit:" and here follows the order of business of the day.

Surely, those lines are full of the spirit of good will toward men, and they show a laudable desire for greater proficiency in the chosen profession, a proficiency which was to be attained by coming together at stated intervals for a mutual interchange of experience. The members looked to the New Hampshire State Medical Society for that "patronage of the law" set forth in the preamble, and immediately petitioned that body for permission to establish a subordinate society. Evidently consent was not easily obtained, for at the annual meeting of 1810 it was voted that a committee should press their claim on the state society and in the event of failure said committee was instructed "to prefer a petition to the legislature at their next session in June to obtain a charter for a separate institution for medical purposes."

Realizing at last that her children were in earnest, the mother society, at the annual meeting held in Exeter, in May, 1811, chartered this present body under the title of "The Strafford District of the New Hampshire Medical Society." The association was now fairly launched and held three meetings each year, one at Dover, which was always the annual meeting, and two others at places agreed on previous to adjournment. In one instance the society voted to adjourn to meet again "as near Gilmanton Corner as may be convenient." Fortunately, this was the last meeting before the reconstruction; otherwise the services of a land surveyor might have been necessary to determine the exact spot for assembling. These early years seem to have been characterized by inordinate zeal. It was voted that every member should present something of interest at each meeting of the society, a vote that was soon reconsidered, for it caused an alarming percentage of absentees. A system of fines was instituted. An officer was assessed $1 for each absence from the meetings, and members were charged 50 cents for a similar negligence. Dr. Jabez Dow was appointed in 1813 to interview every member concerning his experience with lobelia inflata and hemlock gum, and to give a dissertation on these two agents at the next annual meeting. In 1814 Dr. Jabez Dow begged for more time. In 1815 he confessed that he was still unprepared and was granted a further extension. In February, 1816, lobelia inflata, true to its physiologic action, came up again, and this time Dr. Dow was excused from further service. It is interesting to note, however, that Dr. Asa Perkins immediately grappled with it and delivered a learned dissertation on its virtues in 1818.

They were not mealy-mouthed, those old fathers in medicine. In one instance two members were cited before the society for "imposing on the public a nostrum known as 'Savage's Deobstruent Billious Pills,'" and when they refused to reveal the composition of said nostrum they were promptly expelled and a notice of the action was published in the local newspapers. There was no hesitation, no hanging back to see who should bell the cat. Again, it was voted that Jabez Dow and Robert Woodbury be a committee "to enquire into the conduct of Dr. Josiah Lane and see what is best to be done with him." I have searched diligently to find what did finally happen to poor Dr. Lane, but the records are darkly silent. I suspect that he was boiled alive. There were no dead laws on the books. At nearly every annual meeting the secretary was instructed to notify certain members that unless they paid their taxes and attended the meetings more regularly they would be dismissed from the society; and this was no idle threat. The penalty was often enforced against delinquents.

Those in charge of the records of to-day can study with profit the work of their predecessors of a hundred years ago. Theirs was an iron age, and very fittingly they used an iron ink. Those pages written a century ago are as legible to-day as ever, while some of the writing of twenty years' standing is fading so rapidly that it will soon be indecipherable. County secretaries should remember that the keeping of records is a sacred trust and should select for the duty an imperishable ink. The chirography of that early day deserves mention. All wrote hands that are remarkably legible, while some are positively ornate. Dr. Moses Colby, that able secretary and enthusiastic Freemason, has left behind some remarkable specimens. He lived in the so-called antimasonic days. Evidently fearing that the order might be lost to the world from persecution, he has drawn on his records little shields filled with masonic symbols in order that future ages might find out the rite. In 1825 evidently inspired by the late presence in this countr of the great French patriot, so dear to American heart he inscribed on his record for the year the legend, "U S. A., Lafayette and Liberty."

Early in the history of the institution arrangement were made for receiving patients. In the records of th meeting for 1809 we find the following resolution:

> *Resolved*, That when any patient shall be offered to the a sociation for examination it shall be the duty of every men ber to examine him or her satisfactorily, when the patien shall retire, and each and every member, beginning with th youngest, shall give his opinion of the disease and of th practice to be pursued.

A glance at one or two of these cases will be instru tive.

A Mrs. Berry was brought in for examination. quote verbatim:

> Dr. Lindsay's opinion was a general bodily debility and i action of the whole system. Dr. Kittredge, calculi of the bla der and inflammation of the mucous membrane of the bladd consequently a general debility. Dr. Morrison, dropsy of t ovaries. Dr. Hammons, general debility which is the cau

of the general symptoms, and occasional spasm of the neck of the bladder. Dow, Perkins and Drew gave no particular opinion.

From this we learn that "general debility," which so often appears in the death certificates of to-day, is sanctioned by ancient usage.

A patient with phthisis was brought in on one occasion and the following treatment recommended: "Counter-irritation, digitalis, emetics, phlebotomy, sudorifics and bloodroot." In another instance a poultice of white pine bark worked wonders in a lacerated wound. It probably occurs to each one of you that the boiling necessary for the maceration of that bark saved the patient from infection. In this connection it is amus- ng, in the light of modern surgery, to note the evident astonishment of a doctor who reported "an extraordinary case of adhesion by first intention of an incised wound of the foot." In later years, when homeopathy had begun to thrive, we find the history of a case of elirium tremens which had fallen into the hands of one f Hahnemann's disciples. This man was giving his atient "the enormous dose of four drops of laudanum ight and morning," and death was imminent. The eporter came to the rescue with three doses of fifty rops each, and wound up with a teaspoonful and a alf as a binder, after which the patient "had no more onvulsions." He lived.

Do not think that I have cited these cases to hold the eatment up to ridicule. Heaven knows that any of us ho has been in practice twenty years and over may ell scratch his head and look dubious over some of the ings which were considered good practice in the early ays of his career. The lusty farmer came to the doc- r's office in 1808 and bared a brawny arm already arred with numerous jabs of the lancet, for a "spring eeding." And Dr. Ichabod or Dr. Jedediah canted e big bowl of blood this way and that under his itical eye, discoursed learnedly on "buffing" and "cup- ng," and the patient departed weak in the knees but ppy in the consciousness that a long winter's accumu- ion of filth and disease had been drained out of him. e know better now. The lancet, the fillet and the bowl ve long ago disappeared. When such a man presents mself to-day we draw the prescription pad to us and ite for a machine-made, coal-tar combination, of hose properties we are ignorant, whose virtue consists a chemical formula nine inches long and a name that man can pronounce—and the patient takes it and ls better. *Post hoc, ergo propter hoc.* Until we are of the beam we can not extract the mote; and in ing to sketch for you a picture of this society in its ancy I shall be, indeed, chagrined if I fail to impress u with the sterling integrity of its founders.

Many of them drove thirty and forty miles in Janu- to attend these gatherings. At a meeting held in manton in 1809 there were fifteen physicians present, ning from the following towns: Barrington, Barn- d, Dover, Gilmanton, Middleton, Moultonboro, dwich, Tamworth and Wolfeboro. When we reflect t there were no railroads in those days; that the hways must have been imperfect and often hazard- , necessitating for the doctor long journeys on horse- k in all kinds of weather—then do we begin to realize much in earnest those men were who attended those tings so long ago. Surely theirs were lives of con- ual hardship and self-sacrifice, a fact that comes out t touchingly in their obituaries. Dr. Jabez Dow, se name appears continually in the records, died at 63; Dr. Hammons died at 49; Dr. Jacob Kittredge, Jr., succumbed at 37, and of him it has been said, "No man in Dover could have been taken away whose loss would have been more severely felt." Several died between the ages of 35 and 45, sometimes from contagion taken at the bedside, and very often because of prolonged physical and mental strain which rendered them incapable of resisting the invasion of disease. The surgeons of to-day can not appreciate the strain of operating without an anesthetic. We read of that sturdy pioneer in surgery, Dr. Nathan Smith, that on one occasion, with tears in his eyes, he begged his assistant to throw himself across the bed that he might be hidden from the eyes of the trembling boy whose leg he was about to amputate.

Brethren, we possess in those early records of the Strafford District Society a priceless inheritance. Across the gap of an hundred years they come to us, bearing shining examples of steadfastness, of courage and untiring devotion. A few short years and a new generation shall search these pages for the meager record of our lives. God grant that it may be said of us, as it may be truly said of them, that the world was better for their having lived. Let us always bear in mind that the thing that shall comfort us when we step down into the valley of the shadow will not be the size of the estate we shall leave behind, not the places of honor we have held among men; but, rather, the reflection that we have been able to relieve some poor sufferer of his mortal pain, that we have been useful men in our generation, and that we may look forward with confidence to the reward which awaits honest labor.

Clinical Notes

TWO CASES OF MASTOIDITIS WITH INTRACRANIAL COMPLICATIONS*

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Case 1.—*Epidural and perisinus abscess; no history of otorrhea; extensive bone disease; death from suddenly developed meningitis.*

History.—The patient, O. B., aged 33, on the advice of his family physician, Dr. Sansbury, called at my office on May 9, 1908. He gave a history of an attack of grip the latter part of March, when he first began to suffer with his ear. There was no discharge, but severe pain in the right ear, attended by throbbing and ringing noises. The temperature had ranged about 102 F. and he had had two chills. His chief symptom had been the intense pain just back of the right ear, extending up over the head on the right side. The pain was described as maddening, and as occurring in paroxysms with intervals of freedom. Formerly there was considerable "soreness" in this region. There was no history of any suppuration either in connection with his present trouble or at any time in the past.

Examination.—The mastoid region was found to present neither redness nor swelling; only some moderate enlargement of the peri-auricular lymphatic glands. Tenderness was elicited on direct pressure over the mastoid, but this symptom was not marked. No pus could be seen in the auditory canal. The drum membrane appeared red, thick and infiltrated; and though perforated in its anterior part, did not give exit to any discoverable secretion. A diagnosis was made of mastoiditis, with possible intracranial involvement, and the patient advised to submit to operation without delay. This he declined to do and returned to his home in the country.

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* Read before the Washington Society of Ophthalmology and Otology, Oct. 16, 1908.

Course of Disease.—About one week later (May 15) his trouble having grown worse instead of better, he returned for the purpose of undergoing an operation. In spite of his intense suffering the patient had continued to go about his work as a farmer, and had been, in fact, at work the morning of the day he called. He was sent to the hospital with instructions to prepare for immediate operation. The temperature on admission was found to be 104 F. In the afternoon vomiting of a projectile type developed. A rapidly deepening coma also set in, and the patient became difficult to arouse. The eyes and pupils reacted symmetrically to light; there was no stiffness of the neck.

Operation.—At 10 p. m., assisted by Drs. McKimmie and Miller, Dr. Burke administering the anesthetic, I made the usual mastoid incision curving about the auricle, which was however, supplemented by a horizontal incision extending backward, as soon as the extent of the bone lesion became apparent. The bone was soft and friable over a very wide area, and led backward into the occiput, far upward into the root of the zygoma and downward through the mastoid tip. A pulsating purulent focus was found posterior to the antrum, lying just over the sigmoid sinus. The very thick mastoid apophysis was completely removed, and the sinus uncovered over a distance of nearly two inches from the knee nearly to the bulb. Pus was found welling up from the latter region when the tissues of the neck were pressed on. The bone, which was soft and contained pus, was also removed in the middle fossa, freely exposing the brain in this region. The dura was found to be thickened and adherent. The lateral sinus, though slightly discolored, presented no evidence of containing a thrombus and we decided not to open it.

Postoperative History.—The stupor continued through the night, the patient's pulse being very weak, ranging from 85 to 95, and temperature about 103, respiration sighing. On the following day lumbar puncture showed a very turbid fluid of greenish-yellow color and foul-smelling. At 4 p. m. the temperature rose to 106, and the patient died at 6, never regaining consciousness.

The brain, thoroughly explored postmortem, disclosed no lesion other than a purulent meningitis; though careful search was made for an abscess, none could be found either in the cerebrum or the cerebellum. The lateral sinus was also opened and found to be free of any thrombus formation.

The points to which I direct attention in this case are:

1. The absence of any history of discharge, and the negative result as regards pus in the examination made of the ear. That there must have been pus formation in the middle ear at some period, however, is evidenced by the perforation which was present. The patient stated that in the beginning of his illness a "little hard substance like wax rolled out of his ear." Whether or not this be interpreted as a purulent mass, the case at least proves that we can not consider the history given by the patient, or even a negative finding on examination, as conclusive that we have before us an actual case of primary mastoiditis. It is always more probable that the discharge has been so slight as to have passed undiscovered.

2. The absence for a long while of any symptoms outside of the headache to point to the extensive amount of inflammation of the dura. From the state of the bone I judge that the underlying dural membrane and lateral sinus had been for a long while bathed in purulent exudate, yet no distinctive cerebral symptoms had arisen. It is interesting to note that pain manifested itself in sort of paroxysms, the patient enjoying intermissions of comparative euphoria when he would flatter himself that he was recovering. On the morning of the day he was operated on he was in the field working. It was only in the afternoon, after the patient had arrived at the hospital, that the very grave symptoms of meningitis arose, which from its rapid progress to a fatal termination may be classed with the fulminating type.

Case 2.—*Meningitis complicating acute suppurative otitis with scanty discharge; slight disease of mastoid; lateral sinus opened; lumbar puncture; recovery.*

History.—The patient, J. Y. S., married, aged about 25, had an attack about the middle of January, 1908, attended with considerable inflammation of the nasal passages, generally grippy pains and a fever which rose to about 103 F. She complained of an earache, but this ceased promptly on the appearance of a discharge from the auditory canal. In a few days, however, the earache again set in and it was on account of this symptom that she consulted me for the first time, January 18. The drum membrane was found hyperemic and, although there was no bulging, I thought best to open it, especially as there was some tenderness on pressure over the mastoid. Under the use of the ice-bag, constantly applied over the postauricular region and frequent boric acid irrigations the pain in the ear ceased, the mastoid tenderness disappeared and in all respects the patient seemed to be recovering. It was not until February 13 that I again heard from this patient, having been called to see her then in consultation with her family physician, Dr. Louis Johnson, who said that the patient did well at first, but about a week after the paracentesis began to develop new symptoms. There was little or no discharge from the ear, but intense headache, vomiting, delirium, rapid pulse and a temperature ranging from 100 to 103.

Examination.—We found no discharge coming from the canal, the perforation having apparently closed. There was no bulging of the drum, and no prolapse of the posterior or superior canal wall. The deafness on the affected side was almost complete. There was some doubt as to the tenderness being elicited on pressure over the mastoid. The patient complained a great deal of pain and stiffness in the region of the neck upon the corresponding side. The temperature was of a decidedly septic type, going sometimes up to 103, at other times falling to normal; constipation, furred tongue and chills were present.

Operation.—The patient was sent at once to the Episcopal Eye, Ear and Throat Hospital, where, on February 15, I performed an operation, assisted by Drs. McKimmie and Biscoe. In addition to the ordinary mastoid, the bone was removed s as to expose the brain and the lateral sinus. The mastoid was found to be but little diseased. The antrum contained some granular debris, but no free pus. There was no carious bone in contact with underlying cerebral structures. The dura was congested and showed some dilated vessels coursing over it, but there was no sign of an epidural abscess. There being some doubt as to the state of the lateral sinus, I decided t open it in view of the absence of other brain lesions, taken i connection with the septic type of temperature. It was foun free from clot, and bleeding freely from both directions.

Postoperative History.—The patient for three days seeme much better, as regards pain, vomiting and mental conditio The temperature, which had been ranging from 98 to 100, fe on February 21 to normal. On February 22 it rose to 10 and on the 23d to 104 and then began marked fluctuation going to 104 and dropping suddenly to 99; pulse rangin from 100 to 136. Leucocyte count made February 23 was r ported to be 23,000. The patient now began to complain o very intense headache, and to be restless and noisy esp cially at nights, vomiting constantly, almost no food being r tained. Occasionally involuntary micturition took place, the was decided photophobia, and general cutaneous sensitivene inequality of the pupils and sluggish contraction. The patie would lie generally with her knees drawn up, and complain considerably of her neck. The Kernig sign was found to present in a moderate degree. Lumbar puncture was ma and fluid examined by Dr. W. W. Wilkinson, who report liquid to be cloudy and containing pus, but no micro-organis At night especially the patient would become wildly delirio and even under repeated doses of morphin and other sedati would sleep but a very little while at a time. Her lo screams could be heard through the hospital and kept all t patients upset. As the lumbar puncture seemed followed general amelioration of the symptoms, it was repeated in bout a week, removing again about two ounces of fluid, less urbid than before, still containing no micro-organisms.

Internally she took most of the time mercury and iodid of otassium. On March 1 we began collargol inunctions, used twice aily. On March 5 the clinical record showed that patient had slight chill. In a few days, however, improvement set in ad on March 8 temperature dropped to normal, and never fterward rose above 99. The mastoid wound did well from the rst, and was completely healed in about two months. The aring in the affected ear improved and the patient rapidly turned to normal.

This case, I think, is instructive in that it is an in-ance of a recovery from pronounced leptomeningitis, e clinical diagnosis being confirmed by the results of e lumbar puncture. It is one more to be added to the vorable cases previously reported by Macewen, Gra-nigo, Brieger and others, which encourages us not take an absolutely hopeless view on witnessing this ead disease develop as a complication of middle-ear ppuration. While from the given case I am not able draw any satisfying conclusions as to the cause of timate recovery—whether it should be attributed to e operation on the diseased mastoid, removing the us of infection, or to the lumbar puncture, relieving racranial pressure and diminishing the amount of tic fluid, or to the possible beneficial influence of the largol inunctions—I believe that in a similar case e need not hesitate to use all these measures, as each ndicated and possibly all three may contribute some-at to the ultimate recovery of the patient.

Attention is called to the comparatively insignificant racter of the aural symptoms. While not duplicat- the former case in the absence of any history of sup-ation, the discharge was slight and of short duration had ceased completely at the period when the intra-nial symptoms developed.

n the bone involvement a strong contrast is pre-ted with the condition noted in Case 1, in which the e destruction was far-reaching and profound, the al membrane being in direct contact with diseased e over a considerable area. In this, on the contrary, osis was very slight, the disease not reaching the r table at any point.

5 Connecticut Avenue.

OSPHATIC CALCULUS OF THE POSTERIOR URETHRA

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tient.—J. H., came to the clinic complaining of difficult tion, increased urination and decided urgency, with oc-al attacks of complete retention. One such attack had red the day previous, for the relief of which he had been terized at another institution. He had had an attack of ete retention one year previously, and gave a history of l attacks of urethritis during his youth. He had been d for stricture at one time. He had no hematuria and in.

mination.—The patient was a well-preserved man about rs old. The urine was very cloudy and contained many hreds. The catheter met with obstruction in the pros-urethra. A small woven bougie passed into the bladder. 10 (French scale) tunneled steel catheter guided over lebone filiform passed over a long soft calculus on the of the posterior urethra. The end of the calculus was hrough an endoscopic tube.

Operation.—Under cocain anesthesia I attempted to remove the stone through the endoscope, using a pair of long forceps with narrow blades, but succeeded only in breaking off small fragments of the stone, as the narrow caliber of the tube prevented the handle of the forceps opening to an extent sufficient to grasp the calculus firmly in the blades. As the pain became intense and hemorrhage profuse, further manipulations were not attempted at the time, since it appeared that an external urethrotomy would be necessary. Soon after arising from the table the patient felt inclination to urinate, and when he tried to do so the stream of urine forced the stone to within one inch of the external meatus, from which position it was easily removed with thumb forceps. After removal it was found to be a soft, friable, phosphatic calculus, 0.5 cm. in diameter and 3 cm. long, cylindrical, conforming to the shape of the posterior urethra. A size 26 steel sound was easily passed into the urethra on the following day. The patient enjoyed complete relief from all urinary symptoms afterward.

24 West Sixtieth St.

TRANSFUSION OF BLOOD IN A CASE OF PELLAGRA*

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Pellagra, a trophoneurotic disease now appearing in this portion of the country, possesses a high mortality rate in its acute type; 64 per cent. in the cases reported by Searcy.[1] Pellagra may probably be classed as one of the diseases caused by vegetable poisons, pellagrazein, a fatty oil or extractive so named by Lombroso. Pellagrazein is developed in fermenting and decomposing grain in the presence of a fungus. From the ingestion of this poison in corn meal the skin and nerve lesions characteristic of the disease result. As a rule there is associated with the disorder a pernicious dysentery probably of toxic origin. No cure has been found as yet.

For a more complete account of the disease the excellent articles by Bellamy,[2] Searcy,[1] Merrill[3] and that of Randolph[4] presented at this meeting may be consulted.

Considering the possibility that recovery from an attack of pellagra might produce a certain degree of immunity in the patient, the use of transfusion of blood from such a recovered patient in an acute case of pellagra suggested itself, as all medical means have failed in the treatment of this disease.

It is impossible to state the nature of the immunity until the etiology of the disease is definitely ascertained. If pellagrazein is the etiologic factor, the immunity may be of the nature of the antitoxin (antiricin) produced experimentally in lower animals against ricin.

To lend weight to any positive findings a recipient was found in such extreme condition that recovery was absolutely impossible in the opinion of one who has carefully followed all the cases of a large epidemic. To add further weight to the evidence, all medication was withdrawn after transfusion.

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* Synopsis of paper read before the Southern Medical Association at Atlanta, Ga., Nov. 12, 1908.

[1] Searcy, George H.: An Epidemic of Acute Pellagra, THE JOURNAL A. M. A., July 6, 1907, xlix, 37.

[2] Bellamy, R. Harllee: Pellagra: Its Occurrence in This Country: Report of Cases, THE JOURNAL A. M. A., Aug. 1, 1908, li, 397.

[3] Merrill, T. C.: A Sporadic Case Diagnosed as Pellagra, THE JOURNAL A. M. A., Sept. 14, 1907, xlix, 940.

[4] Randolph, James H.: Pellagra and Pellagrins; with Report of Cases, Arch. Int. Med., January, 1908.

The patient's extreme condition might best be shown when we state that she was one of two selected to be transfused, the two being in apparently the same condition, and that before transfusion and within four hours of selection one of the two died.

Recipient was a colored woman, aged 35. Symptoms of pellagra developed only three weeks before transfusion, Aug. 3, 1908. There was a rapid downward progress of the patient with marked loss of weight and strength. At transfusion, the patient was unable to move her hands or head from extreme asthenia; in fact deglutition and phonation were barely possible. No distinct blood changes other than a secondary anemia were observed.

The donor was a healthy negro woman, aged 36, who had recovered from a severe attack of pellagra in the fall of 1907.

Transfusion was performed by Crile's method, the blood flowing over from the donor to the recipient in a good stream for twenty minutes, when the donor gave signs of syncope. The wounds were closed. Both patients left their tables in good condition.

August 4: Twenty-four hours after transfusion the patient showed marked improvement mentally and in general condition.

August 7: Steady improvement continued; desquamation of the lesions was marked.

August 11: One week after transfusion the patient had steadily improved and walked about the ward.

There was marked gain in weight. The patient went on to a perfect recovery and to-day is about and in the same state of health as presented before the onset of the disease.

No definite conclusions from the recovery in this one case can be drawn, but we believe the coincidence to be very suggestive, considering the condition of the patient, the known inefficiency of medical therapy and the high mortality rate in this disease.

202 Conti Street.

Therapeutics

PLEURISY

The frequency of dry pleurisy during the progress of pulmonary tuberculosis is well understood, and even without definite lung lesions the cause is generally recognized and the patient consequently properly treated. Acute pleurisy with effusion, however, is all too frequently considered non-tuberculous and consequently the proper after-treatment of the disease is not carried out.

Physicians connected with sanatoria for the cure of tuberculosis will all attest to the great frequency of a pleurisy with effusion as preceding, by a longer or shorter length of time, a tuberculous outbreak in the lungs. It should also be stated that no condition of the lungs is so frequently entirely overlooked, or if diagnosed, improperly treated, as pleurisy with effusion. Case after case of a permanently adhesed lung with perhaps permanent cardiac displacement and with contraction of the chest, and a lower lobe of a lung that can never again be aërated, is constantly found by the lung specialist. Even if the effusion is diagnosed many a patient is told that it will gradually be absorbed, and he may even be sent into the country to rest and await its absorption, all to the permanent damage of that side of the chest. Consequently, in any pleurisy with effusion, whatever its origin, tuberculous or other, even if there is not much dyspnea or displacement of the heart, the fluid should be withdrawn if it progressively increases or if it remains several days without decreasing. It seems to be good judgement not to remove all such fluid, as the plastic serum which is in close contact with the pleural tissue apparently has the power to combat bacteria and bacterial poisons. In other words, this substance seems to contain an antitoxin, or the ability to cause antitoxin to be produced, and if it is removed the tissues become more susceptible to infection.

For the sake of a positive diagnosis of the cause of pleurisy a portion of the liquid withdrawn may be centrifuged and if tubercle bacilli are present they may be discovered. Generally, however, they are not so found even if tuberculosis is the cause of the pleurisy. A specimen of such withdrawn, settled and centrifuged, fluid which has not been allowed to become contaminated with other germs, may be injected into a guinea-pig or rabbit, and if tubercle bacilli are present th animal will show the disease in a certain number o weeks.

Another suggestive indication that the origin of pleurisy is due to tuberculosis is that this centrifuge specimen of the lower stratum of the settled pleura fluid may show relatively a very large number o lymphocytes, while if the pleurisy has been caused b other infection the polymorphonuclear leucocytes ar found in greatly increased numbers. Also presumptiv evidence of the tuberculous or non-tuberculous origin the pleurisy may be given by a differential blood coun If the polymorphonuclear leucocytes are relatively increased in number, the presumption is that the condition is not tuberculous but due to some other infectio If, on the other hand, the lymphocytes are relativel increased in number and the polymorphonuclear leucocytes are not increased, the cause of the pleurisy probably tuberculosis.

Of course diagnostic tuberculin injections and tuberculin vaccinations may be done to prove or dispro that the patient is harboring a tuberculous focus. However, it is certainly supposable, and probably true, th a patient might have a healed or quiescent tubercula lesion somewhere in him, or a tubercular gland, th to all intents and purposes was walled off from the re of the body and inactive, and that this could be light up by a tuberculin injection and cause a reaction, a yet his present pleurisy be non-tubercular in origin.

Consequently, with or without a positive diagnosis a tuberculous focus, or that the pleurisy was due tuberculosis, the clinical evidence that a pleurisy, tub culous or non-tuberculous, predisposes to tuberculosis the lungs, should cause the axioms of the treatment pleurisy with effusion to be as follows:

1. With pain or without pain in the chest, wi dyspnea or without dyspnea, with cough or witho cough, when suspicion is attracted to the lungs of patient a careful physical examination should be ma with the chest and back completely bared.

2. If pleural effusion is found it should not be lowed to remain in the chest more than a few days, e if there is not much dyspnea and not much displa ment of the heart, unless the amount of the fluid small and this amount is gradually diminishing.

3. It is perhaps wise not to remove all the fluid, if the fluid rapidly reaccumulates it should certainly again withdrawn.

4. A patient who has had pleurisy with effusion has apparently recovered should be treated as though were in the pretuberculous stage of pulmonary tu culosis; in other words, he should have a longer shorter period of rest and fresh air treatment, if sible. If such rest, during this stage of suspicion

ot a monetary possibility, his lungs and his general ondition should be carefully examined at least once a ionth, for a year, before deciding that he is probably afe from tuberculous sequences.

GASTRIC ULCER

Dr. Delaney Rochester, Buffalo, N. Y. (*New York tate Journal of Medicine,* April, 1908), believes that tients who have gastric ulcer are always more or less urotic, as evidenced by headaches, neuralgias, nervous- ss and hysteria. He finds present in almost every pa- ent with this trouble a disturbance of the lower bowel, ther as constipation or a chronic diarrhea, "frequently the mucous colitis type."

A sharp pain in the region of the stomach, or a pain rning or gnawing in character, often more aggravated ien the stomach is empty, at other times the undi- sted food causing irritation sufficient to produce im- ediate vomiting and the signs of hyperchlorhydria hich is proved by analysis of the test breakfast), are symptoms so well understood as to require no de- led description. While the vomiting of blood or the ding of blood in the stools (other causes of the latter ving been excluded) is diagnostic, it is not always essary for hemorrhage to be present in order to make iagnosis.

In the treatment of hemorrhage of the stomach, of greatest importance are physical and mental rest l functional rest for the stomach. In order to quiet patient, Rochester administers a hypodermatic in- tion of morphin and atropin "in full dose." He adds atropin to the injection to overcome the effect which rphin sometimes has of increasing the flow of gastric ce. Functional rest of the stomach is best obtained withholding all food for a time. Sometimes, al- ugh he is not convinced of its utility, he applies a l coil to the epigastrium. If the symptoms show that norrhage is persisting he gives 1 c.c. (15 minims) a 1 to 1000 adrenalin chlorid solution in 30 c.c. (1 ce) of distilled water, and follows this in half an r by from 50 to 100 c.c. (about 2 or 3 ounces) of 0 per cent. solution of sterile gelatin. He also has ined good results from the administration of sub- ate of bismuth suspended in a gelatin solution, or n hyperchlorhydria is very pronounced, suspended nilk of magnesia. Of course recurrent hemorrhage s for surgical interference.

le would withhold food, ordinarily, from forty-eight eventy-two hours, but if there is excessive hyper- hydria as shown by severe pain, he would have re- se to immediate feeding of small quantities of milk, ted with vichy or mixed with milk of magnesia or water. Sometimes he gives ice water in teaspoon- loses or allows pieces of ice to melt in the mouth.

uring the first twenty-four hours he would not give even by the rectum, as nutrient enemata have been n to increase the flow of the gastric juice. The enemata used should be normal salt solution, and peptonized milk and egg may be used. These ient enemata should be given every six or eight s, though a small amount of salt solution, 100 to c.c., may be given by the rectum during the in- ıl.

cure the condition which he thinks caused the , he would investigate all reflex possibilities, be- ng that ulcers of the stomach may be brought about condition of nerve disturbance, due to nervous re- s from the eyes, ears, nose, and throat, and to those from the gall bladder, rectum, and other abdominal and pelvic organs. He emphasizes the fact that eyestrain should be cured, and colon fermentation and putrefaction should be prevented, and any hygienic measure that will build up the general health of the patient will prevent the recurrence and promote the healing of an ulcer of the stomach.

As to diet, he would study each patient carefully and decide which particular foods were the best for that particular patient, of course "excluding all coarse-fibered vegetables and cereals, all highly-seasoned foods, fancy dishes, all salted and preserved meats and fish, and usually all soups made from meat stock." He would exclude "beers, ales, wines, and liquors of all sorts, and strong tea and strong coffee. Preserved fruits and pickles," he would exclude, but "fresh fruits, either raw or cooked," he would experiment with and see which caused disagreeable symptoms and which not. He recommends the drinking of a pint of pure water, or slightly alkaline water, or moderately carbonated water, with each meal, "as it dilutes and partially neutralizes the highly acid gastric juice. Gruels, milk, soups and other foods cooked with milk are useful." Cocoa not too sweet is useful. "White flour bread eaten with unsalted butter" he deems best. Meat should be eaten once daily, in the form "of beef, mutton or chicken." An egg or two once a day, with little or no salt, is advisable, and fresh fish may be taken occasionally. He would give the finer cereals, as "rice, sago, and tapioca (and macaroni cooked with milk), and would use plenty of cream, no salt, and little sugar." Baked and then thoroughly mashed potato, or creamed and then mashed he advises. Milk is, of course, the most valuable article of diet, but it should be diluted with alkaline water. Three or four hours after each meal he would have the patient drink a half pint of such diluted milk or milk porridge, sipped slowly, and taken pleasantly warm; not cold, not hot. The patient should take three meals a day, never overloading the stomach at one time, and not taking too great a variety of food at any one meal. He should eat slowly and chew thoroughly, and "not wash down half-chewed food with drink."

He relieves gastric irritation, flatulence and pain with:

℞.

	gm. or c.c.		
Strontii bromidi	6		ʒi⅓
Sodii bicarbonatis	40		ʒix
Carbonis ligni	20	or	
Bismuthi subcarbonatis	20		āā, ʒivss
Lactis magnesiæ	200		fl.℥vi

M. et. Sig.: Two teaspoonfuls, in water, three times a day, after meals. [Shake well.]

If between meals there is burning or pain in the stomach due to hyperchlorhydria, Rochester gives a gastric sedative which he attributes to Stockton, viz.:

℞.

	gm.		
Cerii oxalatis	10		ʒiiss
Bismuthi subcarbonatis	20	or	ʒv
Magnesii oxidi	40		ʒx

M. et fac pulverem.

Sig.: A teaspoonful stirred in water, and repeat in an hour, if needed.

The milk of magnesia or the milk of bismuth will often act as well.

Ascites and Myocarditis.—P. H. Markley, in the *New York Medical Journal,* states that in uncomplicated myocarditis, be the heart ever so weak, there is no dropsy and rarely any edema. If, however, there is, in addition to the myocarditis, a defect of the valves, dropsy is almost certain.

DIRECT BACTERIAL TREATMENT OF THE COLON THROUGH THE VERMIFORM APPENDIX

CHARLES A. L. REED, M.D.
CINCINNATI

Patient.—Mr. N. P. S., American, aged 42, was sent to me Jan. 12, 1909, by Dr. E. W. Mitchell of this city, complaining of extremely severe recurrent attacks of mucous colitis, alternating with obstinate constipation.

Previous History.—In early childhood he had a supposedly tuberculous right hip joint which recovered after operation, leaving him with a shortened leg. He had no other illness from that time until 1893, when a persistent tendency to constipation culminated in an attack of mucous colitis. This condition became recurrent at intervals from and after that time and became likewise the conspicuous feature of an invalidism that not only interfered with his comfort but with his efficiency as a business man and which drove him in quest of relief to numerous physicians across the continent from Seattle to Philadelphia and back again. He developed headaches and became irritable and despondent, his nervousness manifesting itself at times in nocturnal emissions. He developed some rectal trouble for which a proctologist divulsed his sphincter ani muscle, another cut out some "pockets" and burned the places with silver nitrate. Then a surgeon had to excise some ulcers where the pockets had been. Then he had a course with high injections of iodoform, bismuth and olive oil. Then a genitourinary man told him that the whole mischief was urethro-prostate in origin for the relief of which he dilated the urethra, inserted cold sounds and washed out the bladder with ice water. Then somebody put him through a course of colonic lavage. At intervals between these special consultants he would drop back into the hands of medical attendants for the most part, who purged him for "intestinal indigestion" and gave him divers and sundry things for neurasthenia or sent him west to get well or die of "tuberculosis of the bowels." This went on until he sought Dr. E. W. Mitchell, who sent him to me, we being, respectively, the eighteenth and nineteenth on the list.

Examination.—Revealed a man of excellent physique, good nutrition, but with high arterial tension. The colonic areas were dull on percussion from the cecum to the sigmoid. There was slight gastric resonance. The rectum was normal except that there were a number of areas of cicatricial tissue. The elasticity of the sphincter ani muscle was normal. The genitourinary examination was negative in all particulars.

Diagnosis and Treatment.—After holding the case under observation for a week or more I told the patient that, in view of his past history and of the great diversity of treatment to which he had been subjected, I felt that an appendicostomy with such subsequent treatment of the colon as might be found expedient, would constitute a justifiable line of procedure. I explained to him that appendicostomy, surgically speaking, was no experiment and that in proper hands and under proper surroundings it was a safe operation. I made it clear, however, that the subsequent treatment, so far as final results were concerned, was experimental, but that the whole proposed line of treatment was both logical and safe and that after the immediately surgical period had been passed it would not interfere with his attention to his large business interests. He himself analyzed the proposition in the light of a very superior intelligence and at once embraced the suggestion as affording a possibility of escape from his long martyrdom.

The patient entered the Good Samaritan Hospital Annex January 22, after having had a week of diet of which the uncooked-whole wheat bread with buttermilk reinforced with lactéol (Boucard) were the leading features. These agencies had made no impression on the case. The colon was accordingly unloaded by high lavage and the patient was prepared for operation.

Operation (Jan. 25, 1909).—The technic was precisely the same as that for appendicitis, with the exception that the appendix was brought up and, instead of being excised, as usual was stitched into the wound and its extruded tip removed. This part of the procedure was not easy in this case because, in addition to a somewhat elongated band that bound the cecum to the lateral parietal peritoneum I found a typical appendicitis obliterans. In other words the appendix, which was found buried beneath a blanket exudate that was so highly organized that it looked like normal peritoneum, was so atrophied that its lumen was obliterated in its entire length from the tip to within a little more than a quarter of an inch from its base. This stump was, however, used for fixation in the wound and through it a catheter was placed in the cecum and left in situ. The fixation of the bowel was, therefore, reinforced by a double row of sutures between the cecum and the parietal peritoneum. There was neither shock nor special discomfort following the operation and the patient's appetite scarcely faltered for a single meal.

Colonic Examination and Treatment.—January 28, the second day following the operation, steps were taken to determine the existing flora of the colon, by Dr. W. H. Strietmann of the bacteriologic department of the University of Cincinnati. Standardized bouillon and agar-agar were used and inoculations were made from the feces, both through the wound in the cecum and as they were discharged by the rectum. After the cultures were incubated plates were poured. In the meantime, after these first cultures had been started an awaiting their determination, the colon was thoroughly cleansed by injecting a dram of fluid extract of cascara with two ounces of sterilized glycerin through the tube into the cecum.

The effect was a thorough and painless evacuation o the colon and was realized within an hour after the injection into the cecum. This treatment was repeated on eac of the two succeeding days, the object being not only to unload the colon, but to secure the exosmotic influence of th glycerin in reducing the presumably hypertrophied mucou follicles, and, likewise, to sweep out any adventitious an pathogenic bacteria that might be infesting the bowel.

By this time, however, the stab cultures started on January 28 and 29, were reported by Dr. Strietmann as showing n anaërobes, while the plates revealed only a pure culture of bacillus with rounded ends, non-motile, which produced aci and gas and coagulated milk and was probably *Bacillus lacti aërogenes.*

Ten days later it was found that one of the plates reveale a single colony of *B. coli communis.* Later cultures mod fied this finding but slightly. Those from February to 6 showed greenish coloration in the bouillon, while th hanging-drop revealed a motile bacillus and a non-motile or of different size. Agar plates showed the same green colo and this same bacterium in gram positive. It was probabl *B. pyocyaneus*, which may have reached the colon through th appendicostomy wound.

These revelations, indicating the practically complete a sence of the usual flora of the colon, suggested a change treatment. Milk cultures of the *B. lactis aërogenes, B. bu garicus* and the *Streptococcus lacticus*, derived from lactic bac lary tablets (Fairchild) and from lactéol (Boucard) were a cordingly thrown through the tube directly into the colo This on two occasions was fortified with the *Saccharomy cerevisiæ.* The results of this line of treatment, so far re-establishing a resident flora of the colon is concerned, a being studied by Dr. Strietmann, by whom they will embodied in a final report of the case.

Results.—The patient left the hospital February 13, expe encing not the least inconvenience from the tube, which will probably wear for several months and which will not the least interfere with his attention to business. The cl ical results so far realized are disappearance of the muc colitis, normal action of the bowels and disappearance of t previously almost constant headaches.

The case is reported in this preliminary way at t time with the hope that it may prompt similar expe ence at the hands of other operators followed by pron reports of primary results and these, in turn, by f reports of end results.

A CASE OF MULTIPLE CYSTS OF THE MESENTERY

FRANK VAN DER BOGERT, M.D.
SCHENECTADY, N. Y.

In view of the present interest in cysts of the mesen- ery and in their origin, the following case is reported s it appears to be rather remarkable pathologically and elongs to a class few instances of which have been re- orded:

Patient.—M. L., female, aged 5 years and 6 months, was rn at full term, of apparently healthy parents, the labor ing normal.

History.—There is said to have been great difficulty in ob- ining the first movement from the bowels. The baby was d at the breast for about nine months, and apparently suf- red a great deal from colic, the attacks of which were said have been quickly relieved by medicine given by the attend- g physician. She has always had more or less digestive ouble, accompanied by mild constipation for which castoria, scara and aperient waters were given with relief. She was t given many enemata. The constipation was occasionally ated by equal parts of castor oil and sweet oil by the mouth. ere is a history of irregular and improper feeding since in- ncy. She has always been a great eater of sweets and prac- ally has been allowed to eat what she wished and when she shed it. The gastrointestinal symptoms were attributed to se causes. The child became nervous and irritable. About ee years ago the abdomen was first noted to be distended, l has remained so since, the distention slowly increasing in ount. In April, 1906, when I first saw the child, I exam- d the urine. I have no record of the history on this date, t the examination was apparently made to determine the se of enuresis which was not relieved. Recently, apparently, was relieved by suggestive treatment applied during the nmer by the father, who is a clergyman, having much faith this mode of treatment. In the light of the later history, vever, the effect of suggestion seems rather dubious. The atment, however, though seeming to relieve the symptom, not absolutely cure it, a relapse occurring later. In 1906 aw her during an attack of urticaria, which was attributed the general digestive disorder. The attack was chronic in ure and lasted for months. In May, 1907, I first noticed a ht umbilical hernia, and at this time the abdomen was kedly distended. The hernia had existed for some time r to its being brought to my attention.

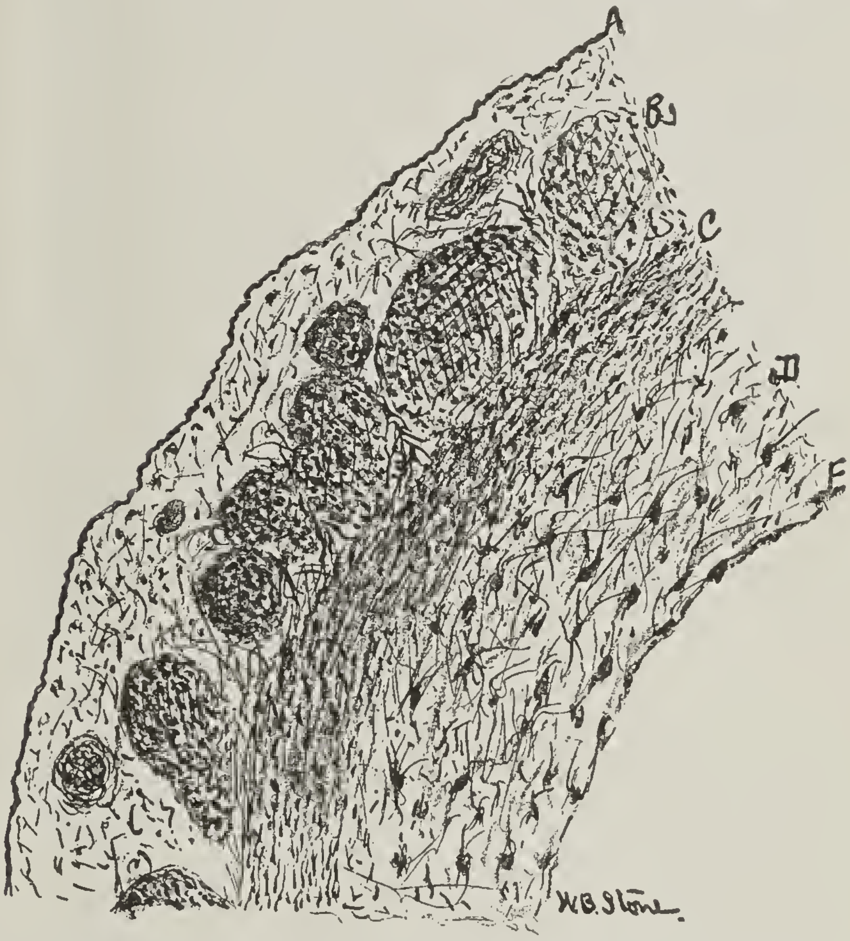
xamination.—In November, 1908, some time having elapsed e my last treatment, a large fluctuating tumor was noted the lower right quadrant of the abdomen, but extending ewhat past the median line to the left. It did not reach e the umbilicus and extended to the pelvis. It was about size of a fetal head or large grape fruit, and there was de- d fluctuation, a most distinct wave being noted, the fluid arently being contained in a very lax sack rather than er pressure. The abdomen at this time was very prominent pendulous. A rectal examination was not made on account he pain accompanying such a procedure, but the patient catheterized prior to operation to eliminate the possi- y of a distended bladder, I say possibility because the r was not in the median line. An absolute diagnosis was made—the condition being noted simply as a cyst—ovarian esenteric in origin.

eration.—On Nov. 28, 1908, the patient was operated on r. William P. Faust. The abdomen was opened by the l median incision. A large cyst about the size of a fetal or about 18 cm. in longest diameter and containing a thin, l-stained fluid was found a little to the right of the an line. Two cysts somewhat smaller than the first were ered and evacuated, and found to contain about 1.5 liters uid. Several small cysts, about ten in all, were then ied. All the cysts were found to have their origin in the ntery of the ileum. There was no well-defined pedicle, ttachment being in the mesentery and extending along the tine for a space of about 12 centimeters. The cysts were ed with a lock stitch. Resection of the bowel was considered, but found unnecessary. The abdomen was closed without drainage and the patient made an uninterrupted recovery.

Unfortunately, through some misunderstanding, the fluid evacuated was not saved, so that there is no record of the chemical or microscopic examination of this fluid.

The pathology of the wall of the largest cyst was carefully studied by Dr. Warren B. Stone, pathologist to the Ellis Hospital, Schenectady, and his report follows:

> The outer surface was smooth, glistening and purplish red in color. In three spots were punctate hemorrhages. The cyst wall varied in thickness from 2 to 4 millimeters. The inner surface of the cyst was smooth, and of a dull, white color. Several bands of rather dense fibrous tissue ran in different directions of the cyst wall, giving somewhat the appearance of a coarse network running through its structure.
>
> Under the microscope the outer surface was seen to be covered with normal peritoneum. The subserous or connective tissue contained many congested blood vessels, and showed some round cell infiltration and a few small hemorrhages. The accompanying illustration shows the microscopic appearance.



A, outer layer of cyst wall; B, smooth muscle fibers cut transversely; C, smooth muscle fibers cut longitudinally; D, fibrous layer; E, inner layer of cyst wall.

> Beneath the connective tissue were found many smooth muscle fibers arranged in bundles and forming two distinct layers running at right angles to each other. The arrangement being characteristic of the structure of the intestines. No epithelial lining was detected.

Judging from the characteristic appearances, the cyst is one of that rather rare variety, the origin of which has been attributed to the sequestration of the intestine during fetal life.

Dr. C. W. Dowd,[1] New York, has written a complete and comprehensive paper on mesenteric cysts and their origin, in which he describes cysts of this character and suggests their origin from the intestine.

The smaller cysts, had they been examined, might have shown characteristic epithelial lining. This examination, unfortunately, was not made.

111 Union Street.

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[1] Ann. Surg., xxxii, No. 4.

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THE PRESENT STATUS OF THE WASSERMANN REACTION AS A DIAGNOSTIC AID IN SYPHILIS

The complement fixation test, the so-called Wassermann reaction, as applied to the diagnosis of syphilis has given rise to an immense amount of work. This has been partly critical. The great bulk of it, however, has been so strongly confirmatory as to leave no doubt as to the great practical importance of the method as a means of clinical diagnosis, provided its limitations are kept carefully in mind.

The method as first devised depends on the principle, formulated by Bordet and Gengou in 1901, of complement fixation by union of a given bacterial substance with the specific "antibodies" found in the blood serum of an infected animal. If, for example, to a properly prepared extract of typhoid bacilli (an antigen) a little blood serum of a rabbit immunized to typhoid be added, and then a little serum of any normal animal for complement, the mixture will combine with the complement and "fix" it. But if there be substituted for the immunized rabbit serum that of an animal not so treated, the complement will remain free, as it will if the extract of any bacillus except typhoid be used. Hence, having a known extract, or a known serum, it may be possible to identify the immune bodies (antibodies) or bacterial substances in an unknown mixture by demonstrating fixation of complement.

The presence of free complement in such a mixture is determined in the following manner: The blood serum of a rabbit which has been injected with the blood of a sheep acquires the power of dissolving the red corpuscles of the sheep. But it can do this only when free complement is present. If the hemolytic serum be heated so that its complement is destroyed, it will not dissolve the corpuscles until free complement is added from some other source. Hence, by adding to such a mixture of fresh corpuscles and heated immune rabbit serum a solution containing complement, it can be determined whether in this solution the complement is free or fixed by observing the occurrence or non-occurrence of hemolysis.

In applying the test to the diagnosis of syphilis, a bacterial extract can not be obtained directly, so an extract of the liver of a syphilitic fetus is used instead, and the blood serum of the patient in which the presence of syphilitic antibodies is suspected is mixed with it. Since the first observations were made it has been found that such serums containing antibodies for syphilis will bind complement when mixed with extracts of normal tissues in larger quantities, or even with solutions of lecithin or bile salts. Hence the biologic specificity of the reaction has been disputed. This does not, however, impair the clinical value of the test, as only sera from syphilitic patients yield the reaction.

Unfortunately, the technic of the reaction is complicated. Every step in the test has to be very carefully controlled; and at present it is impracticable, except in well-equipped laboratories and in the hands of experienced workers.

Statistics of a large number of cases in which the reaction has been clinically applied are now available. In testing for antibodies it is very rare that positive reactions are obtained when syphilis can be excluded with reasonable certainty. In cases clinically syphilitic the percentage of positive reactions is in the primary stage from 40 to 60 per cent., in the secondary stage from 70 to 90 per cent., in the tertiary stage from 50 to 90 per cent. The reaction often ceases to be positive under mercurial treatment. A positive reaction tells us that syphilitic infection has been present, but it appears to be no indication of the necessity for treatment nor of the activity of the disease. A positive reaction is yielded by the serum and the spinal fluid of subjects with tabes and general paresis in from 60 to 80 per cent. of the cases.

Attempts to demonstrate the presence of the syphilitic poison itself, the antigen, have been made but have not been followed by constant results.

Positive complement fixation reactions have been reported in a few non-syphilitic conditions, notably in infections with certain protozoa (yaws and trypanosome infections). Several observers have reported positive reactions in cases of scarlet fever. A few cases are on record in which it occurred in cases of great emaciation, as in carcinoma, pyemia and tuberculosis.

In cases uncertain clinically a positive reaction obtained under proper controls is very strong evidence of the pre-existence of syphilis. After syphilitic infection a positive reaction can be obtained, as the above statistics show, in from one-half to three-fourths o the cases. A negative reaction, it should be kept i mind, does not exclude syphilis.

INTERNAL CANCER AND CHRONIC TRAUMA

Although we have no inconsiderable number of articles in the literature bearing on the relation of traum to tumor formation, a common defect is that th amount of material on which conclusions are based i not sufficiently large to give valuable results. With th enormous material of Vienna at his disposal, howeve

Haberfeld[1] has been able to examine a sufficient number of cases of cancer to entitle his figures to respectful onsideration. His investigations concern only the cases of carcinoma of the stomach, the gall tracts and the ungs, and, in his opinion, the results are emphatically n support of the view that, at least in these three rgans, chronic trauma is a most important predisposng cause of cancer.

Since Rokitansky first directed attention to the relaion of gastric ulcer to gastric cancer, both clinicians nd pathologists have given this subject much considration, and, while clinical experience has spoken decidly in the affirmative, conclusive proof seems to be cking from the anatomic side. This seems now to be tisfactorily supplied, for of the 662 cases of cancer of e stomach occurring in Haberfeld's series of 20,000 utopsies no less than 106, or 16 per cent., showed acroscopic evidence of having originated in round lcer of the stomach, which, in view of the impossibily of telling anything about the place of origin of any advanced ulcerating carcinomas, is undoubtedly uch below the actual proportion. Additional evidence this relationship is furnished by the tables of disibution of carcinoma and ulcer in different parts of e stomach, for the correspondence of frequency is ry striking. The current opinion that carcinoma of e stomach is much more common in men while ulcer evails in women is confuted by this large series of topsies, in which there seems to be really but little fference between the two sexes in respect to either of ese lesions.

Even more distinct is the relationship between the ncurrence of gallstones and carcinoma of the gall cts. In the 20,000 autopsies under consideration re were no less than 164 cases in which biliary tract cinoma was the cause of death, and in 119 of these 3 per cent.) gallstones were present. High as this portion seems, it is even less than that reported by ne other statisticians. Here also collateral evidence at hand, consisting in the fact that there is exactly same predominance of cancer of the gall tracts in men, 73 per cent. of all cases, as there is of gallnes, in the same series of autopsies, which yielded cases of cholelithiasis, of which 195, or 73 per t., were in women. A question that has been always ed whenever the relationship of gallstones to cancer nder discussion is whether the gallstones are not ndary to the cancer rather than the predisposing se of the malignant growths. This would seem to settled in the negative by Seigert's observation that, reas in a series of 99 cases of primary carcinoma he gall bladder, stones were present in no less than yet in 13 cases in which the gall-bladder cancer was ndary to a growth in some other organ stones were d only twice.

In the cases of carcinoma of the lungs, chronic irritation was found to play a similar, if less striking rôle, the evidence being more difficult to collect and interpret. Haberfeld found 68 cases of primary lung cancer in a series of 40,000 autopsies, which will probably seem a remarkably large number in view of current ideas concerning the rarity of primary tumors of the lungs. The pathologists, however, appreciate that these figures are not exceptional, knowing that lung tumors are most commonly found at autopsy without their having been recognized during life. As evidence that lung tumors also may be incited by chronic trauma, we have the following facts: The starting point of these tumors is predominatingly in the right lung, and chiefly in the main bronchus, which may be correlated with the fact that the right bronchus is most subject to injury by dust and other foreign materials by reason of its more direct continuation from the trachea and its larger size. Cancer of the lung is far more common in men than in women, probably at least three to one, which harmonizes with the fact that men are more exposed to bronchial irritation by reason of their occupations and habits. Histologically, it is found that pulmonary cancer is frequently a squamous-cell carcinoma, which is explained by the fact that under the influence of chronic irritation the cylindrical epithelium of the bronchi becomes transformed into the protective, squamous-cell type of epithelium, from which, in turn, squamous-cell carcinoma may arise if the irritation continues.

While none of the above facts taken singly would constitute a sufficient proof of the dependence of lung cancer on chronic trauma, yet taken together they certainly establish a strong case.

SOME NEEDS IN THE FIGHT AGAINST TUBERCULOSIS

Even the most optimistic among us, and those who are most encouraged by the results so far obtained in the prevention of tuberculosis, realize that as yet we have invaded only the confines of the territory to be conquered. When one reads of antituberculosis societies, sanatoria, dispensaries, and classes, an impression of the magnitude of our armament in the struggle against tuberculosis is gained which is misleading to those who are not in actual contact with the work. It is certainly not realized as yet by the public, and probably not understood by many physicians, that in the average large city of to-day the patient with advanced tuberculosis is almost an outcast. The sanatoria, naturally enough, desire to receive only patients who have the disease in a stage early enough to permit of probable recovery. The general hospitals, on the other hand, properly object to placing patients with advanced tuberculosis in the wards, as, no matter what precautions may be taken, the ignorant and filthy among consumptives are a constant menace to their neighbors, and should not under any circumstances be confined in a ward with patients suffering with or convalescing from non-tuberculous diseases of the respiratory tract. A few general hospitals have special wards for tuberculous patients, but even then the number of beds available for these patients is often as the proverbial drop in the bucket. It is apparent to all city dwellers who are cognizant of the situation that one of the greatest needs of most cities, so far as the tuberculosis problem is concerned, is hospitals, or special wards, for the reception and care of advanced cases of pulmonary and other grossly infective forms of tuberculosis, and this is especially the case because in the advanced stages enormous numbers of bacilli are often excreted.

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[1] Zur Statistik und Ætiologie des Carcinoms des Magens, der nwege und Bronchien. Ztschr. f. Krebsforsch., 1908, vii, 190.

There is another aspect of the problem which as yet has not received sufficient attention. The specialists in tuberculosis, mostly sanitarium physicians, cry out for early cases, claiming that the recognition of the disease in its incipiency is rare, and usually casting the blame on the general practitioner, whose feeble diagnostic acumen they deplore. We can not pretend that all practitioners of medicine are experts in the early diagnosis of phthisis. Still, in all fairness, it is necessary to state that the fault is often not theirs at all, but lies with the patient. Too often the tuberculous among the working classes ignore their symptoms until the disease is so far advanced that even the tyro can diagnose it, and the failure to make early diagnoses is as often, perhaps more often, due to this factor than to careless examinations and poor diagnosis on the part of the practitioner.

To put the matter in another form: it is now evident that if we are to stamp out tuberculosis we can not rely on patients seeking us, but must institute an active campaign having for its object the detection of those tuberculous individuals who from ignorance or indolence have failed to seek the advice of a physician. This has been done to some extent by those doing the house-to-house work of antituberculosis dispensaries. The families of the patients with tuberculosis who visit the clinics are inspected now in several cities, and these examinations have shown in many instances widespread family infections where only one member, perhaps, had symptoms that compelled a visit to the physician. This work, while of the greatest possible importance, still leaves untouched those who have not applied for treatment and who are often equally dangerous to their families and associates. Fulton's[1] work in Providence indicates another point of attack, and shows that the owners and operators of mills and factories may be led to realize the industrial importance of tuberculosis, and may be willing to combine and give active support to those fighting the disease. The extension of the antituberculosis crusade to factories may be regarded as an important step, since it brings the subject prominently before both employers and employed. The work should certainly be extended, and should become as much a part of factory administration as the medical inspection of schools in many cities has become a part of school administration.

THE EMMANUEL MOVEMENT AS SEEN BY A CLERGYMAN

The most recent invasion of the field of medical practice is found in the widespread adoption of the Emmanuel movement by ministers and religious teachers of various denominations. An unusually timely and rational estimate of this movement from the standpoint of the clergyman is an article by Rev. George A. Gordon in the *Congregationalist* for February 13, under the title "The Practice of Medicine by the Unfit." Dr. Gordon defines the practice of medicine as "the treatment of human beings, in a pathologic condition, as the subjects of physical disorders and diseases."

After relating his experience with Eddyism and emphasizing the utter ignorance of the followers of this cult of even the elementary facts of anatomy and physiology, Dr. Gordon says: "The most recent phenomenon is the emergence of the preacher of religion as a medical practitioner, his wizard wand being psychic force. Here again the interest is great and generally the motive of the healer is pure. Disease abounds; the mystery of pain is widespread; suffering is one of the horrors of existence. The forces at work for cure, relief, mitigation, noble and efficient as they are, manifestly are unequal to the need. Can we not invent some new therapeutic agent that will work wonders, that will change like the rising sun, night into day? Just at this point the delusion of the religious healer becomes plausible." The fact that the principles taught as new discoveries are in reality as old as human relations is then clearly brought out. "That psychic force is a healing agent no man will deny. . . . The personality of a vigorous, wise, humorous, sympathetic and noble human being, in any vocation, is a distinct influence for health in the community in which he lives. . . . But is not all this as old as the relation of parent and child, teacher and pupil, prophet and people? . . . Have not all wise preachers in all generations always done the attainable service which these psychotherapeutists have turned into a cult? . . . The psychic treatment of disease is apt to become a craze. An auxiliary force strictly limited in availability and always requiring for its use a level head is turned into a panacea in cases that call for a scientific physician. In pathology we enter the domain of a disordered or diseased physical organism. No man has the least moral right in this domain but one scientifically competent. . . . I do not know a single member of my profession who could pass a first year's examination in any reputable medical school in the country." After carefully considering and enumerating the large amount of work and training that enter into the preparation of the modern, educated physician, Dr. Gordon says regarding the monstrous confidence with which persons, largely without knowledge and with no special training, rush in as healers that "they are monumental examples of the 'blind persistent courage of the book agent.'"

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[1] The Detection and Treatment of Cases of Tuberculosis Among Factory Employés. Read at the Third Annual Meeting of the National Association for the Study and Prevention of Tuberculosis.

Looking at the movement from the point of view of the clergyman, Dr. Gordon finds the situation unfortunate in that the minister, when he becomes a healer, abandons the calling for which he has been specially trained to take up a work for which he has no training and no ascertained ability and which he can not by any possibility do well. The resulting confusion he considers unfortunate from the viewpoint of the patient, since it leads him to underestimate the value of the services of a true expert; turns him away from the only true source of relief, namely, scientifically qualified men; and raises in him false expectations and superstitious feeling. The church, he concludes, also suffers. "A hospital is one of the most benign of all the institutions created by man, but a hospital is not a church. . . . The mission of the church is not primarily to the sick but to the well. . . . Its chief mission is to the strong that they may secure justice and mercy." Reviewing the value of churches as moral and philanthropic agents in a community, he says: "Turn now any strong church into a sanitarium for those who are really ill and for those who only think they are ill and you bereave the ideal causes of a community in a cruel manner.". "Hence," he concludes, "let the church and the hospital continue as separate institutions; let the people in the church continue under the care of the preacher and those in the hospital under the care of the physician, and let the master spirit in each call on the service of the other in time of need."

Dr. Gordon's discussion of this movement is remarkably sane. His closing paragraph can be commended to the careful consideration of all enthusiasts and faddists who aspire to assume, without preparation, the work which is being done painstakingly and with constantly increasing efficiency by men who have devoted their lives to preparation for it. "The ideal of knowledge is infinite; the attainment, the perfection of specialists has a clear and pathetic limit. It remains for the individual man to do the small bit of work for which he is fitted; to let religiously alone the work for which he is manifestly unfit, and to bear in mind that about the best thing that good men can do for the noblest causes is to go through the world with a level head."

DIRECT BACTERIAL TREATMENT OF THE COLON THROUGH THE VERMIFORM APPENDIX

The preliminary report of a case under this caption in this issue[1] is of interest, not only on account of the fact that the bacteriology of the alimentary tract is now much to the fore, but because of the results realized in this case and the possibilities, both in a scientific and therapeutic way, that are suggested by the procedure. The normal flora of the colon has never yet been studied with a definiteness that is more than suggestive. The relation of flora to function of the colon is not yet determined. The influence, inhibitory or otherwise, of the alimentary secretions on various micro-organisms remains to be determined in their natural position. The possibility of replacing one flora with another and the results of such a change on the health of the patient are entirely undetermined questions. Some new light may be thrown on the mode of operation of cathartics and of intestinal antiseptics so far as they influence the micro-organisms, benign or pathogenic, as they are found in the alimentary canal. In the determination of these questions there is an obvious advantage in having access, for a prolonged period, to the head of the colon, particularly when such access can be had without interfering with the patient's usual daily activities.

PRESERVATIVES AND PURE FOODS

The question as to whether the use of benzoate of soda in particular, and chemical preservatives in general, is necessary in putting up food products has been answered in a most practical and unequivocal manner by the recent convention at New York City of the American Association for the promotion of Purity in Food Products. The object of this organization of manufacturers is to educate the public to the fact that chemical preservatives are absolutely unnecessary in the preparation of food products. In a resolution adopted by this association and sent to President Roosevelt, the following statements occur:

> As practical manufacturers, we know that artificial preservatives of any kind are unnecessary to the successful commercial preparation of good, sound, raw materials, under proper sanitary conditions. . . .
>
> The use of artificial preservatives makes possible and invites the employment of inferior and waste materials often unfit for human consumption and careless methods and insanitary conditions in food preparations.

Such statements as these, coming from men of practical experience, are deserving of most careful consideration. It means that these men, actuated by enlightened self-interest, see that the "penny-wise pound-foolish" attitude of the reactionary food manufacturers in the long run will prove disastrous. If the adulterating manufacturers have their way, though it may result in larger dividends for a time — at the expense of public health—in the long run it "will not only cause in itself irreparable injury to the reputation and standing of the legitimate food-producing interests of the country, but will cause a great industry to revert to the deplorable state existing prior to the enactment of a national food law, to its great disparagement both at home and abroad." As these progressive manufacturers are carrying on a forceful and educative advertising campaign, doubtless it will not be long before the public is fully awake to what the legend, "contains one-tenth of 1 per cent. of benzoate of soda," means. If, therefore, it is possible so to prevent the emasculation of the national Food and Drugs Act that the legend must continue to appear on the labels of preparations containing this chemical, the question may solve itself. On the other hand, if the "interests" at work against the pure food law and against Dr. Wiley are able to force the removal of the legend, the cause of decency and honesty in the manufacture of food products will suffer well-nigh irreparable injury.

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[1] THE JOURNAL A. M. A., Feb. 20, 1909, p. 636.

Medical News

ILLINOIS

Personal.—Dr. Robert Dayton Luster, formerly of Granite City, has returned from abroad.——Dr. Philip H. Hesse, interne at the Illinois Northern Hospital for the Insane, Elgin, has resigned.——Dr. Albyn L. Adams, Jacksonville, vice-president of the trustees of the Passavant Hospital, has resigned.

Officers Elected.—At the annual meeting of Brainerd District Medical Society, held at Petersburg, January 28, Dr. John M. Wilcox, Clinton, was elected president: Dr. Don W. Deal, Springfield, vice-president, and Dr. Harry S. Oyler, Lincoln, secretary. The next meeting of the society will be held in April at Lincoln.——The Danville Physicians' Club, recently organized, has elected the following officers: President, Dr. Charles E. Wilkinson; vice-president, Dr. A. Merrill Miller, and secretary-treasurer, Dr. Benjamin Gleeson.

Chicago

Personal.—Dr. and Mrs. Alexander H. Ferguson are visiting their old home in Winnipeg, where Dr. Ferguson is to address the alumni of the Medical Department of the University of Manitoba.——Dr. and Mrs. Milton K. Eisenstadt have returned from Europe.

Health of Chicago Better.—There were 107 fewer deaths during the week just closed than in the corresponding week of last year. There were 52 fewer deaths from pneumonia, 23 fewer from influenza, 18 fewer from bronchitis, 6 fewer from tuberculosis, and 9 fewer from the acute contagious diseases. There was a marked decrease in the cases of diphtheria, scarlet fever and measles, but an increase was noted in the cases of typhoid fever. To the total of 827 cases of communicable diseases reported during the week, diphtheria contributed 145, scarlet fever 142, tuberculosis 109, measles 107, chickenpox and typhoid fever, each, 90, pneumonia 66, whooping cough 30, and diseases of minor importance 48.

INDIANA

Personal.—Dr. Perry Woolery and family have gone to Asheville, N. C., for the remainder of the winter.——Dr. James E. Donnelly has resigned from the staff of Union Hospital, Terre Haute.

Work of Physicians' Club.—The Physicians' Club of Elwood, which was organized eighteen months ago for mutual protection, reports that it has collected $1,100 in accounts previously supposed to be worthless. The postgraduate work outlined in The Journal is being discussed regularly. The club has been awarded the contract for the charity practice of the city, and with the $150 per annum received from this source proposes to start a medical library.

MARYLAND

Society Meeting.—At the annual meeting of the Anne-Arundel County Medical Society, held in Annapolis, February 9, the following officers were elected: President, Dr. Thomas H. Brayshaw, Glen Burnie; vice-president, Dr. J. Oliver Purvis, Annapolis; secretary, Dr. Louis B. Henkel, Annapolis; treasurer, Dr. Frank H. Thompson, Annapolis; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Charles R. Winterson, Hanover; alternate, Dr. Samuel H. Anderson, Woodwardville, and censors, Dr. Thomas H. Brayshaw, Glen Burnie, James S. Billingslea, Armiger, and Oscar H. McNemar.

Profession Opposes Nolle Pros.—Dr. James B. Merritt, Easton, indicted by the grand jury for an alleged criminal operation, and said to be under $5,000 bail, has applied to the governor for a write of *nolle prosequie*. The indictment also alleged that false death certificate, "typhoid fever and perforation of the bowels," had been made in the case. When this matter came to light, Dr. Merritt is said to have disappeared and to have been in hiding for several weeks. Nearly 1,000 names have been signed to his petition. The medical profession has now taken up the matter and declares it involves the honor of the profession and the inviolability of the laws.

Baltimore

Refused License to Practice.—Dr. Henry H. Hazen, who is said to have been refused a license to practice in the District of Columbia, is reported to have applied for a mandamus against the medical board there. It is stated that Dr. Hazen's period of practice in Baltimore did not amount to the two years required to obtain reciprocity benefits.

Vienna Professor in Baltimore.—Dr. Clemens von Pirquet, formerly assistant in pediatrics in the clinic of Prof. von Escherich and *privat-docent* in the University of Vienna, has arrived in Baltimore to take charge of the Harriet Lane Johnson Home for Invalid Children connected with Johns Hopkins Hospital, and to be professor of pediatrics in the university.

Hospital Report.—The annual report of the Johns Hopkins Hospital trustees shows that during the year 4,609 patients were admitted, making the total number of inmates 4,912. There were 219 births, 3,607 patients were discharged improved or well, 148 were discharged unimproved, 395 were not treated, and 196 were transferred to other departments. Two nurses visited 2,480 tuberculosis patients at their homes, and other nurses visited the homes of 1,298 children.

MICHIGAN

Personal.—Dr. Edwin L. Thirlby, Traverse City, has returned from Europe.——The house of Dr. Hugh M. Gale, Bay City, was burned January 19, with a loss of $2,000, partially covered by insurance.——Dr. James Ardiel, Grand Rapids, is said to have been committed to the State Hospital for the Insane, January 11.

Communicable Diseases.—During December, pneumonia, typhoid fever, diphtheria, meningitis, scarlet fever, measles and smallpox were less prevalent than for the average of the month in recent years. More cases of, and more deaths from, tuberculosis than the average were reported, and whooping cough was more prevalent than the average for the month.

The Conflict Against Tuberculosis.—Secretary Shumway of the State Board of Health is endeavoring to secure the passage by the legislature of a law prohibiting expectoration in railway stations, public places and public conveyances.——The new shack of the tuberculosis colony at Kalamazoo, was dedicated January 21.——The Upper Peninsula Society for the Cure of and Prevention of Spread of Tuberculosis and Other Contagious Diseases, at its meeting in Marquette, January 12, adopted resolutions urging senators and representatives from the upper peninsula to have laws enacted for the establishment of a sanatorium for tuberculosis in that part of the state.

MINNESOTA

License Revoked.—The State Board of Medical Examiners, on January 15, is said to have revoked the license of Dr. A. C. Moorhead, Minneapolis.

New Medical Society.—The Swedish Medical Society of Minneapolis, which was recently organized with the following officers, Dr. Carl J. Ringnell, president; Dr. Axel E. Hedback, vice-president; Dr. Gilbert Seashore, secretary, and Dr. Olaf A. Olson, treasurer, held its first annual banquet January 30. Dr. Carl J. Ringnell presided as toastmaster.

Bill Against Objectionable Advertising Passed.—The house of representatives, on February 2, passed a bill prohibiting the advertising or distribution of printed matter relating to so-called medical institutes. Violation of the law is made a misdemeanor, and both newspapers and advertisers are amenable to imprisonment or fine or both, at the discretion of the court. The distribution of such advertising matter in the form of pamphlets or circulars is also forbidden.

Personal.—Dr. William F. C. Heise, Winona, has been reelected physician of Winona county.——Dr. Frederick E. Haines has been appointed chief medical inspector and quarantine physician; Drs. H. Journeay Wells, Glen Matchen, and Harry M. Guilford, medical inspectors; J. Frank Corbett, bacteriologist, and Dr. Elizabeth Woodworth, assistant bacteriologist, of Minneapolis.——Dr. Edward L. Tuohy, Duluth has been appointed health officer of St. Louis county.——Dr John M. Edwards, Mankato, is ill with an infection of the arm.

MISSISSIPPI

Coming Meeting.—The annual convention of the Mississipp Medical Association will be held in Jackson April 13-15, under the presidency of Dr. James W. Gray, Clarksdale. Th ieeting will be of exceptional local interest because it is ex-ected that a resolution will again be adopted urging the leg-lature to establish a state charity hospital in Jackson.

Personal.—Dr. Joseph W. Crumpton, Starkville, has been ppointed a member of the State Board of Health, vice Dr. . S. Richardson, deceased.——Dr. Hollie B. Wilson, Vicks-urg, has been elected physician of Warren county.——Dr. red Meyer, sanitary lecturer for the State Board of Health, making a tour of the state delivering popular lectures on nitary affairs.——Dr. W. R. Thames, Hattiesburg, has been ppointed physician of Perry county.

MISSOURI

Personal.—Dr. James A. Waterman, Breckenridge, has been ppointed prison physician at the state penitentiary.——Dr. . Wiley, of Springfield, while attempting to board a street r. was thrown to the ground and painfully injured.

Smallpox in College.—An epidemic of smallpox has broken t in William Jewell College, at Liberty, where 35 cases are id to be found. Although the 600 students were vaccinated the discovery of the first cases on February 8, it has now come necessary to quarantine the institution.

Academy of Medicine Organized.—St. Joseph physicians or-nized an Academy of Medicine February 3 for the purpose devoting special attention to experimentation and investi-tion along advanced medical lines. The officers are: Presi-t, Dr. O. Beverly Campbell; vice-president, Dr. Albert L. ay, and secretary, Dr. John M. Bell.

Tuberculosis Exhibit.—Jackson County Society for the Re- and Prevention of Tuberculosis has completed prepara-ns for a tuberculosis exhibit at Kansas City, beginning ruary 15 and continuing for two weeks. There will be etings every noon and evening and lectures by prominent rkers in the fight against tuberculosis.

ectures to Students on Medical Organization.—Dr. Alonzo Kieffer, president of the State Medical Association, has ointed the following members to lecture to the senior sses in the medical colleges on the subject of medical anization: Drs. William G. Moore, St. Louis; William F. m, St. Joseph; Jefferson D. Griffith, Kansas City; and n Duncan, Columbia. It is hoped that many students will induced to join the organized medical societies in the nties in which they locate after graduation.

St. Louis

edical Inspection of Schools.—The board of education is ecting plans for the establishment of a system of medical ection of school children. Five school districts, compris- twenty-one schools, will be inspected. The appointment nspectors will be by competitive examination. There will ne supervisor of inspection and as many inspectors as be required to execute the duties of the department. salary of the supervisor will be $2.500 and the salary of inspectors will be $1.200 per annum. The superintendent also recommended that a bacteriologic laboratory be blished under the control of the board of education.

ysicians on Board of Freeholders.—The recent passage by municipal assembly of the bill authorizing the election of een freeholders to frame a new charter for the city is of t interest to the local profession inasmuch as there is now pportunity of securing greatly needed reforms in the m of control and management of the municipal hospitals gh provisions in a new charter. On invitation of the medical council representatives of eleven different med- and dental societies met February 13 and decided to nt the names of the following four physicians to the us political parties as candidates for freeholders: Drs. C. Morfit, George Homan, John Green, Jr., and William oore.

NEW YORK

rection.—The superintendent of Albany Hospital states the item regarding the needs of the institution, which red in The Journal of February 6, is incorrect, in that ospital is not in debt, the $45,000 debt having been d by popular subscription and $9,249 in addition hav-een received.

al Statistics.—The total number of births recorded in was 203.159, as against 195.735 in 1907. The total er of deaths from tuberculosis was 16,521, or 11.9 per of the total mortality. From typhoid fever there were deaths and from pneumonia 8,602, a decrease of 2,412 the total of 1907.

To Shorten Course for Doctors.—Representatives of twenty-four colleges in the state February 9 conferred with State Education Commissioner Andrew S. Draper, regarding a change in the present rule of the board of regents requiring a seven-year course for the combined degrees of A.B. and M.D. It has been suggested that the term required for such degrees be reduced to six years. The regents will act at a future meeting.

Smallpox Bill Disputed.—The trustees of the village of Matteawan have appealed to the Appellate Court from the judgment rendered Dr. Howell S. Bontecue for services in attending smallpox cases last spring while health officer of the village. The health officers claimed $10 a day for treating single cases and $25 a day when several cases were treated. The trustees refused to pay the claim and would allow but $150.

Proposed Increase of Pay.—The new schedule for increased compensation of physicians of the staffs of the state hospitals has been adopted by the State Commission in Lunacy. This schedule provides for an increase of 25 per cent. in the salaries paid superintendents and assistants of various grades, including medical internes. About 130 will be affected by the proposed change, which will involve an increased annual outlay by the state of $160.000.

Long Island Physicians Meet.—At the eleventh annual meeting of the Associated Physicians of Long Island, held in Brooklyn January 30, three interesting papers on "Tuberculosis" were read: Dr. Livingston Ferrand described the organized campaign against tuberculosis, Commissioner Hibbard detailed what Greater New York was doing and proposed to do with the tuberculosis problem, and Dr. James Jenkins told of the work being done by the Board of Brooklyn Charities in helping to aid and instruct the public in the prevention and cure of tuberculosis. The following officers were elected: President, Dr. Frank T. DeLano, Rockville Center; vice-presidents, Drs. Thomas R. French, Brooklyn; Frank Overton, Patchogue, and William B. Brinsmade, Brooklyn; secretary, Dr. James C. Hancock, Brooklyn, and treasurer, Dr. Charles B. Bacon, Brooklyn.

New York City

Spitters Arrested.—In one day about 200 men were arrested for violating the anti-spitting ordinance by the policemen attached to the Health Department in subway and elevated stations. Most of these spitters were fined and between $300 and $400 was added to the pension fund of the department. The fines varied from fifty cents to $3.

Plan Another Hospital.—Well-known women have undertaken the work of building a non-sectarian hospital in Second avenue between Twelfth and Thirteenth streets and a fair for its benefit, which will be opened by President Roosevelt, will be given February 20 in the Twenty-Second Regiment Armory. Governor Hughes will also deliver an address. The institution will be known as the People's Hospital.

Hospital Will Move.—Deeds have been signed by which the new site for the Presbyterian Hospital selected by the late Dr. Andrew J. McCosh has passed into the hands of the corporation. The new hospital will be built on the block bounded by 67th and 68th streets, the East River and Avenue A. The cost of the land was about $500.000. The trustees have long desired to move the hospital to a neighborhood where it could be in close touch with the poor and of greater usefulness through its daily free clinics. Work on the new hospital will be begun some time in May, 1910. The fund now on hand includes $1,000,000 given by John S. Kennedy and $100.000 that has been obtained during the past month for the Dr. McCosh Memorial fund, with which it is planned to build a surgical pavilion. The site of the present hospital will be sold and the funds thus obtained will be used in the new building. Last year the ambulances from the Presbyterian Hospital responded to 3.479 calls. There were 43.220 persons who received benefits from the hospital; 3,536 occupied beds, and of these 65 per cent. were free patients.

NORTH DAKOTA

Physician Acquitted.—Dr. James J. Reilly, Milton, charged with performing a criminal operation on a woman of Park River, has been discharged from custody. The judge claimed that the evidence introduced by the state was insufficient to warrant holding the defendant to the district court.

Bills Against Tuberculosis.—The legislative committee of the State Medical Association, of which Dr. John D. Taylor, Grand Forks, is chairman, has under consideration bills embodying the following principles: That the appropriation for the use of the department of health should be at least $7,000 a year, to make it possible for that department to carry on an aggressive policy along sanitary lines; that it be made mandatory for attending physicians to report to the state health department all cases of tuberculosis coming within their knowledge, that the person infected may be supplied with information relative to the best method for the cure of the disease and the precaution necessary to take to avoid the infection of others; that spitting on sidewalks, floors, public buildings and public conveyances be declared a public nuisance, punishable on conviction by a fine of not less than $5 or more than $50, or by imprisonment in the county jail, not to exceed thirty days, or both; and that suitable and sufficient sanatoria be established and maintained at proper and desirable locations within the state and at its expense, where approved methods for the treatment of tuberculosis can be applied.

PENNSYLVANIA

Filtered Water for Pittsburg.—On February 4, the filtered water was turned into the system pipes on the south side of Pittsburg, and that section is now supplied from the filtration plant and Highland reservoir.

Tuberculosis Exhibition to Be Sent Around the State.—The Pennsylvania Society for the Prevention of Tuberculosis has decided to send to different parts of the state the society's exhibit, immediately following the close of the International Tuberculosis Exhibition which is being held in Philadelphia.

Philadelphia

Physicians Favor Proposed Legislation.—At the monthly meeting of the Southwark Medical Society and the Germantown Branch of the Philadelphia County Medical Society, resolutions were adopted endorsing the Herbst bill for one state medical examining board. The weekly bulletin of the county society says:

> Never before has the medical profession been such a unit in support of wise legislation for the people as is shown in its present support of the proposed new medical act. The faculties of the great medical schools of this teaching center have at this date an endorsement of the act under discussion, and that of the Medico-Chirurgical College has voted favorably in the matter. The following organizations, representing all phases of the Philadelphia profession, have within the past ten days acted officially in endorsement of this just measure: Northwestern Medical Society, West Philadelphia Medical Association, Philadelphia Medical Examiners Association, College of Physicians of Philadelphia, Philadelphia Obstetrical Society, Germantown Branch of the County Medical Society, Southwark Medical Society, Kensington Branch of the County Medical Society, Medical Club of Philadelphia through its executive committee, Philadelphia Pediatric Society, Philadelphia County Medical Society, Pathological Society of Philadelphia, West Branch of the County Medical Society, Northern Medical Association.

VIRGINIA

Anti-Spitting Law.—Beginning with February 8, the state law and city ordinance prohibiting spitting on sidewalks, crossings, and in street cars, which have been practically a dead letter in Richmond, will be rigidly enforced. The city ordinance provides a fine of from $2 to $5 for each offense and the state law a fine of from $1 to $5, with alternative imprisonment in jail for five days.

Anaphylaxis.—On February 6, Dr. John F. Anderson of the hygienic library of the Public Health and Marine-Hospital Service, gave an account of the work done by himself and Dr. Milton J. Rosenau on anaphylaxis to the faculty and students of the Medical Department of the University of Virginia, in the series being given under the auspices of the Medical and Biological Club of the university.

Course in Hygiene.—The medical department of the University of Virginia announces a course in practical hygiene for health officers and others interested in public health work. The course will begin June 12, and continue eight weeks. Next year the combined resources of the departments of medicine and engineering of the university expect to offer a course leading to the degree of sanitary engineer.

Personal.—Dr. L. C. Smith has resigned as assistant surgeon of the National Soldiers' Home and Dr. Samuel R. Catts, Alexandria, has been appointed in his stead.——Dr. Robert F. Williams, El Paso, Texas, formerly of Virginia, has been appointed superintendent of the Catawba Sanatorium for Consumptives.——Dr. Junius F. Lynch, Norfolk, has been appointed deputy surgeon general, medical corps, Virginia Volunteers, with the rank of lieutenant colonel.——Dr. J. Paulett Clark has succeeded Dr. Dennie M. Thomasson as assistant in the Hygeia Hospital, Lynchburg.

GENERAL NEWS AND COMMENT

Prohibits Importation of Opium.—The senate, February passed the house bill to prohibit the importation of opium into the United States, excepting for medicinal purposes. I requires only the signature of the President to become a law

Aid Asked for Carroll's Widow.—An appeal has been sen out from the office of the surgeon-general to all medical offi cers of the Army asking for contributions to relieve the dis tress in which the widow of Major James Carroll is placed It is stated that there is a mortgage on Mrs. Carroll's home She has a pension of $125 per month, which is not sufficien to support herself and family of seven minors.

Missouri Valley Society to Meet.—The semi-annual meetin of the Medical Society of the Missouri Valley will be held i St. Joseph March 18 and 19, under the presidency of D Charles B. Hardin, Kansas City. Dr. Herman J. Boldt, Ne York City, will deliver the oration in surgery, and Dr. Natha S. Davis, Chicago, the oration in medicine. After the adjourn ment there will be an excursion to Sulphur Springs, Ark.

Pollution of Lake Michigan.—At the meeting of the Lak Michigan Sanitary Association in Chicago, February 9, a which delegates were present from thirteen towns along th lake in Illinois, Indiana, Wisconsin and Michigan, the stat ment was given out that the water supply of Chicago wa threatened on the south by the Calumet river and sewag from adjacent Indiana towns; from the north by the sewag from Evanston and by the refuse from shipping, especial from excursion and passenger boats, and by dumping bein done in the lake. Dr. William A. Evans, Chicago, was electe president of the association; Prof. H. E. Barnard, Indian first vice-president; Mayor Lawrence Becker, Hammond, In second vice-president; and W. R. Humphrey, Chicago, se retary.

Commemorative Gift to Sir Felix Semon.—On Jan. 1, 190 the *Internationales Centralblatt für Laryngologie* began twenty-fifth volume. The staff of collaborators, past a present, united in sending to the editor-in-chief, Sir Fel Semon (London, Eng.), a token of commemoration of h twenty-five years of editorship and as the founder of t journal. The gift consisted of a silver box in the shape of bound volume, the cover being a fac simile of the month journal, and bearing the inscription to Sir Felix: "In lo and respect as a token of their acknowledgment of his va uable services to laryngology, and in grateful recollection his courteous consideration of themselves." At the same ti the prominent laryngologic societies of the world sent l ters of congratulation, dispatches, and honorary fellowshi each message breathing the hope of a long life and cont uance in the work for many years. Sir Felix expressed sincere appreciation, and stated his intention to retire from active work, including his editorship. He had already ranged that Dr. George Finder of Berlin, the present vi editor, should take his place. It has been a source of mu gratification to his friends that all the good wishes were s him before any one had an idea of his proposed retireme By his action laryngology has lost a powerful champion. contributions to the science will be sadly missed, and he c ries with him the loving and grateful remembrances of th who know him best.

FOREIGN

German Roentgen Congress.—The fifth German Roent congress is to be held at Berlin, April 18, at the conclusion the surgical congress. Prof. P. Krause of Jena will pres Dr. Immelmann has charge of the exhibit; his addres Lützowstrasse 72, Berlin W. 35.

German Surgical Congress.—The thirty-eighth congress the German Surgical Association is to convene in Be April 14-17, with Prof. H. Kümmell in the chair. The m ings are to be held in the Langenbeck House where there also be an exhibit of surgical appliances, etc.

German Congress of Orthopedic Surgery.—The eighth gress of the German Association for Orthopedic Surgery i be held April 13 at Berlin, the day before the opening of general surgical congress. Special attention is to be pai congenital dislocation of the hip joint, and addresses ar be presented on twelve aspects of this subject, including by Lorenz on his present technic for reduction and one Becher on the anatomic and functional results of non-opera reduction in older patients. It is proposed to make a lective investigation of the results to date of non-opera reduction. In taking skiagrams of the dislocated hip the anticathode of the tube should be placed at the cent

line connecting the two anterior superior iliac spines: if pos-
ble two skiagrams should be taken of each patient, the first
determine the question of the frequency of anteversion or
rsion of the femur. The feet should be placed parallel, the
tella in front. The second skiagram with pronounced in-
ard rotation is to determine the frequency of coxa vara and
xa valga with congenital dislocation of the hip. By ob-
rving these directions it will be possible to compare the
iagrams of different cases much more instructively. Prof.
Lange will preside at the congress.

Aid for Stricken Physicians in Southern Italy.—Prof. Galli
Rome has appealed to the medical press of Germany for
bscriptions to aid the medical men in the earthquake dis-
et who have lost their all, and the widows and orphans of
ysicians. The *Münchener med. Wochenschrift* at once
ened a subscription list for the purpose, and Professor
cobs of Brussels has opened a similar subscription in Bel-
m, entitled "Pro Italia medica," in charge of a committee
professors from the various Belgian universities. It is pro-
sed to make this an international movement and Professor
gond has been appointed the representative in France,
ofessor Mendes de Leon in the Netherlands and Prof. E.
stalozza of Rome in Italy. The aim of this subscription is
care for the future of the children of medical men who
t their lives in the earthquake. The *Policlinico* at Rome
ened a subscription list at once for aid for the stricken
ysicians, and its weekly issues acknowledge the receipt of
sums forwarded to it. The address is Administrazione del
liclinico," Corso Umberto 1, Rome, Italy. The sums re-
ed are turned over at once to the various local medical au-
rities so that they can be distributed promptly and directly
the deserving. The *Policlinico* publishes in its latest issue
of the numerous letters it has received from physicians
the stricken district. The writer states that he and his
viving children are almost naked; not a single wall is left
nding, and 2,500 of the 7,000 inhabitants are dead. He
s how he is going to live in this desolation and where
ld he go in such plight to start anew. His long and
nous life work had left him poor, he adds, but the earth-
ke plunged him into the abyss of every misery. And yet
e medical men in this plight are performing prodigies of
tion and valor, examples of which are cited in the
orial.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Feb. 6, 1909.

The Reform of the Army Medical Service

fter the discovery of the defects in the Army Medical
ice during the Boer War most sweeping reforms were
e, which have been reported from time to time in THE
NAL. The result now is that the British army can boast
e most efficient medical services in the world. One of the
lts is the handsome building known as the Royal Army
ical College, built on the Thames Embankment, and
ped in the most modern fashion for the instruction of
physicians. Lord Middleton, who, as secretary of state
ar, founded the college, speaking at a dinner given in his
r by the members of the college, said that never again in
d to sanitation, except on the most absolutely and ex-
vely medical points, would the principal medical officer
e field play "second fiddle" to any combatant officer
ever. It was now realized that for every wounded man
dical officer would have to heal he could save a dozen
by the sanitation of his hospital, by the proper selection
e site of camps, and by control of the drinking water.
is very different from the spirit of a former commander-
ief of the British army, Lord Wolsey, who not very long
in an official publication, advised commanding officers to
o attention to the recommendations of medical officers,
had never known one to make a wise one!

The Contamination of Canned Foods

local government board has issued a further report on
resence of tin in canned foods in the course of which Dr.
Schryver describes an experiment which he carried out
own person in order to determine the relation between
take and excretion of tin. For one week he took daily
meals one grain of tin salts, during a second week two
, and during a third week three grains. At the end of
night there was no evidence of a retention of tin, but
three grains were ingested daily, about two grains were
ed in the system during the week. Commenting on this
igation, Dr. G. S. Buchanan, inspector of foods, says it
ts that in the case of food contaminated with tin the larger portion of the tin does not become absorbed from the alimentary canal and that accumulation in the body takes place slowly. He concludes that there is no serious risk of chronic poisoning from absorption of relatively small quantities of tin from a diet largely consisting of canned foods over considerable periods. Nevertheless, in any kind of canned foods, quantities of tin approximating to two grains to the pound must be regarded with grave suspicion, but there is no reason to suspect that in ordinary circumstances such large quantities would be present. Tin is taken up by meat extracts and essences to a greater extent than by most other meat foods, and as time goes on the quantity of tin taken up increases from the can. Dr. Buchanan suggests that health officers should direct special attention to canned foods more than one year old, and if two grains of tin are found, it may be taken that the food is potentially dangerous to health. He recommends the compulsory provision on tins of marks showing the date and place of preparation.

Nostrum Quackery Penalized in New Zealand

In many respects the Australasian colonies are in advance of the mother country in regard to their legislation. In the present year there has come into force in New Zealand very drastic legislation for the prevention of the frauds of the nostrum exploiter. Every person commits an offense who, in promoting the sale of any medicine or appliance for the treatment of disease publishes any statement which is false in any material particular relating to the ingredients, composition, structure, or to the effects which have followed or may follow the use thereof. For the first offense the penalty is a fine not exceeding $500 and for the second or any subsequent conviction not exceeding $1,000. Not only is the exploiter who publishes such statements liable to these penalties, but also the printer, publisher and proprietor of any newspaper in which they are published. Some legislation of the kind is badly needed in Great Britain. The advertisement sheets of our leading papers are largely occupied with these fraudulent statements.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 2, 1909.

The Chair of the History of Medicine at the Faculty of Medicine at Paris

Dr. Gilbert Ballet, professor of the history of medicine and surgery in the Faculty of Medicine at Paris, has been nominated at his own request professor in the clinic of mental pathology and diseases of the brain in succession to the late Dr. Joffroy. Undoubtedly, from his entire past career, by the nature of his work, and by his competence in psychiatric matters, Dr. Ballet will be much more at home in the chair of clinical and mental pathology than in that of the history of medicine and surgery, for which, indeed, nothing marked him out as especially fitting. It is most regrettable that the chair of the history of medicine and surgery should have become merely a waiting post, a kind of lobby, as it were, that one has to pass through to attain to any other chair more eagerly sought after. For this reason, since 1899 it has been successively occupied by Professors Brissaud, Dejerine and Gilbert Ballet, all of whom, moreover, from the commencement of their course did not hesitate to proclaim their incompetence in the subject. Brissaud occupied the chair hardly a year and a half, Dejerine about six years, and Ballet less than a year and a half. The prestige of the chair, even of the faculty itself, evidently can gain nothing from these frequent changes.

A New Medical Organization: The Syndicate of Social Medicine

New economic conditions, created by the development of the laws of hygiene, of public assistance and of industrial insurance, by the increase of works of cooperation and philanthropy, by the extension of public municipal and state medical services have altered the conditions of medical practice. It is the socialization, more and more accentuated, of medicine which tends to transform the physician little by little into a public functionary, and it is precisely this tendency which the medical profession in France is seeking to combat, in claiming for all sick persons the right of freely choosing their own physician. Certain physicians have thought that in this field of public hygiene and social medicine the interests of the working people are bound up with the interests of physicians, and that consequently labor and medical organizations should draw nearer to each other for the defense of their common interests and for the success of their common demands. It is due to the inspiration of these ideas that there has recently been established a new association, the National

Syndicate of Social Medicine. This association has for its objects: (1) The study of the conditions of existence and of work imposed on physicians by modern medico-social legislation (public medical aid in all its forms, the law concerning industrial accidents, that for the protection of the public health, etc.) and the defense of their interests in this field, the determination of their requirements and the action possible to accomplish them; (2) the control of the conditions of application of medical social laws as regards both the public services, financial associations, and the various forms of insurance or administration; (3) concerted action with the labor organizations regarding everything that concerns questions of public hygiene and of social and professional medicine.

The number of possible adherents to the new organization is unlimited. When, in any region, the number of adherents shall have become sufficiently large, there will be established a district section with power to subdivide itself into local groups. Each organic unit is to preserve its autonomy as regards its mode of operation and its finances. The general action of the syndicate will be determined by the congress, which will take place yearly.

The International Congress of Hydrology and Climatology

The Eighth International Congress of Hydrology, Climatology, Geology and Physical Therapy will take place at Algiers from April 4 to 10, 1909, under the patronage of the governor of Algeria. The committee is organizing an exhibition of objects and apparatus relating to the sciences dealt with by the congress; it will comprise plates, engravings, photographs, pamphlets, etc., in regard to watering places, the number of visitors, output of bottles of water, etc., physiotherapeutic apparatus and models in relief. The organizing committee of the congress, with the assistance of the Algerian winter resort committee has also arranged excursions to interesting points in Algeria and Tunis. Particulars are furnished by M. Hérial, professor at the School of Medicine, 14 Rue d' El-Biar, Algiers.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 20, 1909.

Arrangements for Private Patients in the Berlin City Hospitals

Some weeks ago an ordinance was proposed in the Berlin city council to provide in the city hospitals and their sanatoria special arrangements for paying patients. In the municipal hospitals there has been heretofore only a single class of patients, because the hospitals are regarded as essentially for the poor and those who belong to the working classes. Hospital affairs are under the charge of the poor authorities, and it is a result of this arrangement that those who are admitted to the municipal hospitals lose their municipal electoral rights during their stay, a disadvantage which has been repeatedly unfavorably criticized. Some of the university clinics also have no arrangements except for those without means or those belonging to the sick benefit societies, while some other clinics, such as the surgical, have provision for second and first class accommodations for the poor and also for well-to-do private patients. The denominational hospitals have almost always arrangements for both pay and charity patients. In spite of the fact that a considerable number of beds are provided for well-to-do patients in these hospitals as well as in the private sanatoria, the need of similar arrangements in the municipal hospitals has made itself felt, especially for patients of the middle class. These, among whom must surely be reckoned attorneys, judges and other officials who are not blessed with riches, are not able to pay the high expenses for nursing and medical service in the private sanitaria. On the other hand, they are hardly to be expected to take their place in a general ward of a city hospital with dozens of those belonging to the lowest classes. In the discussion in the council regarding this ordinance there were various opinions about the desirability and necessity of the innovation. The *Deutsche medizinische Wochenschrift* sent out the following question blank to the directors of 130 hospitals of the large cities of Germany, to obtain information to aid in the decision:

1. Are there special arrangements for paying patients in the hospital conducted by you? If so: *a.* What are the details of the arrangement (expenses, demand for single room, special diet, etc.)? *b.* Do the attending physicians and assistant physicians receive special fees from these patients? *c.* Are these provisions taken advantage of to a large extent, and specially by what class of the population? *d.* How long has this arrangement been in operation? What is your experience and your opinion in general?

2. If such arrangements do not exist do you regard them a necessary or desirable or have you any objections and wha are they?

To this circular 72 answers were received referring to 5 hospitals. Of these, aside from Berlin, only five have no accommodations for paying patients; all the rest receive payin patients of the first and second classes. In almost all case patients of the first class have a private room; those of th second class are received in a room of two to three beds. I some municipal hospitals special buildings for these pay patients have been erected. The prices per day at the municipa hospitals vary between 6 and 24 marks ($1.50 to $6.00) for th first class, and between 3.75 to 12 marks (90 cents to $3.00 for the second. The patronage is almost always very goo and the patients are recruited from all classes of society. Th need of the arrangement was denied by only three hospital directors. With this exception, the provision for paying patients is regarded as appropriate and desirable. One of th directors remarks that according to his experience, those wh possess small to moderate means are the worst cared for. Th poor are well provided for in the hospitals and the rich in th sanatoria. The important and interesting matter, from medical standpoint, of the fees paid by these patients is var ously arranged. In a small number of the hospitals answerin this circular physicians receive no compensation for the trea ment of the patients, but in two municipal hospitals they ar given a part of the sum paid by patients for expenses. In large number of hospitals the head physicians have a limite right to receive fees; thus, only for operations or only f visits to patients of the first class outside of regular visitin hours. Almost all the hospital directors express themselv in favor of giving physicians the right to charge fees, and i fact a demand for this provision should be made, as it seen unreasonable that well-to-do patients should receive medic service in the hospitals free of charge. How the Berlin a thorities will decide the matter is uncertain, but the propos ordinance has been referred to a special committee.

Scientific Societies in Berlin

Heubner has added another to the many medical societi of Berlin in the form of a pediatric society which ought to merely a branch of the society for internal medicine that h been in existence for thirty years under the presidency Leyden. There are some fifty medical societies which have their field Germany as a whole or a large part thereof, a there are no less than twenty different medical societies Berlin. Of these the Berlin Medical Society is the large with 1,600 members. Its founder was the renowned ocul v. Graefe, who was followed by Langenbeck, Virchow, v. Be mann, and finally Senator. The presidency of this society regarded as a high honor. In point of numbers and importar this society is followed in order by the Society of Inter Medicine, the Berlin Surgical Society, the Society of Obstetr and Gynecology, the Society for Psychiatry and Nervous D eases, etc.

The Surgical Society is presided over by a different pr dent at each meeting, chosen from a group which includes directors of the largest surgical clinics in Berlin.

The Virchow Monument

The kaiser, probably wishing to promote harmony with subjects, which he finds very desirable in consequence of late unpopularity, has recalled his veto of the Virchow mo ment design and has approved the second sketch, and monument will now be erected on the Karl Platz near Charité. Thus Berlin, which has had erected in the last de a series of bad monuments, will be enriched by the additio another scarcely satisfactory one. The compromise of kaiser indicates that his efforts at harmony may go too but it is to be hoped that nothing worse in this direction develop.

Notification of Tuberculosis

Differing from Prussia, as I mentioned in a previous le the authorities in Lübeck some months ago required physic not only to report deaths from tuberculosis but to notify occurrence of open pulmonary or laryngeal tuberculosis, e cially if the patient removes from his dwelling or is car to a hospital or if in consequence of his condition or tha the dwelling he endangers his environment to a high de or is engaged in the commercial production or sale of visions or lives in a place where he is likely to endang considerable number of persons, as in a school building, bo ing house, poorhouse, etc.

Pharmacology

RUPERT WELLS, M.D.

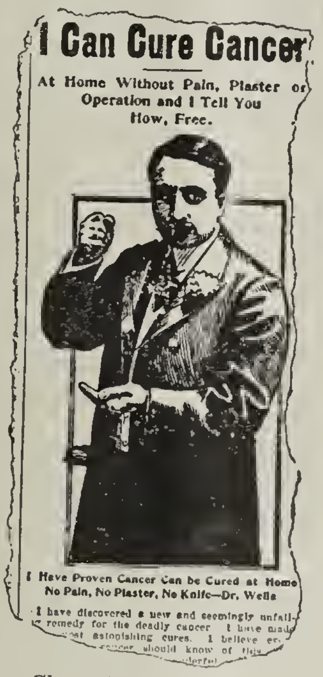
Cancer Cure Quack Whom the Postoffice Authorities Have Declared a Fraud *

Rupert Wells, M.D., the “cancer cure” faker of St. Louis, s been denied the use of the United States mails by the stoffice Department which, a few days ago, issued a fraud ler against this notorious quack. Samuel Hopkins Adams, his “Great American Fraud” series, paid his respects to ells—whose real name, according to the Postoffice officials, is nnis Dupuis—and called attention to the fact that Wells s one of the first to recognize the commercial possibilities the public's interest in radium as an asset to quackery.

ADVERTISING MYTHS

o furnish good advertising “copy,” Wells invented a myth- l “Postgraduate College of Electrotherapeutics of St. Louis,” l forthwith appointed himself to an equally mythical chair Radiotherapy. His hypothetical professorship in a non- stent college was, like his fictitious name, of use only for iness purposes. Says Mr. Adams:

Rupert Wells, M.D., is very religious—in his advertise- nts. He loves the church papers. The weeklies with smug pious editorials, and no conscience whatever in the matter paid advertising, are his green pastures. He is a home-and- side cuddler, is Rupert. He is also a ground-and-lofty of the most complete and soul-satisfying de- ption. You can read whole pages of his ‘lit- ture’ and not come on one single statement ited with truth.”



I Can Cure Cancer

At Home Without Pain, Plaster or Operation and I Tell You How, Free.

I Have Proven Cancer Can be Cured at Home No Pain, No Plaster, No Knife—Dr. Wells

I have discovered a new and seemingly unfall- remedy for the deadly cancer I have mad ost astonishing cures. I believe ev cancer should know of this derful

The Characteristic Pose of the Quack.

HOW WELLS CAUGHT HIS VICTIMS

f the “cure” itself and its methods of ex- tation, the official report from the Postoffice artment says:

Dupuis causes to be published extensively ughout the country advertisements over the e of Dr. Rupert Wells, giving his address as t Louis, Missouri, inviting those persons may believe they are afflicted with cancer rite to him for free information about his tment for the cure of that disease, and in e advertisements makes such statements as e:

I can cure cancer at home without pain, plas- r operation. I have discovered a new and seem- unfailing remedy for the deadly cancer. I have some most astonishing cures. My marvelous tized fluid did it. No matter what your condi- may be, do not hesitate to write.’

o the person writing to Dr. Rupert Wells nswer to these advertisements, Dupuis s to be mailed printed letters and circulars over the of Dr. D. Rupert Wells, describing his treatment and ting its purchase at the price of $15.00 a month. If nquirer does not purchase the treatment promptly, quan- of other letters and circulars are mailed to him impor- g the purchase of the treatment and by steps reducing rice, first to $10.00, next to $5.00, and then to $2.50. solicitations for the purchase of the treatment are absolutely without inquiry by the advertiser as to the tion of the correspondent, or whether he is actually ed with cancer, or in what form or location the disease be present, but the correspondent is solicited to buy and the treatment simply on his own assumption that he be suffering from the disease.”

POSSIBILITIES IN HYDRANT WATER

“marvelous radiotized fluid” which formed “Dr. Wells’” in trade was known as “Radol (Wells),” and came in rms, for external and for internal use, respectively. Mr. s tells us that the analysis made for him of this “radium gnated fluid” disclosed the fact that it contained “ex- as much radium as dishwater does.” The investigations Postoffice authorities confirm the earlier analysis. Says ficial report:

“The Department of Agriculture purchased from the advertiser samples of ‘Radol’ and made analyses of same. The investigations disclosed that the fluid for internal use consisted essentially of a weak, acidulated solution of quinin sulphate in water and alcohol in the proportion of about 1¼ grains quinin to the ounce of the fluid solution and about 7 per cent. alcohol. The fluid for external use was found to be a watery solution containing about 10 per cent. of glycerin and a small quantity of inorganic salts. Both solutions were tested for radioactivity. No such activity was detected in an amount appreciably greater than is to be commonly found in ordinary hydrant water.”

PSYCHIC VALUE OF ACIDULATED QUININ

Should one wonder, Why use quinin sulphate in acid solution as a fake “cancer cure”? the explanation is forthcoming from the following, also taken from the government report:

“In this connection it also should be noted that the advertising literature calls particular attention to a ‘bluish fluorescent glow imparted to it (Radol) by the Radium,’ as evidencing the presence of radio-activity. It is well-known that an acid solution of quinin sulphate exhibts such fluorescence. The analyses show this fluid to be such a solution.”

“A DELIBERATE AND INTENTIONAL FRAUD”

The Assistant Attorney-General in passing on the case and deciding whether Dennis Dupuis *alias* Rupert Wells, M.D., was engaged in honestly practicing his profession, or whether he was practicing a scheme to defraud, reported as follows:

“A careful consideration of the circumstances of this case have convinced me, and I believe they will you, that the operations of this person are not purified with good faith, but that he has been and is practicing a deliberate and intentional fraud. . . . The fact which is clearly established by the evidence that Radol contains no appreciable amount of radioactive property, clearly negatives, I think, any idea that this person honestly believes his claim to cure by this treatment, cancer, without reservation as to its form, stage or location, and proves conclusively that he is not engaged in the business of treating and curing, or endeavoring to cure, applicants, but is simply practicing a scheme and artifice to defraud. His claim to cure cancer in all forms and stages and in any location I find is false and known by him to be false. . . .”

A SEVENTY-THOUSAND DOLLAR BUSINESS

“ . . . The size of this business is indicated by the report of the postmaster that the first-class mail the week of his report averaged about 70 pieces a day; also by the statement made at the hearing for respondent that he sent out on an average about 25 treatments a day, some of which he stated were free. According to this statement, and counting only week days, about 7,800 treatments were sent out in 1908. That year the respondent stated that he sent out over 1,000 free treatments. He was then paid for between 6,500 and 7,000 treatments. The price varied from $2.50 to $15.00—but if the average were $10.00, he was paid in 1908 about $70,000.00.

“I find that the operations of this person, under the name of Dr. D. Rupert Wells, is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, and I recommend that a fraud order be issued against the address, Dr. D. Rupert Wells and Dr. Rupert Wells, at St. Louis, Missouri.”

Thus one more of the Great American Frauds has received its official *coup de grâce*. In spite of the transparency of the humbug and the heartlessness of the fake, the case was a stubbornly contested one and “Dr. Wells” was defended by legal talent drawn from both St. Louis and Chicago. That such a stupendous fake should have been able to exist and flourish for so many years, and that, too, after its thoroughgoing exposure in Mr. Adams' “Great American Fraud” series, is a sad commentary on the gullibility and ignorance of the public in medical matters. Yet but for the activity of the government officials the hopeful victims of a hopeless and cruelly painful malady would still be impoverishing themselves to purchase Rupert Wells' weak solution of quinin. The faker himself, however, is not the only guilty person con-

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reprint of this matter, somewhat elaborated, will be issued phlet form.

nected with this heartless scheme; equally guilty are the editors and proprietors of those journals—religious and lay—which have accepted their share in the toll of pain and death by giving publicity to Rupert Wells and his "cure." Printer's ink is the very life blood of quackery; take away the support and moral influence afforded by the press through its advertising pages and Rupert Wells and others of his kind would seek more reputable, albeit less profitable, fields of operation. The work that the government officials are doing in exposing and in rendering innocuous fraud and deceit wherever it may exist, is deserving of the highest commendation, not only from the medical profession but more particularly from the general public.

Correspondence

Colonial Medical Service in the Fiji Islands

To the Editor:—The medical affairs of Fiji, as well as other colonial interests in these islands, are centered in Suva, which is situated on the south coast of the island of Viti Levu. Suva, the capital of the group since 1882, is the chief commercial port in the islands. Of the 4,000 inhabitants, less than one-third are Europeans, the population being composed of native Fijians, Polynesian and East Indian immigrants.

Suva is a well-groomed little town nestled among the green hills of the highest volcanic island in the Fiji group. A natural harbor is formed by coral reefs which furnish excellent protection from the south seas, and permit anchorage of large ships within the reefs. The climate is warm but healthful. The mean temperature is about 80 F. The extremes lie between 60 and 94 F. From October until April the climate is hot and dry. The winter months are cool and attended by rain and winds. Many days, in winter, however, are delightful, the southeast winds blowing over the islands being only cool enough for comfort.

The anopheles mosquito is unknown, but the *Stegomyia fasciata* abounds, and only awaits the introduction of a case of yellow fever to cause this disease to take a prominent place in the calendar of Fijian diseases.

The Polynesian immigrant question is an important one among the predisposing causes of disease in Fiji, and, that one may better understand the prevalence of certain diseases, and the organization now maintained for their prevention and cure, it might be well to mention briefly the system of immigration and the relation that immigrants bear to disease. The following statistics were taken from the report of the agent general of immigration for 1907, on Polynesian immigration.

Immigrants were introduced during 1907 from Solomon Islands, New Hebrides, Banks, Torres and Queensland; 570 males and 2 females were admitted during the year, and 347 of these were allotted and indentured to employers for work on plantations, sugar refining companies, government work in Suva and the constabulary.

The total number of deaths from disease reported during the year was 56, classified as follows: Dysentery, 12; fever, 2; tuberculosis, 2; pneumonia, 1; leprosy, 1; meningitis, 3; diarrhea, 2; liver abscess, 1; brain abscess, 1; lunacy, 1; heart failure, 1; influenza, 1; unknown or unstated, 16. In addition to these, 6 deaths were reported in the Colonial Hospital, 3 at the leper asylum, and 6 in Suva.

The following report of the chief medical officer on "Leprosy in the Colony for 1907" will give an idea of the prevalence of other diseases than those given in the mortality table, and the relation of immigration to the spread of those diseases: "The class most surely and rapidly invaded here is the Melanesian immigrant. His habits of living in small, ill-constructed and crowded dwellings, of wearing white men's apparel, of frequently changing articles of clothing with another, of personal uncleanliness, and his proneness to harbor body parasites of all sorts, are factors which place him in the best possible circumstances for acquiring disease—especially leprosy, yaws and tuberculosis from his fellows. Some dozen of these unfortunates are at present inmates of the asylum at Beqa."

The colonial medical and sanitary work is carried on entirely by a government staff of physicians, although native students are now being educated for medical work, of which I will speak later.

"The Honorable the Chief Medical Officer" is the title of Dr. Corney, who has charge of the medical and sanitary work for the entire Fijian group. Dr. Corney is a graduate of St. Thomas and of Oxford University, and has been a resident of Fiji for 35 years. He lives in Suva, and, although he is not on the visiting staff of the medical institutions in Suva, he lectures at the Colonial Hospital when other duties will permit

Dr. Lynch, chief medical officer of the colony, is visiting physician at the hospital, asylum for the insane, government jail, and holds the position of health officer of the port of Suva. I did not have the pleasure of meeting either of these gentlemen. For my personal observation of cases, and muc valuable information concerning medical affairs in Suva, I am indebted to Dr. G. H. Hustler, resident medical officer at th Colonial Hospital.

Dr. Hustler is an energetic young English physician and thorough student of tropical diseases. He is a graduate o Leeds University and served with Sir Patrick Manson at th London School of Tropical Medicine. The doctor made me a home in his wards and answered my myriad of question with the grace and patience of a college professor.

The Colonial Hospital, built about 25 years ago, is a government institution for the care of both Europeans and natives. It is maintained by the government, and the staff i composed of government officials. The hospital is situate about two miles from Suva. It consists of ten building grouped on a beautiful wooded and vine-clad hill overlookin the bay. The buildings are one-story wooden structures constructed like most tropical buildings, with deep open windows and verandas.

The grounds are rich in tropical trees and plants, and winding paths lead from one ward to another.

The central, or administration building, contains the dispensary, office, consulting and examining rooms. The ward or blocks, as they are called, are given up to classified diseases, and the European, Fijian and Indian wards are in separate buildings. The physicians' house, nurses' home, laboratory, morgue, isolation ward for dysentery, and kitchen compose the remainder of the group of buildings.

The capacity of the hospital is 120 patients, the averag number is about 80.

Native patients are admitted for two shillings a day, th fee being paid by the employers, or the native office, in th case of Fijians, and by the plantation managers or the Destitute Indian Fund, in the case of East Indians.

The patients are about equally divided as to nativity amon Europeans, Fijians and Indians. A matron and six Europea nurses are employed at salaries slightly smaller than tho paid nurses in our city hospitals. They come to Fiji fro England and Australia as probationers, and after learning t hospital routine and the Fijian language they assist in teaching the native students. Their course of training is thr years, and besides instruction in the wards consists of lectures given twice weekly by members of the staff.

Besides the European nurses, there are in training, f native physicians, 14 students ranging from 18 to 21 yea of age. Their course is also three years, and if at the e of that time they pass satisfactory examinations they a graduated as physicians for native work.

I was informed by Dr. Hustler that these students are devoted to their work, learn quickly and are cleanly and careful in their habits. They are intensely interested in geography. The progress of these students is somewhat handicapped by the fact that they can not read or write Engli and but few can speak it. Their work during much of t course is done in the wards under the instruction of Europ nurses who speak the Fijian language.

It is the intention of the government to train midwives h also, and to bring about the custom of sending obstet

ses in from the plantations for treatment, and to furnish
struction and practice for the midwives.

The resident medical officer of the Colonial Hospital receives
yearly salary of £300 ($1,500).

Fiji furnishes a liberal and instructive clinic of tropical
seases, many of which are brought in by the Polynesians and
dians. Syphilis is unknown in the islands. Tuberculosis
frequently seen, and is on the increase in the colonies.

Malaria is unheard of except an occasional case brought
om Calcutta and other Indian ports by immigrants.

I was much interested in the treatment of dysentery which
rather prevalent in the colony, and of which I saw many
ses in the hospital. Dr. Hustler says nearly all the cases
e amebic. Patients with dysentery are kept isolated until
ey cease passing blood and mucus, are relieved of pain and
nesmus, and are able to take full diet. Santonin is used
tensively in the treatment of this disease. The drug is
en in full doses three times every second day, preceded by
dium sulphate 4 drams. On alternate days bismuth and
ol are given. Daily injections of quinin are used in strengths
1 to 2,000 and 1 to 1,000, but the administration of santo-
n and bismuth is the routine treatment.

The diet consists of milk, albumin water, and during con-
lescence, arrow root.

Through the kindness of Dr. Hustler, I examined several
es of frambesia (yaws). This syphilis-like disease is
y common in Fiji, particularly among the immigrants from
islands of the Pacific. The reason for its prevalence among
se classes is given in the report of the chief medical officer
immigration and leprosy. I was informed that most of the
es which come under treatment are in the tertiary stage,
initial fever and stage of eruption probably passing unno-
d by the patients, or if noticed, do not incapacitate them
work on the plantations. The lesions of the tertiary stage
seen most frequently on the face, hands and legs, although
es are seen here in which the lesions are generally distrib-
d. One of the most typical cases of this disease was that
an adult East Indian woman who was admitted to the
pital five days before my visit. As many such patients
she came without history from one of the plantations,
as she spoke neither English nor Fijian, the only in-
nation to be had was from the disease she presented. The
ons in this case were confined entirely to the face and
s; those on the face were few but striking in appearance.
y consisted of oval granulating ulcers, varying in their
est diameter from ¼ to ½ inch. The surface stood out
it ⅛ inch from the surounding healthy skin. The granu-
ons were smooth and reddish yellow in color.

n the legs (tibial region) were several cicatrices of healed
ns which looked not unlike small keloids except that their
r was a healthy pink. The patient was not well nourished,
the skin was dry and somewhat scaly in the region of
leg lesions. Pallor about the lips, conjunctiva and nostrils
ated a condition of anemia.

e yaws patients are allowed to run about the grounds
heir own block, and to mingle with other patients in the
l. The lesions are kept well covered, however, and ac-
ing to Dr. Hustler, infection from the patients does not
r in this hospital. He related an instance of a child in
who was infected after long and constant association
a yaws patient.

e treatment of yaws consists of general hygienic meas-
potassium iodid, grs. x to xx in aqueous solution three
a day, combined with iron in some form (usually ferri
mmonii citras) as a tonic. Mercury is sometimes given,
he administration of potassium iodid is the routine treat-
. The ulcers are dressed with dilute citrin ointment.
n the granulations become unhealthy and flabby, curet-
is done.

aw many cases of filariasis, which is a common infection
ji. The *Filaria diurna* is frequently found. The patients
for the most part affected with elephantiasis.

Hustler spoke favorably of thiosinamin in the treatment
ephantiasis. He injects hypodermically 3 c.c. every sec-
ay. This treatment, combined with rest, elevation of the
affected, bandaging and massage, causes a decrease in the swelling and general improvement in the patient's condition. The injection of thiosinamin causes no pain, and abscesses do not form at the seat of the injection.

Ankylostomiasis is treated largely by the use of thymol, grs. xxx, repeated every three hours for one day, the thymol being preceded by compound chalk mixture. Tonic treatment by iron, quinin and arsenic in the form of Fowler's solution is used as a supplementary measure.

Cancer is rare in Fiji. I saw one case of cancer of the cervix in the hospital wards.

Epidemic typhoid is not seen in Suva, but occasional outbreaks occur on the plantations of the interior.

Dengue, influenza, tuberculosis, liver abscess, pyemia and a case of a native boy who stuck a knife in either side of a sprained ankle to relieve the pain and swelling, composed the remainder of the clinic furnished by the Colonial Hospital at Suva. It is needless to say that the boy with the sprained ankle was suffering from infection. The bones of the ankle were necrotic and amputation was to be performed soon after my visit.

About 1 per cent. of the native population and immigrants, taken together, are afflicted with leprosy. A colonial ordinance went into effect Aug. 10, 1908, by which all the lepers in the colony were segregated on the island of Beqa. Eight lepers were rejected among the Polynesian immigrants in 1907.

B. F. JENNESS,
P. A. Surgeon, U. S. Navy, Talcahuana, Chile.

Miscellany

Clippings from Lay Exchanges

"CRITICALLY ILL WITH A LIGHT ATTACK."

"Friends of ——— will be sorry to learn that his son, Harold, is critically ill with a light attack of scarlet fever."—*Wheeling* (W. Va.) *Intelligencer.*

* * *

"HIS FRACTURED SKULL SETS ITSELF."

"Paul S. is doing nicely to-day and is able to be around again, even with a fractured skull. A notable feature of the early recovery of the young man is the act of practical self-healing of the fractured skull. A lump as large as the proverbial hen's egg was formed on the injured ballplayer's forehead, and the intense swelling actually drew the bone back to place almost completely. Instead of the large hole in his head, there is now but a slight dent back of the painful mound."—*Iowa City* (Ia.) *Daily Press.*

* * *

"DELICATE SURGICAL OPERATION."

The *Pocatello* (Idaho) *Tribune* thus graphically describes an operation on a ruptured six weeks ectopic gestation:

"One of the most delicate and most difficult operations known to the marvellous science of surgery was performed by ———, assisted by ———. The operation was one of those peculiar ones where the knife of the surgeon is the only thing to avert death, with the chances of recovery as 1 to 100. Thanks to the skill of Dr. ———, and his most able assistant, the patient ——— will fully recover. So dangerous was the operation, and so near was the patient to that mysterious bourne from which no traveler ever returns, that it was not until the last delicate incision was made, that the surgeons drew a breath of relief and announced success. The operation was of a most unusual obstetric variety. The lay mind can hardly grasp its delicate and difficult nature, and its successful consummation in the case of ——— evidences the possession by Dr. ——— and Dr. ——— of extraordinary ability."

Psychic Treatment of Functional Neurosis.—Dr. J. Grinker, in the *Quarterly Bulletin of Northwestern University Medical School,* December, 1908, reports a case of traumatic hysteria successfully treated by psychic methods consisting entirely in explanations, persuasion, forceful suggestions, threats and promises of rewards. The patient, a woman of 50, sustained an insignificant trauma in the right knee. Several days later she developed a typical case of traumatic hysteria. The right knee was painful and stiff and the entire right leg then became paralyzed. Various diagnoses had been made and all kinds of treatment were administered. When she came under Grinker's observation she had been a confirmed invalid for eight months, spending her time between the bed and an invalid chair. The diagnosis was traumatic hysteria; and the treatment purely psychical. In a few weeks from the beginning of treatment she was able to walk and attend to her household duties. She has now been well for over four and one-half years. Grinker declares that when the general practitioner devotes more time to the patient's mentality, the ground will slip from under the feet of the "Christian Scientist" and other "healers," who now thrive on the stupidity of mankind and endeavor to perpetuate its superstitious credulity.

Extension Treatment of Fracture of the Leg.—Dr. E. C. Riebel, in the *Quarterly Bulletin of Northwestern University Medical School*, December, 1908, prefers Hennequin's apparatus in oblique fracture of the leg, as well as in comminuted and compound fractures, as it secures the advantages of a double inclined plane with horizontal position of the leg, gravity of the leg being transposed into traction. The apparatus is expensive and may be replaced by a simpler one omitting this last feature. A frame is made of gas pipe 9 inches high, from 8 to 8½ inches wide and 20 inches long. This consists of two lateral and two cross pieces. It is open at either end above. To this is joined a U piece for the femur, 13¼ inches long, somewhat wider than the frame and movable on it to allow adjustment at any angle. Both are covered with duck cloth. Extension is made by means of a plaster shoe. Application requires great care to avoid decubitus; sufficient padding must be applied. A shoe is made by circular application of a plaster-of-Paris bandage. The shoe is then covered with oiled paper or rubber cloth and a posterior moulded splint applied from the calf to the sole of the foot. The apparatus should be perfectly level when placed in the bed. By cutting a window in the splint and using duck strips for a hammock, wounds on the posterior surface of the leg may be dressed *in situ*. The extension is made by a pulley. The cord is attached to a loop of bandage incorporated in the shoe. About four pounds traction will suffice in fresh fractures to begin with; this may be increased by a pound every day up to seven pounds. In older fractures, from nine to ten pounds are required. Traction is tolerated better by day than by night. Any surplus above six pounds should be removed at night and added again by day.

Native Doctors in South Africa.—In Natal, the native doctors, says the *British Medical Journal*, are at present accorded a definite standing by the legislature; indeed, for all practical legal purposes their position scarcely differs from that of fully-qualified European practitioners. Like the latter, they are expected to take out an annual license, for which the government receives a fee of £3 ($15), and their legal recognition is so complete that within recent times certain members of this class have been allowed to use the law courts for the enforcement of the payment of fees from patients. Nevertheless, so far as real medical knowledge is concerned, they are natives pure and simple, whom it would not be easy to differentiate from the tribal "doctors," obeah men, and witch finders of the west coast of Africa. In spite of their ignorance, however, they are able, as a recent trial revealed, to get hold of the most powerful European poisons, and case after case during the past few years has shown that they are a danger to the public in other ways. Many charges of murder have originated owing to their existence, and though the accused have not always been found guilty, the trials left little room for doubt that murders are from time to time committed with a view to obtaining the heart and other parts of the human body, which in native medicine are considered of value in treatment. Furthermore, the Dinizulu inquiry and other investigations into the circumstances attending the last Kaffir rising suffice to show that men of this class exercise a strong influence over native minds, and that "doctoring for war," in which human blood and bones play a part, is still in existence. Men of the same type are doubtless to be found in all semicivilized areas, but when a colony has reached a development such as that of Natal it is difficult to believe that they are any but a retarding influence, helping to keep up customs and habits which, in the interest of all, should pass away.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or addres will be faithfully observed.

BOOKS ON HYPNOTISM, SUGGESTION AND PSYCHOTHERAPY

To the Editor:—In The Journal, February 13, page 577, a correspondent asks for books on the above subjects. May I say tha I consider the Nancy School as the real scientific and rationa school of hypnotists, and that it is important for an amateur t start right, in taking up this study. Forel's "Hypnotism, or Suggestion and Psychotherapy," published by Rebman Company, Nev York, $3.00, should be read by everybody. Another good author, o this school, is Bernheim, and his book is "Suggestive Therapeutics (Hypnotism), published by Putnam's Sons, price $3.50. Anothe good book to prepare the student is "Introduction to Physiologica Psychology," by T. Ziehen, Macmillan Company, $1.50. I had t search my own way, and having "found myself" on this subject hope these lines will be of benefit to all interested.

Edward Cornelius Perry, Avon, N. Y.

FERMENT ACTING ON CELLULOSE IN ANIMALS: MORPHOLOGY AND CULTURAL CHARACTERISTICS OF THE BULGARIAN BACILLUS

To the Editor:—Please refer me to literature on the fermen that acts on cellulose in animals, and also describe the morpholog and cultural characteristics of the Bulgarian bacillus.

J. E. B. Ziegler, Batlmore.

Answer.—1. The following references are given by von Noorde in his book "Metabolism and Practical Medicine," 1907, as dealin with the digestion of cellulose:

Weiske: Der Cellulose beim Mensch., *Zeitschrift f. Biologie,* 1870, p. 456.

Knieriem: Der Cellulose im tierisch. Organismus, *Zeitschrift f. Biologie,* 1885, p. 67.

Constantinidi: Ausnutzung des Weizenklebers im Darmkanal, *Zeitschrift f. Biologie,* 1887, p. 433.

Tappeiner: Die Gärungen der Cellulose, *Zeitschrift f. Biologie,* 1884, p. 52.

Muller: Celluloseverdauung im Dünndarm. *Archiv. für die ges. Physiol. des Menschen,* 1901, p. 619.

Henneberg u. Stohmann: Cellulosegärung für die Ernährung, *Zeitschrift f. Biologie,* 1885, p. 613.

Wilsing: Ueber die Mengen der vom Wiederkäner in den Entleerungen ausgeschiedenen flüchtigen Säuren, *Zeitschrift f. Biologie,* 1885, p. 625.

2. *B. bulgaricus* is usually a stout and rather long bacillus, som times straight, sometimes curved; occasionally shorter forms occu especially in the absence of acid. The ends are square; long fil ments are frequent. The bacillus stains well with ordinary anil dyes, and with methylene blue or carbol fuchsin; granules oft appear with unstained portions, resembling vacuoles. It is po tive to Gram's stain, appearing deeply blue, or violet. In old c tures the Gram stain may be negative or partially so and if cou terstained with dilute carbolfuchsin part of the filament may blue and part red. The bacillus is non-motile and probably d not form spores. Gas is not produced from sugars. There little or no growth on ordinary laboratory media at low tempe tures; only milk seems favorable at any temperature. At 37° there is better growth and the optimum temperature seems to from 42 to 44° C. There is but little growth on plain sugar any temperature. If 1 or 2 per cent, glucose be added the grow is much better. The micro-organism grows anaërobically as well better than aërobically. On gelatin with the addition of gluc some strains seem to grow, very slowly and sparingly. On pot there seems to be no growth. Litmus milk is strongly acidif decolorized and slowly coagulated. The amount of acid formed milk may reach 3 per cent. (as lactic acid), the amount increas slowly at first but rather rapidly after four or five days. The bu fat is slightly decomposed and the casein is slowly peptonized. organism is preserved best in milk but loses vitality rather rapi There are undoubtedly several strains of Bulgarian bacillus. morphology varies somewhat, but is always characteristic as scribed. The amount of acid produced in milk varies with differ varieties. A variety has been described which produces a slimy m

ANTIDOTE FOR FORMALIN

To the Editor:—In the article by O. P. Humpstone and W. Lintz ı "Formalin Poisoning," in THE JOURNAL, Jan. 30, 1909, p. 380, is stated that "no antidote for this poison has yet been found." ıemically, ammonia water is a perfect antidote, as it combines ith formaldehyd according to the following equation: $6CH_2O +$ $NH_3 = (CH_2)_6N_4 + 6H_2O$ to form hexamethylene tetramin (hexaethylenamin, U. S. P.), which is a non-irritating substance. The nmonia should be given in dilute form and followed by copious ·igations of plain water. G. C. BOLTIN, Neeses, S. C.

ANSWER.—Our correspondent does well to emphasize this remedy, ıich ought to be more generally known. A case is cited by Peterı and Haines, "Legal Medicine and Toxicology," Vol. II, p. 546, which the administration of a dilute solution of ammonia seemed give good results. (See André, *Jour. de Pharm. et de Chimie,* 99, x, p. 10.) The equation above given requires about oneırth as much ammonia by weight as of formaldehyd, so that can conveniently remember that one volume of 10 per cent. monia will neutralize an equal volume of 40 per cent. formalıyd solution. In case ammonia is not at hand no time should wasted, but the stomach or bowels should be immediately shed out with plain water or salt solution.

The Public Service

Army Changes

Iemorandum of changes of stations and duties of medical officers. S. Army, week ending Feb. 13, 1909:

ıavis, W. B., col., and Rhoads, T. L., major, sailed on the *Sheri-* from San Francisco for Manila, P. I., Feb. 5.
IcIntyre, H. B., lieut., granted leave of absence for one month.
iler, J. F., capt., relieved from duty at Fort Slocum, N. Y., and ·red to Fort Jay, N. Y., for duty.
artsock, F. M., major, granted leave of absence for four months, ı permission to go beyond sea.
dair, G. W., col., granted leave of absence for four months.
uval, D. F., major, granted leave of absence for four months.
irmingham, H. P., lieut.-col., relieved from duty in Cuba and red to Washington, D. C., for temporary duty in the office of Surgeon General.
ıenemann, G. F., capt., granted leave of absence for two months.
ppel, A. H., lieut.-col., granted leave of absence for 30 days.
cPheeters, S. B., M. R. C., ordered, upon arrival at San Fran-, to proceed to his home and report for orders.
nith, R. D., M. R. C., honorably discharged from the service ıe United States, Feb. 16, 1909.
ıelan, H. du R., M. R. C., relieved from duty at Fort Baker, and ordered to Fort Shafter, H. T., for duty.
ırrow, E. J., M. R. C., sailed on the *Sheridan* from San Fran-, for Manila, P. I., Feb. 5, from leave of absence.
ler, G. T., M. R. C., ordered to return from Fort Jay, N. Y., s proper station, Fort Porter, N. Y.
ıak, S. D., dent. surg., granted leave of absence for one month, arrival in the United States from Cuba.
saday, G. H., dent. surg., sailed on the *Sheridan* from San cisco for Honolulu, H. T., Feb. 5.

Health Reports

e following cases of smallpox, yellow fever, cholera and plague been reported to the Surgeon-General, Public Health and Maıospital Service, during the week ended Feb. 12, 1909:

SMALLPOX—UNITED STATES

ıbama: Mobile, Feb. 9, 1 case.
ıifornia: Los Angeles, Jan. 16-23, 2 cases; San Francisco, e.
trict of Columbia: Washington, Jan. 23-30, 1 case.
ıiana: Elkhart, Jan. 23-30, 1 case; Evansville, 4 cases; Inpolis, Jan. 24-31, 2 cases; Lafayette, Jan. 25-Feb. 1, 5 cases.
nsas: Topeka, Jan. 23-30, 13 cases.
ıa: Dubuque, Oct. 1-Feb. 5, 89 cases, 1 death.
ıtucky: Lexington, Jan. 23-30, 3 cases; Newport, 13 cases.
ıisiana: New Orleans, Jan. 23-30, 7 cases.
ıne: Van Buren, Jan. 23-30, 8 cases.
higan: Detroit, Jan. 23-30, 3 cases; Grand Rapids, 1 case; aw, Jan. 16-23, 1 case.
souri: Kansas City, Jan. 23-30, 1 case; St. Louis, 2 cases.
ıtana: Butte, Jan. 12-19, 1 case.
raska: South Omaha, Jan. 9-16, 1 case.
York: Syracuse, Jan. 1-31, 3 cases.
: Cincinnati, Jan. 8-27, 42 cases, 1 death; Dayton, Jan. 23-cases.
nessee: Knoxville, Jan. 23-30, 1 case; Nashville, 7 cases.
h: General, Dec. 1-30, 24 cases.
ınia: Lynchburg, Jan. 23-30, 1 case.
consin: Lacrosse, Jan. 23-30, 2 cases; Milwaukee, 19 cases.

SMALLPOX—INSULAR

ippine Islands: Manila, Dec. 5-12, 3 cases.

SMALLPOX—FOREIGN

ıla: Aden, Dec. 21-Jan. 5, 5 deaths.
ıda: Ontario Province, Dec. 1-31, 118 cases, 1 death.
on: Colombo, Nov. 21-Dec. 5, 26 cases, 8 deaths.
e: Valparaiso, Dec. 5-12, 1 case.
ıce: Paris, Jan. 9-16, 2 cases.
Germany: General, Jan. 9-16, 5 cases; Königsberg, Jan. 2-9, 1 case.
Great Britain: Bristol, Jan. 9-16, 1 case.
India: Calcutta, Dec. 12-19, 16 deaths.
Indo-China: Saigon, Nov. 28-Dec. 5, 5 cases, 4 deaths.
Italy: General, Jan. 10-17, 13 cases; Naples, 46 cases, 7 deaths.
Java: Batavia, Dec. 12-26, 6 cases.
Mexico: Acapulco, Jan. 10-17, 6 cases; Guadalajara, Jan. 14-21, 2 deaths; Mexico, Dec. 5-12, 5 deaths.
New Foundland: St. Johns, Jan. 23-30, 1 case, imported.
Russia: Batoum, Dec. 1-30, 1 case; Moscow, Dec. 26-Jan. 2, 29 cases, 5 deaths; Riga, Jan. 16-23, 2 cases; St. Petersburg, Dec. 19-26, 8 cases, 3 deaths.
Turkey: Trebizond, Jan. 9-16, present.

YELLOW FEVER

Barbados: Jan. 28-Feb. 4, 11 cases.
Ecuador: Guayaquil, Jan. 2-9, 2 deaths.
Mexico: Maxcanu and vicinity, Jan. 18-23, 4 cases, 2 deaths; Merida, 1 death.

CHOLERA—INSULAR

Philippine Islands: Manila, Dec. 5-19, 3 cases, 1 death; Provinces, 475 cases, 325 deaths.

CHOLERA—FOREIGN

Ceylon: Colombo, Nov. 21-Dec. 5, 3 cases, 5 deaths.
India: Calcutta, Dec. 12-19, 3 deaths; Rangoon, Dec. 19-26, 1 death.

PLAGUE

Ecuador: Guayaquil, Jan. 2-9, 2 deaths.
Egypt: General, Dec. 23-Jan. 14, 22 cases, 12 deaths.
India: Calcutta, Dec. 12-19, 9 deaths; Rangoon, Dec. 19-26, 3 deaths.
Indo-China: Cholen, Jan. 28-Dec. 5, 2 cases, 2 deaths.
Turkey: Bagdad, Dec. 12-Jan. 2, 12 cases, 5 deaths; Jiddah, Feb. 3, present.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT HOMEOPATHIC: New Haven, Mar. 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
CONNECTICUT ECLECTIC: New Haven, Mar. 9. Sec., Dr. T. S. Hodge, Torrington.
CONNECTICUT REGULAR: New Haven, Mar. 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
MAINE: Portland, Mar. 9-10. Dr. W. J. Maybury, Saco.
MASSACHUSETTS: Boston, Mar. 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Medical Education and Nostrums, Fifth Letter

The following is the fifth of a series of letters issued jointly by the Council on Medical Education and the Committee on Medical Teaching of the Council on Pharmacy and Chemistry. With it was sent a copy of the pamphlet, "The Broader Aims of the Council on Pharmacy and Chemistry:"

To Medical Teachers:—This letter treats of the remedy against the nostrum evil. Anyone who has given the subject proper thought must be convinced that the nostrum evil can only be combated by employing all our resources to the utmost. It is necessary to strike at the immediate partial manifestations of this evil; but thorough and permanent success can only be won by creating an atmosphere inimical to the whole evil.

This is not a matter which can be done in a day, nor can it be imposed on a single department. It demands the active participation of every one who is seriously interested in our profession. Every one who has the respect of his colleagues and pupils must aid by the force of his example, and by taking occasion to show his attitude toward these questions, insistently and persistently. As every department of medicine has been invaded by the nostrum-maker, so every department offers all too frequent occasions to give the proper advice and warning to the students. Every teacher will know best which of these should be emphasized to his classes. By way of suggestion, merely, we shall point out some of these subjects for each department, in the succeeding leaflets. These subjects can be varied *ad infinitum*, and the Council stands ready to give every assistance in its power to those who desire further information.

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Medical Examining Board of Connecticut, reports the written examination held at New Haven, Nov. 10-11, 1908. The number of subjects examined in was 11; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 20, of whom 15 passed and 5 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School	(1905) 89.8; (1906) 80.3; (1908)	79.6, 82.3
Howard University, Washington	(1908)	83.9
University of Louisville	(1908)	79 7
Johns Hopkins Medical School	(1908)	75.8
Tufts College Medical School	(1908)	75.3, 78.4, 79.1
Harvard Medical School	(1907)	77
University and Bellevue Hospital Medical College	(1907)	84.8
Cornell University Medical College	(1904)	81.7
College of Physicians and Surgeons, New York	(1891)	75.8
University of Vermont		

FAILED

College	Year Grad.	Per Cent.
Georgetown University	(1908)	74.3
Baltimore Medical College	(1906) 67.7; (1908)	74.7
Maryland Medical College	(1908)	71.9
Western Pennsylvania Medical College	(1907)	62.9

New Hampshire December Report

Mr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, Dec. 29-30, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 22, of whom 15 passed and 7 failed. Three candidates were registered without examination, two under the exemption clause and one through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1908)	86
Kentucky School of Medicine	(1908)	75
Medical School of Maine	(1906) 78; (1908)	75
Boston University	(1906)	87
Tufts College Medical School	(1907) 75; (1908)	75, 76, 76
Woman's Medical College of Penna	(1893) 79; (1906)	80
University of Pennsylvania	(1908)	78
Jefferson Medical College	(1908)	84
University of Vermont	(1908)	79
Queen's University, Ontario	(1908)	75

FAILED

College	Year Grad.	Per Cent.
Medical School of Maine	(1908)	68
Baltimore Medical College	(1903)	68
Baltimore University	(1903)	53
Tufts College Medical School	(1907)	67
Dartmouth Medical School	(1907)	71
Harvard Medical School	(1907)	72
University of Vermont	(1908)	71

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Vermont	(1906)	Vermont

LICENSED UNDER EXEMPTION CLAUSE

College	Year Grad.
Dartmouth Medical School	(1901)
Bellevue Hospital Medical College	(1869)

South Dakota July Report

Dr. H. E. McNutt, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Deadwood, July 8 to 10, 1908. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 35, of whom 32 passed and 3 failed. The following colleges were represented:

PASSED.

College	Year Grad.	Per Cent.
Yale Medical School	(1905)	85.7
Rush Medical College	(1893) 83; (1906)	83.9, 88
Coll. of Phys. and Surgs., Chicago	(1905) 78.7, 87; (1906)	81.1
Chicago College of Medicine and Surgery	(1908)	85.4
Northwestern Univ. Medical School	(1907) 79; (1908)	80.6
Bennett Coll. of Medicine and Surgery	(1906)	75.1, 80.2
Indiana Medical College	(1905) 75, 79.5; (1907)	88.6
University of Iowa	(1905)	82.4
Sioux City College of Medicine	(1908)	78.4, 78.9, 83.9, 84.4
University of Michigan	(1883)	85.1
University of Minnesota	(1892) 76.7; (1908)	87.4
Hamline University	(1901) 78.1; (1903) 75.8; (1908)	83.7
Lincoln Medical College	(1908)	75.2, 80.8
Eclectic Medical Institute, Cincinnati	(1908)	86.6
University of Oregon	(1908)	85
Wisconsin College of Physicians and Surgeons	(1908)	86.4
Trinity Medical College, Toronto	(1903)	79.8

FAILED

College	Year Grad.	Per Cent.
Rush Medical College	(1897)	54
Sioux City College of Medicine	(1906)	67.8
St. Louis College of Physicians and Surgeons	(1906)	69.7

California December Report

Dr. Charles L. Tisdale, secretary of the California Board of Medical Examiners, reports the written examination held at Los Angeles, Dec. 1-3, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 62, of whom 34 passed and 28 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Southern California	(1908)	75 78
Cooper Medical College	(1907) 75; (1908)	78.9 81.1
College of Physicians and Surgeons, San Francisco, (1906) 75.8; (1908) 77.1. 82. 83.3.		
University of California	(1907) 76; (1908)	76.3
Denver and Gross College of Medicine	(1908)	75
Rush Medical College, (1896) 80.4; (1902) 82.1; (1907) 76.1; (1908) 86.3, 86.7.		
College of Physicians and Surgeons, Chicago	(1898)	76.3
Northwestern University Medical School	(1908)	78.8
University of Kansas	(1898)	83.3
College of Physicians and Surgeons, Baltimore	(1894)	83.2
Harvard Medical School	(1908)	77.3
University of Michigan	(1905)	79.5
University Medical College, Kansas City	(1908)	75.7
Columbia University, College of P. and S., New York, (1898) 78.4; (1908) 78.4.		
Miami Medical College	(1904)	77.9
University of Penusylvania	(1894) 76.1; (1906)	81.1
Jefferson Medical College	(1902) 75.5; (1906)	78.6, 84.
University of Texas	(1894)	75.1
University of Lausanne, Switzerland	(1899)	79.5

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, San Francisco, (1907) 67.5 68.3, 68.9, 69.9.		
Cooper Medical College	(1908)	72.
University of California	(1908)	72.
University of Southern California. (1903) 45; (1904) 69.9; (1905 73.3; (1907) 70.4; (1908) 70, 72.8.		
College of Physicians and Surgeons, Los Angeles	(1908)	73.
Atlanta School of Medicine	(1908)	16.
Medical College of Indiana	(1898)	44.
University of Iowa	(1885) 70.1; (1892)	66.
Louisville Medical College	(1897)	67.
University of Louisville	(1893)	68.
Baltimore Medical College	(1907)	63.
University of Michigan	(1898)	62.
St. Louis College of Physicians and Surgeons	(1908)	65.
Washington University, St. Louis	(1907)	71.
Omaha Medical College	(1902)	69.
New York University Medical College	(1893)	72.
Miami Medical College	(1903)	62.
Jefferson Medical College	(1894)	57.
University of Vermont	(1907)	66.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGAN ZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Unqualified Practitioners in England

In the discussion of medical practice acts in the vario states, frequent mention has been made of the apparent constant desire for change and modification of such laws, ar also the tendency of one state to endeavor to adopt a prov sion or policy which another state is making an equal strenuous effort to discard. Evidently, this tendency is n limited to states, but is equally true of nations. An editori in the London *Lancet*, January 23, is particularly interesti in this connection, since it shows that the British medic practice act, based on the definitive principle, is no mo satisfactory than is our system of state legislation, based the restrictive principle. After pointing out the difficulty arousing the public to a realization of the dangers of unqua ified practice, as well as the obstacles encountered in securi a change or reconsideration of any long-established regulati the editorial continues:

> The concrete examples furnished by foreign states and mod colonies are likely to prove more convincing as to the question practicability than abstract reasoning or speculation which liable to be confronted by the suggestion of imagined difficult . . . A work of great practical value is the report and appendi recently issued by the Unqualified Practice Prevention Committee the General Medical Council, containing a digest of the laws force in the British Empire and in foreign countries which prev or do not prevent medical practice by other than legally quali persons. Through the valued cooperation of the lord president the council, the cooperation of the foreign, India and colo offices was secured by the committee so that the answers to questions obtained by the committee are authoritative and co all foreign countries and British colonies of importance with exception of the United States and Canada. With regard to th Dr. A. G. Bateman has drawn up tabular statements based on medical practice acts of the various states and on the provin acts of the dominion. . . . Two questions have been put, na ly: (1) What constitutes a legal qualification for the practice medicine and surgery? (2) What legal provisions exist for prevention of the practice of medicine and surgery by persons legally qualified?
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> The information given in reply has been digested and tabula . . . Out of 107 colonies and countries, 75 forbid altogether practice of medicine by those not legally recognized as qual

ersons and provide penalties of fine or imprisonment or both for ransgressions. Six others may fairly be added to these as being nder laws tending in the same direction, although not so definite the restrictions imposed (making 81 countries in all having estrictive legislation). Twelve countries and colonies have no ws regulating medical practice, but this is not surprising when we onsider the nature of their populations. They are India, Wei- al-Wel, the British East African Protectorate, St. Helena, the omaliland Protectorate, Uganda, Zanzibar, the Cayman Islands, hina, Persia, Abyssinia and Morocco. In Peru, unqualified prac- ce does not appear to be penalized, and on the Gold Coast and in ussia the restrictions which exist only prevent the unqualified om procuring potent drugs. This leaves ten to share with our- lves (Great Britain) the peculiar position, for it must be ob- rved that it is peculiar, of merely reserving to qualified practi- oners official recognition and the privileges which naturally arise om it, including the use of medical titles and of providing penal- es for persons making use of such titles when not possessed of em. The list of those last referred to is an interesting one, be- use it contains important British colonies and one very important uropean state. It is composed of New South Wales, Queensland, outh Australia, Victoria, New Zealand, Sierra Leone, Barbados, . Vincent, the Falkland Islands, Germany and the United King- m.

From this it will be seen that not only are we members of a all minority in the world, but that in Europe we share our posi- n with the German Empire alone and that consequently we have pie opportunities of studying laws passed by European govern- nts with a view to safeguarding effectually the patient and espe- lly the ignorant patient.

A summary of the laws of the various European govern- nts follows, showing that in France, Austria, Belgium, ngary, Greece, Italy, The Netherlands, Portugal and pan the practice of medicine is forbidden under a penalty fine and imprisonment for anyone except a properly quali- l person who, in most of these countries, must be a gradu- of the state university as well as licentiate of the state. e editorial concludes with the resolutions adopted by the neral Medical Council, asking for the appointment of a al commission by parliament to inquire into the evil effects duced by the unrestricted practice of medicine and surgery unqualified persons, which the *Lancet* hopes may be the t step toward the legislative remedy of a great public evil. his agitation in Great Britain is particularly interesting those in this country who recently have been considering lical practice legislation with a view to obtaining, if pos- e, uniformity in state legislation. The medical practice s of practically all our states are based on the restrictive iciple. Unfortunately, in but few of them is there any quate enforcement of the law, owing to the lack of ap- iation on the part of the public of the dangers to life and lth of such unqualified practice and of a constant failure the part of public opinion to support the enforcement of law by prosecutions brought under it. Evidently, the blem in Great Britain is an equally serious one, since the *cet* says: "With us the most ignorant quack can treat dis- or injury with impunity, and the worst he can fear if strengthens his claim to attention by usurping medical s is a fine of not more than twenty pounds, or half the mum penalty which would earn for him across the chan- ' In other words, in Great Britain the charlatan and r is punished, not because he attempts to treat a patient out adequate knowledge of disease, but because he claims e a legally qualified practitioner when he is not. So long e does not make this claim and so long as his patients dupes) accept his services knowing him to be unqualified, gal obstacle can be put in his way in Great Britain. The *et* recognizes the necessity of public education, since laws d either by Parliament in Great Britain or by state atures in the United States which do not have the sup- of public opinion are practically useless. The value of royal commission called for by the resolutions of the ral Medical Council is evident. Unfortunately, we have ovisions in our form of government for inaugurating a al inquiry of national scope, by which a question lying n the jurisdiction of the states may be investigated. ust, therefore, look for public education along this line, from the concerted action of all the states, which prac- experience has shown to be impossible, or from the un- and voluntary activities of some non-political organi- of national scope. The possibilities of such public ed- n are shown by the results secured in recent years in food legislation. Sporadic and occasional cases of quack- nd imposition will probably always occur, but the people e as quick to see the dangers from systematic and widespread deception as they have been to safeguard against impure and adulterated foods. In the meantime, the establishment and work of the Royal Commission on Unqualified Practice in Great Britain will be watched with great interest in this country, since charlatanism and its methods are about the same on either side of the Atlantic.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Third Weekly Meeting

DYSTOCIA

DUE TO PATHOLOGIC FORCES

1. EXCESSIVE UTERINE CONTRACTIONS.—Intensity, duration (tetanic), frequency, time of onset. Causes: (a) increased irritability of uterus; (b) premature rupture of membranes; (c) obstructions, contracted pelvis, abnormal presentation, etc.; (d) operative interference; (e) ergot. Results: Increased pain, precipitate labor, rupture of uterus, asphyxia of child.
2. WEAK UTERINE CONTRACTIONS.—Inertia or atony. Intensity, duration, frequency, onset. Causes: (a) congenital weakness of uterine muscle; (b) acquired weakness from constitutional diseases, etc.; (c) fibroids; (d) metritis; (e) distention of uterus, twins, hydramnios, etc.; (f) pelvis, tough cervix or perineum. Results: Exhaustion, infection, danger to child.
3. PATHOLOGIC ABDOMINAL CONTRACTIONS.—Inefficient from pain or fear. Treatment.

DUE TO PATHOLOGY OF GENERATIVE TRACT

VULVA: Atresia from injury, etc., hymen, edema, thrombus or hematoma.

VAGINA: Congenital or acquired atresia, stenosis, neoplasms, resistant perineum, spasm of levator ani.

CERVIX: Conglutination, cicatricial stenosis, rigidity, edema, neoplasms, cancer, etc., displacement of os.

UTERUS: Fibromyoma, above cervix, in cervix; displacements, operations, fixations and suspension, to relieve retroflexion.

OTHER CAUSES: Ovarian tumors, enlarged spleen or kidney, tumor or distention of bladder or rectum.

DUE TO DEFORMED OR CONTRACTED PELVIS

DEFINITION.

DIAGNOSIS.—Pelvimetry, type of pelvimeter. External pelvimetry; iliac spines, iliac crests, trochanters, external conjugate of Baudelocque's, value of each. Internal pelvimetry; diagonal conjugate. Diameters of outlet; tubera ischii, pubic arch.

CLASSIFICATION.—1. By shape, generally contracted, flat, obliquely, transversely, irregularly contracted, funnel shaped. 2. Bayer's. (a) Primary, antenatal or postnatal developmental disturbances: split, assimilation, Naegele, Robert, dwarf, infantile, generally contracted, flat, irregularly contracted, funnel. (b) Secondary. (1) To pelvic disturbances, rickets, osteomalacia, osteitis, trauma, tumors. (2) To anomalies in other parts of skeleton, scoliosis, kyphosis, lordosis, kyphoscoliosis, spondylolisthesis, defects of lower extremities, congenital hip dislocation.

PROGNOSIS.—Danger to the mother, child, with specified diameters. Indications for spontaneous labor, forceps, version, premature labor, craniotomy, pubiotomy, Cesarean section.

DUE TO PATHOLOGY OF FETUS

1. Excessive development. 2. Malformations., double monsters. 3. Deformities, acardiacus, anencephalus. 4. Hydrocephalus, diagnosis, treatment. 5. Abdominal enlargement, ascites, distended bladder, tumors of kidney and liver. 6. Abnormal presentations, (a) transverse, shoulder, acromion; (b) compound. 7. Multiple pregnancy, simultaneous engagement. 8. Prolapse of cord, causes, treatment; short cord, treatment.

Society Proceedings

COMING MEETING

Medical Society of the Missouri Valley, St. Joseph, Mar. 18-19.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Third Annual Meeting, held at Albany, Jan. 26-27, 1909

(Concluded from page 581)

Etiology and Pathology of Suppurative Otitis Media

Dr. J. E. Sheppard, Brooklyn: The immediate and exciting causes of purulent otitis media are the various forms of pyogenic bacteria. Catarrhal inflammations of the nose and nasal pharynx due to colds, influenza, exanthemata, etc., direct irritation due to operative interference, forcible inflation and the nasal douche are also responsible for this condition. The predisposing causes are obstructive affections of the nose and throat, as hypertrophies and adenoids, exposure to cold and lowered resistance of the tissue cells. The pathologic phenomena are injection of blood vessels, swelling of the mucosa, exudation, serous, mucous, purulent, erosion and ulceration, with necrosis of thin membranes; rupture of the membrana tympani; bone necrosis in various directions. This sequence can be applied to some of the exanthemata.

Non-Operative Treatment in Suppurative Otitis Media

Dr. Edmund Price Fowler, New York City: Owing to the importance of home treatment, the patient, as he is out of sight of the surgeon for 98 per cent. of the time, should be instructed and provided with the means of carrying out orders. The dangers from neglect or from faulty treatment or care are numerous. The object of treatment is not only the abortion, shortening and cure of the disease, but also the prevention of complications, preservation of function and the patient's general health which is liable to suffer from long-continued suppurations. An adequate reaction of inflammation can be promoted by such means as increasing the hyperemia, leucocytosis, phagocytosis, opsonins, etc., by heat, counterirritation, constriction neck bands, suction cupping, irrigations, dry treatment, antiseptics, hydrolytics, caustics and blood letting. All these have their disadvantages as well as their advantages, and the best method consists in combining all, except the caustic treatment and neck band. Such a method he employs in his suction bell ear douche, with suitable solutions and temperature. All the advantages of the dry and wet treatment are combined and the disadvantages removed by irrigating in the presence of a vacuum, and the tendency to premature closure of the incision in the drum membrane and to adhesions is largely eliminated by this method, which also recommends itself by its simplicity, cleanliness, safety and efficiency.

Indications for and Results of Operative Treatment, Including the Simple and Radical Mastoid Operations

Dr. Wendell C. Phillips, New York: Bulging of the drum membrane, intense pain and fever, constitute a syndrome of sufficient import to warrant paracentesis of the drum membrane. It is a safe rule to open the drum membrane as soon as the diagnosis of purulent tympanitis becomes positive. A clean-cut incision with a long slender-handled, small-bladed scalpel, with the patient under nitrous oxid anesthesia, immediately relieves pressure, establishes drainage and healing takes place with but little damage and no scar tissue. The patient should remain in bed until all acute symptoms have subsided. The most important operation in intratympanic operations is the removal of polyps or granulation tissue, the most common symptom of which is otorrhea. A simple method of removing large polyps is by the use of a small aural snare. Ossiculectomy is employed as a means of curing chronic purulent otitis media by the removal of diseased tissue and the promotion of drainage. The intratympanic operation is indicated, (1) when a purulent inflammatory process in the middle ear does not respond to treatment and when the diseased process is chiefly confined to the drum membrane, ossicles and tympanic walls; (2) after recurrence of polypoid proliferation unless such proliferation was associated with extensive necrosis of the aditus, mastoid antrum or labyrinth; (3) as a preliminary to the radical operation. The simple mastoid operation is indicated whenever a purulent inflammatory process has invaded the mastoid antrum and mastoid cells. The indications are as follows: (1) Pain over the mastoid region; (2) tenderness over the mastoid cortex; (3) drooping of the posterior superior canal wall, and bulging of the drum membrane which does not diminsh as a result of paracentesis; (4) fever; (5) discharge; (6) subperiosteal postauricular swelling, with or without superficial abscess; (7) the presence of symptoms of intracranial complications of purulent labyrinthitis; (8) the advent of facial paralysis; (9) blood examinations in conjunction with other symptoms of mastoiditis are of great diagnostic value. Indications that call for immediate operation, whatever the concomitant symptoms may be are, (a) an acute mastoiditis, occurring in an ear which is the seat of chronic purulent otorrhea; (b) symptoms of labyrinthitis; (c), facial paralysis; (d) symptoms of intracranial involvement. The results of the simple mastoid operation are relief of pain, the cure of the destructive purulent process, the preservation of the function of hearing, the lessened tendency to serious intracranial and labyrinthine complications, the lessened possibilities of recurrence. The radical mastoid operation is performed for the cure of chronic purulent otitis media, by which is meant a number of pathologic conditions all having the common symptom, otorrhea. The purpose of the radical mastoid operation is to convert the external auditory canal tympanic cavity, the attic, aditus ad antrum, mastoid antrum and mastoid cells when diseased into one wide-open cavity, with the hope that the ramifications of the disease will be terminated The radical operation is indicated (1) when a permanent cessation of the purulent process has not been effected by prolonged intratympanic treatment; (2) when a cure ha not been effected by the removal of necrosed ossicles an curettage of the middle ear; (3) when a sudden cessation o the pus discharge produces chills, fever, vertigo, pain or othe unusual symptoms; (4) when symptoms of mastoiditis super vened in chronic purulent otitis media; (5) facial paralysi occurring during the course of chronic purulent otitis media (6) attacks of vertigo; (7) in all cases of complicating i tracranial or lateral sinus involvement; (8) when there a positive evidences of cholesteatoma in the mastoid antrum (9) when there are fistulous openings in the cortex of t mastoid process or in the osseous canal; (10) whenever d pression or other symptoms of disturbed mentality accompan the disease. The operation is contraindicated (1) when t purulent process is tuberculous and accompanied by advanc general tuberculosis; (2) in advanced pernicious anemia albuminuria and in cachectic diabetes; (3) usually in you children; (4) in cases in which the disease is confined to t ossicles without odor with improper opening in the dru membrane; (6) in all cases in which it is possible to effe a cure by other methods.

The Problem of Efficient Nursing of Persons of Moderate Income

Dr. William O. Stillman, Albany: I deal with this s ject from the standpoint of a practical experiment in educ ing domestic nurses for their duties by a six months' con of instruction in classes and at the bedside. About one hu dred lectures, given by from eighteen to twenty physicia and trained nurses, supply the didactic part of this cou Quizzes are given on each lecture. The skeleton maniki microscope, etc., are used. Careful diet-kitchen instruction given in methods of preparing food for the sick. Pract nursing, under the supervision of the head nurse, is gi toward the end of the course.

A Case of Scleroderma

Drs. Samuel B. Ward and Erastus Corning, Albany: first symptom that the patient noticed was a feeling of nu ness in the right wrist, in May, 1908. Stiffness and swel of the right hand followed, then of the left hand, next both forearms and both feet and legs up to the knees. was accompanied with edema. The case is now in atrophic stage and apparently stationary. A variation in the leucocytosis has been observed from 11.000 to 22,000, with 35.4 per cent. eosinophiles in the first differential count.

Relative Aortic Incompetency of Muscular Origin

Dr. J. M. Anders, Philadelphia: The present discussion includes only cases that are of muscular or neurotic origin. These may be divided into three well-defined groups: (a) Cases of muscular and nervous origin that supervene in the ourse of fibrous myocarditis and other less serious condiions of the myocardium, independently of valvulitis or advanced changes in the aorta; (b) cases secondary to chronic valvulitis affecting the mitral segments with failure of the eft ventricle; (c) cases occurring in the course of or followng acute infective diseases due to the action of the specific oxins on the myocardium. The disappearance of the murmur may coincide with periods of absolute rest; increased activity f the circulation, the result of mental excitement or physical xertion tends to reproduce the murmur. These views are xtensively supported by clinical and postmortem observations nd are also corroborated by the experiments of Thayer and MacCallum. Four cases are illustrative: The first was one n which dilatation of the left ventricle without much assoated hypertrophy led to relative aortic incompetency. In his case appropriate treatment caused a return to normal eart sounds and normal dimensions of the heart. In two ases, failure of the left ventricle followed mitral incompency. In instances in which the necropsy shows both left ntricle dilatation and morbid changes with more or less latation of the root of the aorta, not uncommonly observed, e condition of the left ventricle shares in the production the relative aortic incompetency. Dilatation of the left ntricle when present should be taken into account in any ort to decide the cause of aortic diastolic murmurs, more pecially when such dilatation is associated with other usative lesions. The murmur of relative incompetency may sappear during asystole of the left ventricle. It is to be recected that an organic aortic diastolic murmur may absent elf either temporarily or permanently.

Nature of Foot and Mouth Disease

Veranus A. Moore, Ithaca: This disease first appeared in 70, after a shipment of cattle from England to Canada. e animals lost flesh and the debilitated condition in which ey were left required several months for restoration. There e serious sequelæ, such as abscesses, sloughing of the hoofs d septicemia. There is slight mortality, only from 2 to 5 cent. The symptoms and lesions appear with such reguity that four stages can be defined: (1) Dulness and rise temperature; (2) the appearance of vesicles; (3) erosion;) healing. As yet no practical way of immunizing cattle ainst the disease has been discovered. As the disease retly manifested itself in Pennsylvania and New York, it s an acute infectious and highly contagious disease, affectboth large and small animals. Fresh, pure lymph introed into the veins of susceptible cattle in quantities as all as 0.005 c.c., would produce the disease. One attack es immunity.but of short duration. Vesicles appear on and ut the mouth, udders and feet and the membranes covering m. These membranes are thin and soon break and the helial layer is left attached at the borders. The lesions he human subject appear to have the same localization.

sons from Physiology and Treatment of Cardiovascular Diseases

r. W. H. Gibson, Utica: In general practice one notes an arent increase of cardiovascular disease, and the study of l statistics shows that this increase is actual. After deerative changes have taken place, therapeutic measures are tically useless. The study of the cardiovascular mechan suggests the value of preventive measures. Arterial nges may be considered under four heads: Chronic intoxion, as from alcohol, tobacco, coal-tar preparations, etc., roper diet and overeating, excessive muscular work, the in and stress of modern life. If it were more generally wn that there were 23,000 deaths from cardiovascular ases, while during the same time there were but 17,000 deaths from tuberculosis in New York State, more interest would be taken in these diseases.

Baths and Exercise in the Treatment of Heart Disease

Dr. Louis Faugeres Bishop, New York: The benefits derived from exercise and baths in the treatment of heart disease are essentially due to correction of abnormal tension in the blood vessels and heart muscle. In valvular disease when compensation fails, there is found a loss of tonicity in the heart muscle leading to dilatation, and a hypertonicity in the blood vessels leading to contraction. The same condition may be found when toxic substances impair the strength of the heart muscles. The Nauheim-Schott treatment is applicable to all cases in which there is a disturbance of the balance of tonicity between one part of the vascular system and another. When the cause of the disease is active it must first be discovered and removed. The cause of broken compensation may be toxic or nervous or may have arisen from physical strain. In any case, it is necessary to restore the tone of the heart muscle and to relieve the overtone of the blood vessels. The patient will often be found to have been overloading the system with food, to have neglected systematic exercise, or to have been subjected to nervous or physical strain. The symptoms of broken compensation in a valvular case are shortness of breath, swelling of the feet and congestion and tenderness of the liver. A trip to Europe often removes the cause of the trouble before the patient comes to treatment. The Nauheim baths correct abnormal vascular tone, and relieve the heart of the back strain of contracted blood vessels and promote the restoration of the heart muscle. The resistance exercises in a greater measure than the baths correct abnormal vascular tone and also increase the tone of the heart muscle. The Nauheim-Schott treatment has many elements, all of which are essential to the complete system. Some patients would improve by the mere change of environment, but it is likewise true that some improve by the baths and exercise alone. This treatment can be carried out perfectly well in America by any one who grasps the essential principles. To regulate the life and produce the proper home surroundings for the patient requires an amount of authority, energy and persistence that few physicians can bring to bear in the course of routine medical practice. Hence the necessity of specialists. I have had patients from other parts of America come to New York for a course of Nauheim treatment, which was conducted at a convenient hotel or hospital, who experienced just as much benefit as they did in going to Nauheim, and with no more labor on the part of the physician than is necessary for the Nauheim physicians. Baths and exercise have a large place in the treatment of cardiovascular disease, but they are not specific remedies, and must be part of an intelligent general plan.

Therapeutic Value of Blood Transfusion

Dr. W. F. Campbell, Brooklyn: The object of this operation is to form an anastomosis between individuals. In the selection of the donor, three points should be considered, namely, a preference for the nearest blood relation. a young and vigorous adult. and a thin subject. I employ the method of Crile with few modifications. Transfusion increases the coagulability of the blood, as well as the oxygen-carrying powers. In many instances the transfusion of blood has appeared to be of great value, as the reported cases show. There is no doubt as to the general increase in the numerical elements of the blood as the result of transfusion. The output of urea is also increased. It is hoped that heterogenous blood may become available. My experience indicates that blood is the only material and the best to meet all the indications for transfusion.

DISCUSSION

Dr. A. T Bristow, Brooklyn: I had a case which demonstrated that blood transfusion was better than the transfusion of saline solution. This patient received three pints of saline solution without good results: life was saved by direct blood transfusion.

Dr. Alexander Lambert, New York: In the case of a four-days-old baby, who was almost exsanguinated from hemorrhage and who was operated on by Dr. Carrel and Dr. Brewer, the radial artery of the father was connected to the popliteal vein of the baby. Improvement was so marked and immediate as to be quite dramatic.

Congenital Abnormalities of Cervical or Spinal Origin

Dr. Nathan Jacobson, Syracuse: Three conditions are considered. First: Branchial cysts in unusual positions. These may be illustrated by two cases, one situated beneath the sternocleidomastoid muscle and easily removed through an incision parallel with the posterior border of this muscle; the second, a sublingual cyst. The former manifested itself on the twenty-first day of life; the second was present at birth. Congenital conditions may not develop enough to become annoying until adult life. Congenital ranula is not due to obstruction of Wharton's duct, but is dependent on either a pathologic change in the sublingual gland, or, what is more frequent than is generally recognized, it may be of branchial origin, springing from the thyreoglossal tract. Second: Thyroid tumors entirely removed and disconnected from the normal thyroid gland. Only 17 cases of aberrant thyroid tumors are known to be recorded in medical literature, and in none had a diagnosis been made prior to operation. Third: Spina bifida, which presented urgent manifestations at birth. A case of spinal meningocele with necroses of the sac on which I operated when the child was but 2 days old yielded a perfect result, and twenty months later the child was in excellent health despite its congenital abnormality.

Points in the Diagnosis and Operative Treatment of Simple Fractures

Dr. Lewis A. Stimson, New York: The recognition of a complete fracture of a long bone is usually easy. In fractures of the small bones and of the spongy ends of long bones, and in one of two parallel and associated bones, and even in fracture of the shaft of a long bone without displacement, the usual signs of mobility and crepitus are frequently unobtainable. The search for pain on local pressure is best made with the tip of the finger or the rubber end of a lead pencil. In Colles' fracture a well-defined line of sensitiveness can be traced along the radial side and across the dorsum of the forearm just above the wrist; in fracture at the base of the neck of the femur, pain is found on pressure behind or in front just inside the great trochanter; in fracture of the surgical neck of the humerus, by pressure in front or on the outer side; in fracture of the external condyle of the humerus, by pressure on the supracondylar ridge a little above the epicondyle; in fracture of the shaft of a long bone, by pressure at the corresponding point on the most accessible side. It is necessary to support the limb so that pressure does not move the fragments. Do not mistake the sensitiveness of a bruise for that of a fracture. Pressure against the ends of a bone in the direction of its long axis causes pain when the bone is completely broken. In fracture of the ulna, the radius being unbroken, pain is caused by the extension of the elbow with pressure against a fixed object. The reasons given in favor of the general adoption of open operation in simple fractures of the shaft of a long bone are that it assures an accurate adjustment of the fragments and its maintenance by suture, and that failure of union and the drawbacks incident to the frequent permanent displacement left by other methods are avoided. Accurate adjustment of the fragments is of no great value unless it can be maintained and its maintenance by suture or other direct fixation is uncertain. If the grip of the suture is not slack it will surely break. The value of an adjustment appears to consist mainly in the removal of interposed soft parts or small fragments, which, if not removed, delay or prevent reunion or cause persistent deformity. The removal of possible obstacles to reunion is an argument in favor of operation. Repair is slower after an operation in which the fragments have been temporarily still farther displaced, as has to be done for the placing of a suture. The manipulation necessary in drilling and suturing the fragments delayed union, probably by additional injury to the periosteum. The importance of the advantages of early operation are not great; the irregularities of outline, in the great majority of properly treated cases, are functionally and cosmetically unimportant; failure of union is not only rare, but in the majority of cases in which it occurs is due to general causes, and in only a small minority to local causes which operation could remove. For the adjustment, the surgeon must depend on the usual dressings whose inadequacy is given as a reason for operating, or he must use the untrustworthy suture or other mechanical means, all of which involve the risk of suppuration and delay of failure of union. The function of the neighboring point may be diminished or lost through the implication of its muscles in the operation. Applying the standards of promptness, safety and efficiency, the operation is less prompt in its results, less safe and more efficient in only a small number of cases, and should be reserved for those cases in which its needs are clearly evident.

Fractures of the Neck of the Femur

Dr. Royal Whitman, New York: This paper is on a technical treatment of fracture of the neck of the femur designed to restore function, and was limited to a class of cases in which effective local treatment may be applied. This class is larger than is indicated by statistics. The abduction method is designed to apply surgical principles to the treatment of this fracture. The disregard of these principles explains the present low standard of success in treatment of these cases. The deformity should be corrected under anesthesia, by rotation and traction if the fragments are separated; by traction, downward pressure, on the trochanter and by the leverage of gentle abduction if the fracture be incomplete. The limb should be placed in full abduction and fixed by a long spica plaster bandage. The advantages of abduction in the treatment of complete fracture after shortening has been overcome by traction are (a) that it makes the capsule tense and thus aligns the displaced fragments; (b) that it directs the surface of the outer fragment towar that of the inner; (c) that it relaxes the muscles whose contraction caused distortion; (d) that it apposes the trochante to the side of the pelvis and thus checks upward displacement By fixing the neck one is enabled by further abduction, aide by traction and pressure, to adjust the shaft in its normal re lations, and thus to correct a deformity without violence o danger of displacement. During repair fixation in abductio and extension prevent the contraction which induced flexio and adduction. Repair in these fractures is slow, and ca hardly be completed within a year; thus prolonged after treatment is essential to restoration of function.

Radical Conservatism in the Treatment of Compound Fractures

Dr. Martin B. Tinker, Ithaca: The first essential in th treatment of compound fracture is the successful managemen of the lacerated and contused wound. The usual methods c treatment are uncertain and illogical. During scrubbing, in fectious material is often scrubbed into the wound rather tha removed, injured tissues are still further damaged by scrul bing and irrigation with antiseptic solutions and are le to slough. I suggest two methods of dealing with such cases First, in the less severe injuries the wound should be packe with oil tampons while the surrounding skin is scrubbed, ar later swabbing with some strong, certain disinfectant, fo lowed by excision of damaged tissue and closure as in an i cised wound. Second, in severe crushes where tissues a pulpified and it is certain that considerable areas will b come necrotic, the wound is covered with oiled compress the surrounding skin is disinfected, the wound swabbed wi powerful germicide and dressings are applied until line of d marcation forms. More of the injured part always lives th is expected, and later operation saves all that will pro useful. Local anesthesia and nerve blocking are useful minimize shock. An immunizing dose of tetanus antito should be given in doubtful cases. Blood-vessel anastomos bone-grafting and transplantation, skin-grafting, nerve a tendon suture should be employed in a wider range of ca than now usually employed. At present there is a tender to neglect common surgical diseases and injuries in favor the surgery of stomach,. pancreas, brain, heart and ot work. Hospital surgeons turn over fractures to inter ithout giving personal attention or even instructions. If esults are to be improved, our best trained men must give ome of their best efforts to compound fractures.

Some of the Problems of Prostatectomy

Dr. L. Bolton Bangs, New York: It is necessary that a ore careful discrimination should be exercised in the patients be operated on. Careful preliminary treatment should ways be given. Fistulas are often very troublesome after rineal operations and injections of a solution of iodin with long and suitable sinus syringe give good results. The pos- oility of the formation of postoperative stone should be ken into consideration and means for its prevention should adopted.

Epilepsy

Dr. W. H. Kidder, Oswego: The uniformity of all writers the symptomatology and diagnosis of epilepsy is striking. considering the possible causes of epilepsy one should give tention to the peripheral irritation which might cause an tbreak of a "latent" attack of epilepsy. Certain foods ould be selected for epileptics, especially in childhood. They ould never indulge in alcoholic beverages. They should be tructed in the art of self control. There should be purpose- endeavors toward guiding the mental tendencies.

The First Interview with the Patient

Dr. William S. Ely, Rochester: The first examination of a ient is often inadequate and leads to erroneous diagnosis. ere should be a search for the causes of disturbances that en receive only symptomatic treatment. There should be orrect estimate of nutritive changes. The scales are as im- tant in the physician's office as the microscope. Both moral l physical disturbances are often due to hereditary in- nces. The psychical aspects of various disorders are gely neglected. This accounts for the existence of Christian nce and similar cults and is a reflection on the medical fession.

Other Papers Read

he following papers were also read:

Observations Based on One Hundred Cases of Prostatectomy," Dr. J. Bentley Squier, New York; "X-Ray Treatment of Leu- ia," by Dr. W. L. Schuyler, Utica; "Review of the Application toentgen Rays in Diagnosis," by Dr. E. W. Caldwell, New York; eatment of Meningeal (?) Sinus and Labyrinthine Complica- s," by Dr. S. MacCuen Smith, Philadelphia; "Relation of Oc- and Cardiovascular Disease," by Dr. Arthur J. Bedell, Albany; ute Anemia," by Dr. G. W. Crile, Cleveland, Ohio; "Remote Re- s Following Excision of the Shoulder Joint for Trauma and ase," by Dr Charles L. Scudder, Boston; "Volkmann's Ischemic alysis," by Dr. R. H. Sayre, New York; "A Case of Leukemia Unusual Blood Findings," by Dr. H. G. Webster, Brooklyn; w Elastic Operations for Cicatricial Palatopharyngeal Con- tures and Adhesions," by Dr. John O. Roe, Rochester; "The ern Hippocrates," by Dr. A. Jacobi, New York; "The Exercise escending in the Treatment of Disease," by Dr. Heinrich Stern, York; "Basal Fractures Treated by Subtemporal Decompres- " by Dr. Harvey Cushing, Baltimore.

Marriages

MES J. McKone, M.D., to Miss Nellie Hickey, both of ma, February 3.

FRED Stengel, M.D., to Miss Martha O. Pepper, both of idelphia, February 4.

UL W. Gibson, M.D., Hartington, Neb., to Miss Mildred reenville, Ohio, January 28.

WARD J. Kirwan, M.D., to Miss Nora Adelaide Genia, of Ludington, Mich., recently.

WARD John Murphy, M.D., to Miss Marie Loretta Drew, of Brooklyn, N. Y., January 26.

BERT William Bradford, M.D., Sparland, Ill., to Miss icholson of Aurora, Ill., January 13.

EBB J. Kelly, M.D., Piqua, Ohio, to Miss Viola Coppess Smith of La Prairie, Ill., February 4.

ESLEY B. Ogden, M.D., Fairmont, W. Va., to Miss Alice of near Shinnston, W. Va., February 3.

LLIAM C. Porter, M.D., Poughkeepsie, N. Y., to Miss Losee King of Catskill, N. Y., January 31.

EPH Chandler Marshall, M.D., Chester, Pa., to Miss tte Rowan of Liscard, Cheshire, England, at Echo Point, a., January 27.

Deaths

William Buckingham Armstrong, M.D. College of Physicians and Surgeons, New York City, 1899; a member of the American Medical Association; vice-president of the Georgia Medical Association; a member of the Atlanta board of health; visiting surgeon at the Grady, Wesley Memorial and Presbyterian hospitals; associate professor of anatomy in the Atlanta College of Physicians and Surgeons; formerly president of the Grant Park commission; died at his home in Atlanta, February 2, from pneumonia, aged 35. At his funeral the active pallbearers were members of the medical profession of Atlanta and the honorary escort was made up of members of the Atlanta Pathological Society, Chi Phi Fraternity, faculty of the Atlanta College of Physicians and members of the staffs of the hospitals with which Dr. Armstrong was connected.

Gurdon Wadsworth Russell, M.D. Yale Medical School, New Haven, Conn., 1837; vice-president of the American Medical Association in 1878; president of the Connecticut State Medical Society in 1871; for fifty years a member of the staff of the Hartford Hospital, and for many years its president; president of the Hartford Retreat; one of the organizers of the Hartford Medical Society, which in 1887 gave him a loving cup in recognition of his completion of half a century in the practice of medicine; medical director of the Aetna Life Insurance Company for nearly sixty years; the oldest alumnus of Trinity College, Hartford; a member of the Park board for twenty-five years; died at his home February 3, from senile debility, aged 93.

Andrew Easton, M.D. Bellevue Hospital Medical College, New York City, 1871; of Allegheny, Pa.; a member of the Medical Society of the State of Pennsylvania; for three terms a member and for several years chairman of the Fourth ward school board of Allegheny, and for two terms a member of the city council; died suddenly February 2, from cerebral hemorrhage, at his winter home at Miami, Fla., aged 63.

Isaac E. G. Naylor (years of practice, Ind.), a practitioner of Indiana since 1843, and for more than fifty years in Darlington; assistant surgeon in Colonel Rice's regiment raised at Lafayette to operate against Morgan during the Civil War; died at the home of his daughter in Crawfordsville, January 22, from the effects of a fall a week before, aged 89.

Charles Edward Hoye, M.D. New York University, New York City, 1890; of Seattle; a member of the Washington State Medical Association; for two terms coroner of King county, and thereafter surgeon of the North Pacific Hospital at Ravensdale until a year ago; died in the Providence Hospital, Seattle, January 24, from nephritis, aged 42.

Miles E. Van Meter, M.D. St. Joseph (Mo.) Hospital Medical College, 1879; California Medical College, San Francisco, 1886; professor of orthopedic and clinical surgery in the latter institution; formerly a member of the San Francisco board of health; surgeon to the Southern Pacific Railway; died at his home in San Francisco, January 29, aged 56.

Perry C. Clayberg, M.D. Eclectic Medical Institute, Cincinnati, 1875; Chaddock School of Medicine, Quincy, Ill., 1885; formerly dean and professor of practice and principles of medicine in the American Medical College, St. Louis; a veteran of the Civil War; died at the home of his daughter in St. Louis, February 1, from disease of the brain, aged 61.

Joseph Bernhard Mauch, M.D. College of Physicians and Surgeons of the City of New York, 1886; a member of the Medical Society of the State of New York; clerk to Captain Hall on the *Polaris* Polar expedition from 1871 to 1873, and the last survivor of that expedition; died at his home in New York City, February 2, from cerebral hemorrhage, aged 59.

James H. Hanna, M.D. Memphis (Tenn.) Hospital Medical College, 1886; a member of the American Medical Association and Tri-State Medical Society of Tennessee, Mississippi and Arkansas; formerly president of the Tipton County Medical Society; died at his home in Covington, January 29, aged 49.

Moses Jones, M.D. Kentucky School of Medicine, Louisville, 1899; Starling Medical College, Columbus, Ohio, 1895; of Oak Hill, Ohio; a member of the Ohio State Medical Association; died at the home of his sister in South Wellston, Ohio, February 2, from tuberculosis, aged 36.

Benno Bribach, M.D. Missouri Medical College, St. Louis, 1880; of Carondelet, St. Louis; a member of the American Medical Association; died at St. Luke's Hospital, St. Louis, January 29, after an operation for disease of the spine, aged 62.

Thomas W. Prather, M.D. Meharry Medical College, Nashville, Tenn., 1903; a member of the executive board of the Red Cross Sanitarium, Louisville; died at his home in that city, from valvular heart disease, January 26, aged 40.

Lambert Watson, M.D. University of the Victoria College, Cobourg, Ont., 1888; for several years a practitioner of Chesaning, Mich.; died at his home in Burton, B. C., May 30, 1908, from nephritis, aged 45.

Deane Richmond, M.D. University of Vermont, Burlington, 1882; physician to the Vermont State Prison for several years; died at his home in Windsor, February 1, from tuberculosis, aged 47.

Elizabeth James, M.D. Hahnemann Medical College, Chicago, 1876; of Chicago; died in Cook County Hospital, February 8, two months after a fall in which she fractured her leg at the hip, aged 78.

Washington Brenton, M.D. Rush Medical College, Chicago, 1854; a pioneer practitioner of Tuscola, Ill.; died at the home of his daughter in that city, January 28, from senile debility, aged 85.

John Hutchison, M.D. Queen's University, Kingston, Ont., 1869; of Toronto; formerly of St. Thomas, Ont.; died in St. Michael's Hospital, Toronto, from nephritis, February 1, aged 62.

James Elmer Marsh, M.D. Jefferson Medical College, Philadelphia, 1884; a member of the American Medical Association; died suddenly at his home in Springfield, Mass., January 23, aged 50.

John Bailey, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1862; a hospital steward during the Civil War; died at his home in Sioux City, Iowa, February 2, from diabetes, aged 77.

Orville Augustus Olson, M.D. Rush Medical College, Chicago, 1903; of Axtell, Neb.; was instantly killed in a railway accident between Dotsero and Spruce Creek, Colo., January 15, aged 32.

S. G. Robertson, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the Arkansas Medical Society; died at his home in Monticello, January 29, from heart disease, aged 71.

Edwin Clinton Dennin, M.D. Long Island College Hospital, Brooklyn, N. Y., 1895; of South Brooklyn, N. Y.; died in Long Island College Hospital, February 1, from pneumonia, aged 39.

E. M. C. Neyman, M.D. Jefferson Medical College, Philadelphia, 1836; formerly of El Reno, Okla.; died at his home in Saltillo, Ind., January 4, from senile debility, aged 100.

William S. Edwards, M.D. Jefferson Medical College, Philadelphia, 1856; died at his home near Siler City, N. C., January 15, from influenza, complicating malaria, aged 76.

Leonard Dearth, M.D. Medical School of Maine, Brunswick, 1884; formerly of Foxcroft, Maine; died recently at his home in Los Angeles, Cal., from rheumatism, aged 50.

George Hemminger, M.D. Detroit Medical College, 1869; formerly a member of the American Medical Association; died at his home in Carlisle, Pa., January 21, aged 64.

David L. Garland, M.D. University of Nashville (Tenn.) 1901; formerly of Rabun Gap, Ga.; died at his home in Clayton, Ga., January 22, from nephritis, aged 37.

Simeon M. Robertson, M. D. College of Physicians and Surgeons, 1878; died at his home in Mount Vernon, Ill., from tumor of the stomach, January 30, aged 69.

Alexander Williamson, M.D. University of Pennsylvania, Philadelphia, 1878; died at his home in Asbury Park, N. J., from heart disease, February 2, aged 61.

John W. Petrie (years of practice, Ill., 1878), an eclectic practitioner of Nilwood, Ill.; died suddenly at his home, January 31, from heart disease, aged 75.

Joseph Henry Spears, M.D. Jefferson Medical College, Philadelphia, 1853; died at his home in Augusta, Ga., April 1, 1908, from cholelithiasis, aged 76.

Frank G. Taylor, M.D. Eclectic Medical Institute, Cincinnati, 1875; died at his home in Reynoldsburg, Ohio, January 29, from kidney disease, aged 57.

James Monroe Garvey, M.D. University of Buffalo (N. Y.), 1882; of Tower, Mich.; died in a sanitarium at Traverse City, Mich., February 1, aged 69.

Bricey M. Owen, M.D. Atlanta (Ga.) Medical College, 1869; of Hollonville, Ga.; died at the home of his daughter in Haralston, Ga., January 30, aged 65.

Mary A. Jenks (license Rhode Island, 1895), for fifteen years police matron of Pawtucket, R. I.; died at her home in that city, January 26, aged 77.

Barnabas Malloy (years of practice, Ill., 1878), formerly of Olney, Ill.; died in St. Louis, January 28, while on his way to Texas for his health.

Corlis Mason Holt, M.D. Cornell University, New York City, 1902; of Newfield, N. Y.; died February 2, from spinal meningitis, aged about 50.

John G. Hall (years of practice, Ill., 1887), was found dead in his room in Springfield, Ill., February 2, from gas asphyxiation, aged 80.

Jefferson Davis Hooker, M.D. Louisville Medical College, 1886; died at his home in San Antonio, Dec. 1, 1908, aged 47.

Herbert E. A. Hanke, M.D. Hahnemann Medical College, Chicago, 1905; died at his home in Chicago, February 4.

Book Notices

The Natural History of Cancer. By W. Roger Williams, Fellow of the Royal College of Surgeons. Cloth. Pp. 519. Price, $5.00. New York: William Wood and Co., 1908.

Once in a while—but all too rarely—we find a book whose author has for years pondered his subject, considered it from innumerable aspects, accumulated a vast fund of facts bearing on it, and finally become saturated with it. Such a book is entitled to respectful consideration, and needs no explanation for its addition to the flood of literature which overwhelms us. The book under consideration is one of this sort It is the work of a man who has evidently given the thought of a lifetime to the problems of cancer. The work is an attempt to marshal the known facts of cancer for the purpose of considering them by the methods of inductive reasoning—Williams calls it a synthetic research. It is reall the method of Darwin applied to the subject of cancer. Th result is not a solution of the cancer problem, but it is a mos instructive and illuminating review of our knowledge of th subject.

The book is a colossal collection of facts. Behla has published a bibliography of carcinoma literature to 1900, an this mere bibliography is a large octavo volume of 25 pages. Williams apparently has been on terms of intimat familiarity with all that literature for years, and has take pains to make himself immediately acquainted with all tha has appeared since that date. In this work he considers th subject of cancer in the broadest way. Geographical distribution and incidence, topographical distribution, cancer an other tumors in animals (as distinguished from man), tumor in vegetable organisms, the genesis of malignant tumors, th experimental study of cancer genesis, cancer and tum growths in relation to growths in general—these few chapte headings may serve to suggest the extent of William purview of the subject. Perhaps it should be said that th does not include a formal consideration of the histology cancer.

Williams' temper, we should say, is a combination of th philosophical and the militant. He is no respecter of authorit and is impatient, justly we think, with the common tendency consider cancer almost exclusively from the laboratory stan point. His work has an avowed purpose, which is high dangerous to its scientific character—that is, he starts o to maintain a thesis: "From the biologic standpoint, tum formation may be regarded as a phenomenon of the sar order as reproductions in general--that is to say, as a sp cial form of overgrowth of the individual. This implies r ognition of the affinity between tumor formation and m phologic variation in general. . . . What is variation b a novel kind of cell multiplication? And what is tum formation but a special variety of this novelty? . . . the sequel it will be shown that the determining factor, t true cause of all these variations, is nutrition--using the te in its widest sense." But his spirit is philosophical and h method scientific, and, while we can not always accept h conclusions, he arrives at no absurd positions, and his su veys and opinions stimulate thought, even when they do n receive acceptance. He has a sonorous, classical diction, which is distinctly agreeable. His is none of your flippant Kiplingesque English, but a sound Johnsonian style, fit to tell dignified facts in a dignified way. Every now and again the reader encounters a term like "generalities de tumoribus," that he enjoys, because it reminds him of his Latin ınd is not too hard for him to understand. The book is a ralnable addition to cancer literature and is worthy of careful reading by every one who wishes to have a large view of the cancer problem.

MODERN MEDICINE. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William)sler, M.D., Regius Professor of Medicine in Oxford University, ngland. Assisted by Thomas McCrea, M.D., Associate Professor f Medicine and Clinical Therapeutics in Johns Hopkins University. altimore. Volume V. Diseases of the Alimentary Tract. Cloth. 'p. 903, with illustrations. Price, $6. Lea & Febiger, 1908.

This volume is devoted to diseases of the alimentary tract, nd is divided into ten chapters, as follows: 1, introductory iscussion on the diseases of the digestive apparatus, by harles G. Stockton; 2, diseases of the mouth and salivary lands, by David Riesman; 3, diseases of the esophagus, by ohn McRae; 4, functional diseases of the stomach, by Julius riedenwald; 5, organic diseases of the stomach, by Charles . Martin; 6, diseases of intestines, by Alfred Stengel; 7, dis- ises of the peritoneum, by Humphrey Davy Rolleston; 8, planchnoptosis, enteroptosis, or Glénard's disease, by Thomas . Brown; 9, diseases of the pancreas, by Eugene L. Opie; 10, seases of the liver, gall bladder and biliary ducts, by A. O. Kelly. The volume is probably one of the most evenly ılanced in the series and the amount of space assigned to e different topics seems to be in good proportion to their ıportance. The articles are thorough and well written and e volume undoubtedly contains the best and most complete mmary in English of the present knowledge of the diseases the alimentary tract. While this liberal praise is accorded, tention must at the same time be called to certain short- mings which this volume shares with its predecessors. The mber of references given varies greatly in the different ticles, some, like Riesman's article on the mouth and sali- ry glands and Rolleston's on the peritoneum being abun- ntly supplied with uniformly arranged and, with some ex- tions, correctly abbreviated references, while most of the ıer articles have comparatively few, and those are given in haphazard manner. Moreover, there is no authors' index. ese are defects that lower the usefulness of the volume and vent it from reaching that highest grade of scholarship our vest and largest systematic treatise on medicine should e maintained throughout.

RACTICAL LIFE INSURANCE EXAMINATIONS. By Murray Elliott nsey, M.D. Cloth. Pp. 230. Price, $1.25. Philadelphia and don: J. B. Lippincott Co., 1908.

he importance of medical selection in the field of life in- nce is evidenced by the activity of medical writers on in- nce. The work of Dr. Ramsey is the latest of several l manuals: while it contains little that is new, it is worthy ommendation on account of the clarity and systematic ar- gement of the chapters on physical examination of the t and abdomen. The chapters on "Diseases and Conditions cting Life Insurance" and on "Insurance of Substandard s" present briefly and plainly opinions and conclusions h are at present considered sound. Future statistics will tless modify some of these conclusions.

DICTIONARY OF MEDICAL TREATMENT. By Arthur Latham, M.D., Oxon., M.A., Cantab., F.R.C.P., Lond., Physician and urer on Medicine at St. George's Hospital. Cloth. Pp. 825. . $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

. Latham's aim in this book is to describe a definite se of treatment to be pursued in diseases that present a al, uncomplicated course. The subjects are arranged abetically; the diseases of the skin and of the nervous m are considered, in addition to the diseases usually ned to internal medicine. Many minor ailments also in for a share of attention. The methods of treatment hose generally accepted by the modern practitioner, and therefore, reliable. The Schott-Nauheim treatment is described separately, in addition to being referred to under the diseases in which it is indicated. Frenkel's exercises are described separately, but Dr. Latham, unfortunately, does not in that connection say in what disease or diseases they are applicable—an oversight which should be corrected in subsequent editions. Under the subject of locomotor ataxia they are again mentioned as a useful exercise. Moreover, Dr. Latham spells the name of the author of the exercises as Fränkel. THE JOURNAL (July 18, 1908, li, 239) pointed out the correct spelling, which is Frenkel.

LES MERVEILLES DE L'HYPNOTISME. Par Géraud Bonnet médicin practicien à Oran. Paper. Pp. 281. Price, 3.50 francs. Paris: Jules Rousset, 1909.

Bonnet gives a cursory review of the history of the subject, discusses autohypnotization, and describes the various types and common characteristics of the hypnotic states, for he holds that not one, but many such exist. He discusses the subject both theoretically and practically, and insists on the reality of nervous force as an entity. He further discusses telepathy, spiritistic phenomena, fascination, natural sleep, and that induced by drugs and anesthesia. Frankly, we do not like the title of this book. The medical profession is waging war against the "marvelous" in medicine, with its appeal to inherited superstitious instincts, but Dr. Bonnet seems to trade on the marvelous. Psychotherapy, including hypnotism, has its place in medicine, and, when the present furor has settled down, will fall into and occupy that place; but works that discuss the subject from the point of view of the "marvelous" are hardly adapted to hasten that much-to-be-desired time.

BESTIMMUNGEN ÜBER DIE ZULASSUNG ZUR AERZLICHEN PRAXIS IM AUSLANDE. Von J. Schwalbe, in Berlin. Second Edition. Paper. Pp. 206. Leipzig. Verlag von Georg Thieme, 1908.

This pamphlet by the editor of the *Deutsche medizinische Wochenschrift*, gives in a very compact form the requirements for admission to medical practice in all civilized countries. The arrangement is alphabetical. In addition to the legal requirements, the book gives in reference to some countries notes on the climate, cost of living and the probable chance of success by a foreign physician settling there, viewed especially from the standpoint of German physicians. The information seems to be very complete, and will certainly be valuable to those interested in the regulations of medical practice, and may prove of value to some American physicians who wish to change their field of professional activity.

Medicolegal

Limitation on Right of Licensed Practitioners of Medicine to Practice Dentistry

The Supreme Court of Minnesota holds, in the case of State vs. Taylor, that a person who is licensed to "practice medicine and surgery" under the statutes of that state can not by virtue thereof "practice dentistry" without securing a license as a dentist, as required by Chapter 117 of the General Laws of Minnesota of 1907.

The defendant in this case was a licensed physician and surgeon and claimed that such license entitled him to engage in the incidental practice of dentistry on his own patients. He extracted two teeth for one of his patients and took an impression in wax of the mouth and cavities. He sent this impression to a dental laboratory, where artificial teeth were made and returned to him, and he delivered them to his patient and received a fee of some $38 for his services. It was conceded that he did not hold a certificate from the State Board of Dental Examiners authorizing him to practice dentistry in Minnesota, and that what he did came within the terms of the statute which defines the practice of dentistry. He was therefore properly convicted, unless protected by his license as a physician and surgeon.

The statute provides that a person shall be regarded as practicing medicine "who shall append the letters M.D. or M.B. to his name, or for a fee prescribe, direct or recommend for the use of any person any drug or medicine or other agency for the treatment or relief of any wound, fracture or bodily injury, infirmity or other disease: Provided that this section shall not apply to dentists." It is true, as the defendant contended, that the practice of medicine and surgery in its broad and comprehensive sense includes the practice of dentistry, which "is medical, surgical or prosthetic. In so far as it is a direction of medical science to the prevention, modification or removal, by medicinal and hygienic remedies, of the causes and effects of disease in the dental organs, it forms part of the physician's practice, just as does the treatment of cerebral, cardiac or pulmonary diseases. In so far as it is an application of surgical skill to the fractures or to staphylorrhaphy, it is simply oral surgery, involving only such knowledge and skill in the use of instruments as every surgeon must possess." Harris, Principles and Practice of Dentistry, p. 33.

In the absence of any legislative declaration to the contrary, a certificate authorizing the holder to practice medicine and surgery would therefore entitle him to practice dentistry. But for reasons of public policy, with which the court has no particular concern, the legislature adopted the policy of dividing the field of medicine and surgery, and making a separate profession of a part thereof. It was thought that men who engaged in the treatment of diseases of the dental organs should receive special preparation and be specially licensed to practice that particular branch or department of medicine and surgery. A State Board of Dental Examiners was created and authorized to determine who should be licensed and entitled to practice dentistry in the state. A department of Dental Surgery was also established at the university, with a course of study, the satisfactory completion of which would entitle the student to a special degree of Dental Suregon. An examination of this course shows that it includes a considerable part of the work required in the medical school, but it also includes studies which relate particularly to diseases of the dental organs and others designed to insure efficiency in the mechanical work connected with the treatment.

The statute now in force provides that: "No person shall practice dentistry in the state without having complied with the provisions of this subdivision. . . . Any person who shall . . . violate any provision of this subdivision shall be guilty of a misdemeanor." And: "All persons shall be said to be practicing dentistry within the meaning of this section . . . who shall for a fee, salary or other reward paid or to be paid either to himself or to another person . . . replace lost teeth by artificial ones."

The legislature has thus defined both the practice of medicine and the practice of dentistry, and made of them two distinct professions. This statute relating to dentistry makes no exception in favor of one who holds a certificate entitling him to practice as a physician and surgeon. The court can find no implied exceptions in this statute. The words "no person" in a criminal statute, are to be given their literal meaning. From an examination of the statutes of other states relating to the practice of dentistry, the court learns that many contain express exceptions in favor of physicians and surgeons. Probably the most of them permit physicians to extract teeth or perform such other comparatively simple work. In the absence of any such exceptions, it must conclude that the legislature intended to restrict the scope of the practice of the physician and surgeon, and require him, if he desires to practice dentistry, to obtain a license from the State Board of Dental Examiners in addition to his other certificate. What was said in State vs. Vandersluis, 42 Minn. 129, to the effect that the statute then under consideration would not limit the right of a surgeon under his license, was dicta, and is not controlling.

The conviction in this case is affirmed.

Power of Courts to Order Exhumation of Bodies for Examination by Physicians in Aid or Defense of Criminal Proceedings

The Court of Criminal Appeals of Texas had in Gray vs. State, a homicide case, the novel and important question of whether a court had the power to appoint a commission of reputable and competent physicians and surgeons to make an autopsy of the body of the deceased, and to order that the commission cause the body of the deceased to be disinterred and that the commission make such thorough examination of said body as would enable them to give definite and reliable testimony of the character of the wounds, their range and depth, and as to the number of bullets lodged in the body.

The court says that it has been held that the right of interment and the right to disinter are subordinate to public health, and that the disinterment may be compelled by public authorities whenever conditions become such as that the public health is threatened.

It is evident from the authorities, both in Texas and elsewhere, that neither the right of sepulture, nor the right to have the body remain untouched and unmolested, is an absolute and fixed right, but these rights must and should yield when they conflict with the public good or where the demands of justice require such subordination.

It was not to be denied that none of the authorities which the court cited, or others to which its attention had been called, was directly in point. By analogy they furnished some aid, but it was to be confessed this was slight. The court's own reflection convinces it, however, that in legal reason, and based on public policy and enlightened justice, there can be no reasonable doubt as to what the court should do in a case such as was here presented. Courts were instituted among men for the purpose of promoting justice, the ascertainment of the truth in all controversies pending in such tribunals, and for the protection of life, liberty and property. To fairly and rightly accomplish these laudable purposes, the supreme desire and purpose is, and in every case should be, by every consideration and fair rule, to ascertain the very truth of the matter in controversy, and by such rules of evidence as will, in their nature, accomplish this result.

It will be conceded, of course, that if a body could not be exhumed when an indictment was pending and the grave be made to yield up its secret, and an examination made at the instance of the defendant, such exhumation and examination ought not to be made, in a similar case, at the instance of the state. To do so would not only be manifestly unfair, but would be such a partial discrimination against the defendant as would shock the moral sense of all fair-minded men. And yet to refuse to the state authority on a proper showing and in a proper ease, so to do, would in many cases permit the most abandoned criminal to go unwhipped of justice, unless such action was or might be taken by a justice of the peace, and the law, in its weakness and impotence, to be made a byword and pure mockery.

To say that the district court has no power to order, and if need be with its full power compel, such an exhumation as was here sought, is to say that no court can do so. It presents the singular anomaly that in a merely suspected case of unnatural death, where no charge of murder is pending, and in a proceeding where no punishment can be meted out, an examination may be had, but that where the charge is made, and it is an issue of life or death, none can be had. It is, as was contended by the state, allowed where the proceeding is preliminary and unimportant, and denied where it is vital. It is, under the state's contention, conceded to the most obscure judicial officer known to our system in advance of a trial, and denied on the trial to our chief and most important court sitting as such. The power inheres in such court, or there is, in such a case as was here presented, n such authority anywhere.

On rehearing, the court says that it had again reviewed th question from every point of view, and had arrived at th settled conviction, which had been rather strengthened by it subsequent investigation, that the original opinion was righ the law, and that it ought to stand.

The court believes that whenever it shall be necessary t the ends of justice, an examination of the inanimate bod of the deceased in the jurisdiction of the court should be mad and that the court has the power, and should exercise th right to require the exhumation made.

If it could be said that there was no precedent for actio it can never be said again, because the rule and precedent here established.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 4

1 *Internal Concealed Hemorrhage. J. R. Torbert, Boston.
2 Feeding of the Infant in Health. D. R. Brown, Salem, Mass.
3 Congenital Neuroglia Tissue Nests in the Meninges of the Spinal Cord, with Report of a Case Associated with Other Congenital Defects. C. T. Ryder, Boston.
4 *Osmic Acid Injections for Relief of Trifacial Neuralgia. H. H. Germain, Boston.

1. **Internal Concealed Hemorrhage.**—Torbet describes the rocess by which this condition is produced and reports cases, which one is of special interest from a diagnostic stand-oint and as showing what can be accomplished in the line stimulation, as well as with regard to the choice of opera-on in emptying the uterus. The plan of gradually letting the pressure proved in this case particularly successful. e thinks it safe to say that if routine examination of the acenta and membranes were practiced, more cases of small tachments would be discovered than are now found. He scusses the etiology, in regard both to exciting and to pre-sposing causes, the symptoms and diagnosis, differential agnosis, prognosis and treatment. Quiet may be induced morphin. In the mild cases nearly two-thirds of the tients will go to term, or labor will be completed without un-ward results. While agreeing in the main with Holmes' ntention, that aggressive action will save most lives, there a large group of cases in which the patient is in extremely or condition, and here there is sufficient evidence in favor holding off until by stimulation the patient can be got o better shape for interference. The author considers that tampon has a limited, but exceedingly practical, use in treme cases, in softening up the hard cervix, when the rus has reached its limit of distention. He does not ree with Holmes that in all cases in which version is se-ted, extraction should be immediate, on account of the tially emptied uterus failing to contract leading to further norrhage; for in one of his cases, in which the vagina was ked to soften the os, and in which the membranes were tured with a catheter, the fluid being allowed to run out wly, while at the same time the uterus was briskly mas-ed, the uterus contracted well; there was no further hem-hage. He controlled the uterus by holding it for some rs after delivery, and deemed it unnecessary to pack the rine cavity. He draws the following conclusions:

nternal concealed hemorrhage is a comparatively rare complica- of pregnancy.
nless diagnosticated early it has a serious prognosis.
occurs generally in the last two months of pregnancy.
he diagnosis is made by careful examination both of the mother of the infant within the uterus.
he importance is urged of an examination of all obstetric pa-ts in the last months of pregnancy and of keeping close watch oth the maternal and fetal pulse during the progress of the labor.
alpation is important in diagnosticating these cases, as the us is much increased in size and of a board-like consistency.
he appearance of acute anemia with manifestations of shock patient in the later months of pregnancy should always sug- the possibility of internal concealed hemorrhage.
rly diagnosis is essential in offering a favorable prognosis to mother; that of the infant is bad.

Osmic Acid Injections for Trifacial Neuralgia.—Germain ly reports eleven cases and concludes: 1. Osmic acid in-ons will relieve trifacial neuralgia for a longer or a ter period of time. 2. Relief from pain is not immediate, follows in a few days after injection. 3. It may be wed by a certain amount of necrosis of tissue at the t of injection. 4. It is little if any better than other heral operations. 5. It is best used in a 2 per cent. ion injected directly into the nerve, using a glass syringe a platinum needle. 6. It is to be used only in purely ry nerves, as its employment in mixed nerves is followed notor paralysis. In regard to the latter he pleads for er conservatism and the treatment by hygienic measures astringents. He gives the indications for the complete val of adenoid vegetations as follows: (1) Nasal ob-tion, causing mouth breathing and its sequelæ; (2) recurring attacks of earache; (3) stupidity and inability of the children to concentrate attention; (4) stunted growth, and in all cases of purulent otitis media in children; (5) in infants whose inability to nurse is due to adenoids, otherwise he never operates on infants under 1 year of age, and believes it a crime to do so. He describes the operation.

Medical Record, New York

February 6

5 *The Eye of Yesterday and of To-day. F. Valk, New York.
6 Some Serious Lapses in Administrative Hygiene. H. Wakefield, New York.
7 Acute (Hemorrhagic) Encephalitis, with Report of Cases. G. B. Hassin, Chicago.
8 *Factors in the Etiology of a Common Cold. R. C. Brown, Milwaukee.
9 Case of Interstitial Pregnancy. B. M. Baker, Norfolk, Va.

5. **The Eye.**—Valk gives instances of the knowledge of the physiology of the eye in the days of Rush, and reviews the most notable advances in diseases of that organ. He describes as chief among them, the prevention and treatment of ophthalmia neonatorum. The addition of spirit of nitrous ether to the silver solution keeps it always fresh by preventing precipitation of oxid. Valk's formula is: Silver nitrate, 5 grains (0.32 grams); spirit of nitrous ether, 2 drams (6.75); water, 6 drams (22.50). He particularly emphasizes the importance of cleanliness, asepsis and gentleness. He refers to the implication of the eye from systemic infection following an acute attack of gonorrhea, and points out the advance made in the practical abolition of the postdiphtheritic paralysis of accommodation, subsequent to the introduction of the antitoxin treatment, as demonstrated by the investigations by Bylsena of Middleburg, Germany. He urges the more frequent use of the ophthalmoscope by the general physician, and discusses the question of how much knowledge of eye diseases the general practitioner should be taught in the school, pointing out that the needs of the city practitioner, who has ready access to eye specialists, are different from those of the country practitioner, who may often be compelled to deal with cases calling for some special knowledge. He therefore points out some general objective symptoms by which patients may be treated so as to prevent serious complications or serious impairment of vision. There are certain symptoms that suggest a "snap diagnosis," which is all right and a useful shortcut if subsequently verified by proper examination. For instance, if there is no photophobia it is doubtful if the disease involves important structures. It will probably be found to affect only the conjunctiva and to require only astringents. If, however, photophobia exists, involvement of deeper structures is at once suggested, and the early use of atropin may prevent serious mischief later. He discusses keratitis in like manner. He reviews the improvement in the eye wards, now well lighted and ventilated, the fall in percentage of failures after cataract operation, and the advantages produced by the use of cocain. He discusses the question of refraction, eye motility, and the reflex effects of eyestrain—in which while admitting its importance, he deprecates what he considers the extravagant propositions of some—at considerable length, and also the subject of diplopia. The article is eminently suited to the needs of the general practitioner.

8. **The Common Cold.**—Brown discusses the character of a common cold, more particularly with regard to the prevailing view that it is an infection, either specific or due to lowered resistance of the body laying it open to attack by innumerable micro-organisms, and reviews both these theories critically. He says that before the human race had been accustomed to clothes and overheated houses colds were probably infrequent. Exposure to cold and catching cold are not synonymous. When the body is put to an effort to conserve its heat, as in exposure to cold, there is not much danger of catching cold, but when the body is put to an effort to lose its heat, or is in other words overheated, there is great danger. The greatest likelihood of colds comes when the body is at one time overprotected and at another underprotected. When a skin area which is usually overprotected, is exposed to a draft, an over-impulse is conveyed to the vasomotor cen-

ter, an exaggerated response is sent out, and the peripheral blood vessels are contracted over a large area. If, under these conditions, the temperature is taken, it will be found to have risen slightly. The body which was attempting to lose heat, finds itself further embarrassed as the radiation from a considerable portion of the skin has been shut off. The turbinates being a means by which heat is lost, it is not strange that, under the circumstances, vasomotor impulses should be sent to them, and that the tortuous blood vessels of these bodies should be dilated to the point of overcongestion. On this theory, both the so-called habit of taking cold and treatment for prevention of colds can be explained. The more often the nerve impulses are sent through certain channels, the easier does the impulse follow that channel, so that in a sensitive person the slightest exposure will result in a cold in the head. On the other hand, through the intelligent use of clothing, right living, and the proper use of baths, the skin may be kept in such a condition that it will send only normal impulses. The author therefore prefers the view of the vasomotor origin of cold.

New York Medical Journal

February 6

10 Tuberculosis. J. D. Bryant, New York.
11 *Amnesia from a Medicolegal Standpoint. A. Gordon, Philadelphia.
12 Care and Treatment of Dependent, Neglected, Crippled and Deformed Children. N. M. Shaffer, New York.
13 *Prophylactic Inoculations Against Typhoid. H. Shoemaker, Philadelphia.
14 *Sequelæ of Adenoids. A. J. Herzig, New York.
15 Epiploitis Following Radical Cure of Inguinal Hernia. C. G. Cumston, Boston.
16 *Physiologic Action of Strong Cocain Adrenalin Solutions. J. Leshure, New York.
17 Keeping and Handling of Rats for Laboratory Purposes. G. W. McCoy, San Francisco.
18 Clinical Gonorrhea in the Male (concluded). M. Huhner, New York.
19 Care of Crippled Children of the Poor by the State of New York. J. P. Fiske, New York.

11. **Amnesia.**—Gordon details the case of Frank Endrukat, who committed murder in 1908 and shot himself in the brain, but entirely recovered, the bullet remaining in the skull. All memory of the period of the crime and the events relating to it had disappeared, but his memory of events preceding persisted, while all his faculties after the suicidal attempt appeared intact. Gordon discusses the problem of amnesia and how to prove whether amnesia is general or simulated. Memory is the result of impression of facts on the cerebral tissue. It is a general function of the intellect, which consists in reproducing images, ideas, emotions and sensations previously acquired. Two main elements demand consideration, the fixation of facts, images, etc., and their reproduction. The external manifestation of memory impressions depends on the will of the individual himself. Memory may therefore be admitted or denied, but real diminution or complete loss is well known in cerebral nosology. From a pathogenetic standpoint amnesia may be functional or organic as regards its evolution; it may be temporary or permanent, certain or progressive, periodical or intermittent. Organic amnesias as in the dementias are usually progressive and permanent, affecting first the recent events and proceeding toward the more distant and firmly fixed. In functional disturbances, memory may be lost for a certain group of ideas or for a fact or facts occurring during a certain period of life. In the latter case amnesia may extend to the period of time immediately preceding a certain forgotten event (retrograde), or following it (anterograde). In exceptional instances it may be general. The essential distinction between the organic and functional amnesias lies in the fact that the former are progressive and intimately associated with the gradual deterioration of the psychic function, while the latter are sudden in their onset. The former are incurable, the latter may be curable. When a crime is committed by one suffering or having suffered from any of these forms of amnesia the first step is to determine whether the loss of memory is dependent on an irreparable cerebral lesion or is functional, as, for instance, in hysteria with periodical attacks of double consciousness. The author discusses various classes of cases in which impulsive acts are committed without the individuals having the least recollection thereof. In epilepsy, a convulsive attack may be followed by an impulsive act of which no recollection remains. Gordon discusses the legal bearings of these amnesias, paying special attention to those of hysteria, multiple personality, intoxication, insolation and traumatism. He asks: Does or does not the loss of memory for a former criminal act, of which the author was then responsible, destroy his responsibility? This question, he says, is purely legal, and the expert should leave it entirely to the court. From a medical point of view, whatever the degree of loss of memory may be, the amnesic can not be determined, as by virtue of the amnesia itself the patient is incapable to present his defense properly, and consequently to confer with counsel on an act of which he is totally ignorant. This is the process of the arguing presented by him at Endrukat's trial.

13. **Typhoid Fever Prophylactic Inoculations.**—Shoemaker summarizes the principal papers that have advanced this subject to its present status, and sets forth briefly his own experiences with prophylactic inoculation, which lead him to the conclusions that the evidence of bacteriolytic and bactericidal activity higher than the normal and the presence of agglutinin can be obtained from the serum of those who have been inoculated.

14. **Adenoids.**—Herzig discusses the etiology and heredity, the pathology, diagnosis, symptoms, sequelæ, and indications for operation.

16. **Cocain Adrenalin Local Anesthesia.**—Leshure summarizes his article as follows:

1. To induce a maximum degree of local anesthesia and ischemia, with a minimum of general drug absorption, it is necessary to use solutions of high density, which do not readily enter the larger blood and lymphatic glands.

2. The diluting effect of the mucous membrane secretions must be borne in mind, and cotton wound applicators should be frequently changed, and freshly charged with the cocain-adrenalin solution.

3. Before beginning to operate one should carefully test every part of the field with a probe to determine whether the anesthesia is complete. It is difficult to anesthetize when bleeding has once begun, and the patient will greatly appreciate the extra effort made to spare him needless pain.

Albany Medical Annals

January

20 *Appearance of Glycuronic Acid in Certain Conditions of Diminished Oxidation. C. W. L. Hacker, Albany.
21 *Clinical Study of Hypernephroma, with Pathologic Reports G. E. Beilby, Albany.
22 *Influence of the Reduction of Kidney Substance on Nitrogenous Metabolism. R. M. Pearce, Albany.
23 *Presence of Nephrotoxic Substances in the Serum of Animals with Experimental Nephritis. R. M. Pearce and H. P Sawyer, Albany.
24 *Study of Experimental Reduction of Kidney Tissue with Special Reference to the Changes in that Remaining. J. A Sampson and R. M. Pearce, Albany.
25 *Relation of Lesions of the Adrenal Gland to Chronic Nephritis and to Arteriosclerosis: An Anatomic Study. R. M Pearce, Albany.
26 Physiochemical Study of Salt Elimination in the Urine of a Individual with General Edema of Obscure Origin Followe by Cure. H. C. Jackson and A. W. Elting, Albany.
27 *Occurrence of Spontaneous Arterial Degeneration in the Rabbit. R. M. Pearce, Albany.
28 Effect of Conditions on the Latent Period and Rate of Aseptic Postmortem Autolysis During the First Ten Hour H. C. Jackson, Albany.
29 Inferior Longitudinal Bundle and the Geniculo-calcarin Fasciculus. L. Archambault, Albany.
30 Two Cases of Primary Carcinoma of the Appendix. G. W. Hacker, Albany.

20. Published in The Journal, Jan. 25, 1908, p. 252.

21. Published in *Surgery, Gynecology and Obstetrics*, Se tember, 1908.

22. Published in the *Journal of Experimental Medicine*, Se tember, 1908, and abstracted in The Journal, Oct. 3, 190 p. 1184.

23. Published in the *Journal of Medical Research*, Octob 1908, and abstracted in The Journal, Nov. 28, 1908, p. 19

24. Published in the *Journal of Experimental Medicine*, N vember, 1908.

25. Published in the *Journal of Experimental Medicine*, N vember, 1908, and abstracted in The Journal, Dec. 12, 19 p. 2089.

27. Published in The Journal, Sept. 26, 1908, p. 1056.

merican Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January

31 Comparison of Lesions Found Postmortem in Cases Diagnosticated Clinically as Eclampsia and Toxemia of Pregnancy. J. E. Welch, New York.
32 Cardiac Disease as a Complication of Pregnancy. G. H. Ryder, New York.
33 When Shall the Operation for Tubal Pregnancy be Performed? B. F. Baer, Philadelphia.
34 *Delayed Operation in Terminated Ectopic Pregnancy. C. A. Stillwagen, Wilkinsburg, Pa.
35 *Psychotherapy and Re-Education. E. Garrigue, New York.
36 *Abdominal Surgery without Detached Pads or Sponges. H. S. Crossen, St. Louis.
7 *Typhlitis. J. A. Lyons, Chicago.
38 *Vaginal Cesarean Section in Eclampsia. O. P. Humpstone, Brooklyn.
39 Splenic Anemia of Infancy. A. D. Smith, Brooklyn.

34. Abstracted in The Journal, Nov. 7, 1908, p. 1629.

35. **Psychotherapy.**—For Garrigue, the keynote of psycho-erapy is moral re-education, the awakening of the inward reception of what must be done and the cultivation of coure and will power to enable the patient to do it, for the tient is the one who must do the work. The physician can d must point out the road and be guide and director to the al of health, but the moral responsibility of getting there d remaining there lies with the patient. No other than the tient can do the real work of recovery any more than one ident can gain an education for another. It involves inidual responsibility, individual effort, and individual intelent work.

36. Abstracted in The Journal, Oct. 17, 1908, p. 1355.

37. Abstracted in The Journal, Oct. 24, 1908, p. 1459.

38. **Eclampsia.**—Humpstone's paper urges eclampsia before during labor without complete shortening of the cervix as important indication for anterior vaginal hysterotomy. He cusses the difficulties and dangers of the operation, the ncipal dangers being hemorrhage and sepsis. He considers t the absence of reports of evil results in subsequent ors is evidence that its effects are not deleterious. He rets five cases.

Annals of Ophthalmology, St. Louis

January

*Hereditary Blindness and Its Prevention. C. Loeb, St. Louis.
Comparisons Between the Eyes of Insects and of Man. P. P. Calvert, Philadelphia.
Ophthalmic Origin of Otic Disturbances with the Cerebellar Control of the Eyes. F. P. Lewis, Buffalo.
*Beginning Signs of Retinal Angiosclerosis. W. Reber, Philadelphia.
*Gross Obstructive Vascular Disease in the Retina. C. M. Harris, Johnstown, Pa.
Embolism of a Macular Artery and Thrombosis of Superior and Inferior Retinal Arteries in a Case of Embolic Softening of the Brain. W. T. Shoemaker, Philadelphia.

). **Hereditary Blindness.**—Loeb's attention was called to family history of an inmate of the Missouri School for the d, which showed the presence of cataract in all the mem of the family for at least five generations. He discusses question whether or not there is such a thing as heredy blindness, and says that on purely theoretical grounds n not be denied that it is at least a possibility, since the like the other organs, is the resultant of long ages of utionary processes. He publishes a letter sent out to 0 oculists asking for information on certain points, and to h 152 replies were received. These he analyzes and finds 84 are opposed to the marriage of two blind persons, e 52 are opposed to the marriage of a blind with a seeing on. He discusses the nature of heredity, the various forms isease which his reported cases tend to show may be litary, and the best method of preventing hereditary lness. He emphasizes the following points:

All whose life work brings them into relationship with the should be aware of the dangers connected with the marriage blind person.

The blind themselves should be warned of the danger to their ren in case of marriage.

A distinction must be made between hereditary and non-hered- forms of blindness.

Legal assistance should be invoked to prevent blind people marrying.

This law should apply only to those cases of blindness in heredity has been proved. With the exception of glaucoma and cataract, these diseases usually manifest themselves at or before the marrying age.

6. A law compelling every person to have an oculist's certificate before marriage, though idealistic, would be impracticable.

7. The general public should be educated in the dangers arising from hereditary blindness. A lengthy appendix (to be continued) publishes the replies received to the before mentioned circular letter.

43. See Abstract No. 136.

44. Abstracted in The Journal, Oct. 17, 1908, p. 1457.

Annals of Surgery, Philadelphia

January

46 *Studies in Cancer—Historical and Critical. J. G. Mumford, Boston.
47 *Serum Reaction in Cancer. H. H. Janeway, New York.
48 Newer Conceptions of Operative Technic in Cleft Palate and Harelip. J. R. Eastman, Indianapolis.
49 *Aberrant Thyroid. B. C. Cushway, Chicago.
50 *Suppurative Pericarditis. E. Eliot, New York.
51 Restoration of the Perineal Portion of the Urethra After Destruction by Fracture of the Pelvis. H. Cabot, Boston.
52 Catheter Fever. L. J. Hammond, Philadelphia.
53 Cruroscrotal Hernia. A. H. Ferguson, Chicago.
54 Giant-Cell Sarcoma of Forearm. A. C. Wood, Philadelphia.
55 Modification of the Bradford Frame for Treatment by Suspension of Fracture of the Femur in Young Children. D. Silver, Pittsburg.
56 Portable Traction Apparatus for Treating Fractures of the Femur and for Various Orthopedic Operations. C. M. Echols, Milwaukee.
57 Intestinal Intussusception Complicating Typhoid. O. C. Smith, Hartford, Conn.
58 Modified Crile Tube for Direct Transfusion of Blood. T. N. Hepburn, Hartford, Conn.

46. **Cancer.**—Mumford reviews the story of cancer as it has been developed in the writings of nearly two thousand years, and shows that the two aspects of the problem, the cause and the cure, have constantly exercised investigators throughout this long period.

47. **Serodiagnosis in Cancer.**—Janeway describes the method of serodiagnosis and analyses a series of twenty cases, from which he concludes that in suspected cases of cancer the patients should have the serum tested against the normal corpuscle emulsion. If negative it would be advisable to make a second and more comprehensive test.

49. **Aberrant Thyroid.**—Cushway says that the following points may suggest the presence of aberrant thyroid:

1. A tumor located most frequently in the anterior or lateral triangles of the neck.
2. Tumor mass may increase in size during period of menstruation.
3. Tumor may be first noticed and increase in size at puberty.
4. Greater frequency in women.
5. Growth usually slow and without attendant symptoms unless cyst formation takes place.

50. **Suppurative Pericarditis.**—Eliot emphasizes strongly his belief that in every case of pyopericarditis the patient, if not moribund, should be operated on, and that in those cases in which a general anesthetic can not be tolerated, operation may yet be successfully carried out under cocain or some other suitable local anesthetic. He summarizes a series of cases from the literature and adds one of his own.

Archives of Otology, New York

December

59 The Membrana Tectoria and the Theory of Tone Perception. G. E. Shambaugh, Chicago.
60 Cerebellar Tumor Involving the Auditory Nerve. G. L. Biggs, London.
61 Negative Pressure as a Therapeutic Agent in Diseases of the Nasal Accessory Sinuses, Throat, Ear and Mastoid. E. R. Lewis, Dubuque, Iowa.
62 Phlebitis without Thrombosis as Cause of Obliteration of Sinus in Children. S. Kramm, Berlin.
63 Treatment of Acute Middle Ear Suppuration, with Nipple-Shaped Perforation, by Aspirating Pus into the External Meatus. O. Muck, Essen, Prussia.
64 Epidermic Cysts Following Transplantation in Cavity Produced by Radical Mastoid Operation. W. Schoetz, Heidelberg, Germany.
65 Functional Examination of the Organ of Hearing in Deaf-Mutes. G. Alexander and G. W. Mackenzie, Philadelphia.
66 Structure and Function of the Epithelium in the Sulcus Spiralis Externus. G. E. Shambaugh, Chicago.
67 Arterial Hemorrhage from the Auditory Meatus in a Child, After a Brief Attack of Acute Otitis Media Following Tonsillitis with Tonsillar Abscess. J. A. Spalding, Portland, Maine.
68 Sinus Thrombosis, with Atypical Symptoms. Operative and Pathologic Findings. S. J. Kopetzky, New York.
69 Unsuspected Necrosis of the Petrous Bone. Meningitis. Death. Coexisting Mastoid Suppuration and Extradural (Cerebellar) Abscess. H. Hastings, Los Angeles, Cal.
70 Bacterial Suspensions in Treatment of Aural Suppuration. R. Connor, Detroit, Mich.

Buffalo Medical Journal

January

71 Mineral Nutrients, Air, Water and the Salts. H. R. Hopkins, Buffalo.
72 Renal Decapsulation for Puerperal Eclampsia. W. E. Jones, Rochester, N. Y.
73 Vaccination for Smallpox. Should It be Discontinued and Abolished? J. B. Colegrove, Washington, D. C.
74 New Duty of the Medical Profession: The Education of the People in Scientific Medicine. S. W. S. Toms, Nyack, N. Y.

Bulletin Johns Hopkins Hospital, Baltimore

January

75 John James Wepfer, a Renaissance Student of Apoplexy. J. E. Donley, Providence, R. I.
76 Dissecting Aneurism. W. G. MacCallum, Baltimore.
77 *Persistent Bacteriuria. J. T. Geraghty, Baltimore.

77. **Persistent Bacteriuria.**—Geraghty reports four cases and discusses the nature of the condition. He draws the following conclusions:

1. Bacteriuria, when persistent, is always due to organisms of slight pathogenicity.
2. Bacteriuria due to the *Bacillus coli communis* produces an acid urine. When due to *Staphylococcus albus* it may be alkaline and give rise to a troublesome phosphaturia.
3. It is secondary to some focus in the urinary tract or neighboring organs.
4. It may persist indefinitely despite all treatment without producing any inflammatory reaction on the part of the vesical mucosa.
5. The results of vaccine therapy are entirely negative.

Denver Medical Times and Utah Medical Journal

January

78 Summation of Data in Regard to the Appendicular Artery in Sixty-five Personal Dissections. B. Robinson, Chicago.
79 Dr. John Brown. E. S. Pratt, Denver, Colo.
80 *Use and Abuse of Salt with Food. H. O. Beeson, Calcite, Colo.
81 Gymnasium and Training in Personal Hygiene as Factor in Overcoming Abnormalities of Health During Infancy and Puberty. C. G. Plummer, Salt Lake City, Utah.

80. **Use and Abuse of Salt.**—Beeson does not share the common belief that salt is an aid to digestion, and holds that the universal use of salt is no argument that it is necessary. Its actual use depends on the fact that small molecules serve to hold in solution the various colloid and crystalloid materials. Its abuse lies in the fact that in excess it interferes with digestion, inhibits glandular action, retards secretion, lays the foundation for the reaction of succorrhea and secondary infection and taxes the emunctories, thereby diminishing functional efficiency. He discusses its influence in delaying or perverting digestion and describes his experience in obtaining relief within a week from a ten years' progressive fermentative intestinal indigestion, by cutting out all supplementary salt. He concludes that the claim that salt is an aid to digestion is not founded on experiments or observations, but solely on perverted taste. The taste for salt with food is acquired. Infants do not get much of it. Wild animals never take it with food, and only those that eat vegetable food containing a minimum of salt ever seek it.

Dominion Medical Monthly, Toronto

January

82 Two Cases of Facial Hemiatrophy. G. Chambers, Toronto.

Journal of the Tennessee State Medical Association, Nashville

January

83 Ureteral Catheterization. R. A. Barr, Nashville.
84 Lithemia. T. O. Burger, McMinnville, Tenn.
85 Affections of the Blood Vessels of the Liver. R. J. McFall, Cumberland City, Tenn.

Texas State Journal of Medicine, Fort Worth

January

86 The Louisiana System of Hygienic Education. F. J. Mayer, New Orleans.
87 *Division of Fees. B. Saunders, Fort Worth.
88 An Impermeable Esophageal Stricture. Operation. Recovery. J. S. Wooten, Austin.
89 Diagnosis and Office Treatment of Some Gynecologic Patients. J. W. Torbett, Marlin.
90 Hypernephroma of the Kidney. A. L. Hathcock, Palestine.
91 Treatment of Extensive Burns. E. J. Neathery, Sherman.

87. Abstracted in The Journal, Oct. 31, 1908, p. 1536.

Journal of Cutaneous Diseases, New York

January

92 *Congenital Alopecia as an Expression of Atavism. J. N. Hyde, Chicago.
93 Study of Acnitis with Report of an Extensive Case. J. F. Schamberg, Philadelphia.
94 Use of Liquid Carbon Dioxid. J. Zeisler, Chicago.

92. **Congenital Alopecia.**—Hyde discusses the following conditions and reports notable cases:

1. Complete and universal absence of hair at birth, not succeeded later in life by a piliary growth. This is believed to be an intrauterine atrichia due to a failure of development of the hair-pouches.
2. Universal congenital hypotrichiasis, in which at birth hairs exist in all regions of the body, but later fail to be succeeded by filaments normal in length, vigor, color, and texture. Two subvarieties of this condition have been recognized: (a) the infant at birth is provided with the relatively long hair of most normal infants; this in due time falls and is replaced by a scanty down which later in life fails to ensure a normal hirsuteness of the scalp; (b) after birth the infant fails to lose the temporary hair of the scalp, which persists, but later develops merely a scanty or il developed piliary growth.
3. Complete or partial absence of hair at birth in definitely circumscribed regions, such as the scalp, the brows, the pubes, or the axillæ. The anomaly is rare, and persistence through life still rarer Many published observations are lacking in detail of special importance.

Dentists have given scanty attention to the hair and nails; physicians have often neglected to describe the dental conditions. The absence of hair may affect one, several, or al regions of the body. In the records of congenital alopecia individuals are cited, not only of one family, but of generation of a single family, who have been similarly affected. Hyd discusses coincident anomalies, of which those of the eye appear to be the rarest. He considers the condition in th light of comparative pathology and embryology.

Louisville Monthly Journal of Medicine and Surgery

January

95 Cardiovascular Effects Induced by the Use of a Drug no Therapeutically Understood. W. H. Rubovits, Chicago.
96 Hyperchlorhydria and Its Treatment Based on Animal Ex periments. M. M. Portis, Chicago.
97 Surgery of the Stomach. J. G. Sherrill, Louisville, Ky.
98 *Why Operations for Bunion Fail, with a Description of On that Does Not. J. L. Porter, Chicago.

98. Published in the *Lancet-Clinic*, Dec. 26, 1908, and ab stracted in The Journal, Jan. 16, 1909, p. 248.

Memphis Medical Monthly

January

99 More About Cancer of the Rectum. G. B. Evans, Dayto Ohio.
100 Psychotherapy—Its Relation to the Medical Powers of N ture. J. S. Rawlins, Dancyville, Tenn.
101 Anasarca and Edema. L. Leroy, Memphis.
102 Social and Business Side of Medicine. L. E. Moore, Searc Ark.
103 Glioma of the Retina. J. F. Rowland, Hot Springs, Ark.

Northwest Medicine, Seattle, Wash.

January

104 *Intracranial Complications of Mastoid Disease. W. Hous Portland, Ore.
105 Appendicitis in Pregnancy. E. O. Jones, Seattle, Wash.
106 *The Emmanuel Movement and Its Relation to Medicine. Hinman, Spokane, Wash.

104. **Mastoid Disease.**—House discusses the intracranial con plications of this disease. He describes the anatomy of th auditory canal and the mode of development of cranial con plications on the blocking up of the secretion from the midd ear which takes place when the Eustachian tube ceases to patulous. He summarizes the symptoms of various possib complications as follows, evidence of middle ear being pr supposed in all, stating, at the same time, that any pulse the presence of mastoid or middle-ear disease which becom slower than normal is a danger signal that must not be di regarded:

Extradural Irritation.—Headache, not localized, but worse same side of skull. Vertigo, usually slight. Special sense syn toms: Word deafness or blindness; partial aphasias; perversio of smell. Psychic abnormalities; pupillary reaction slower on sa side than its fellow; knee-jerks increased, but equally.

Extradural Abscess.—Increase in subjective symptoms of abo Appearance of septic symptoms. Increase in opposite knee-je Pupil on same side slower, and in dim light larger than its fello Slow pulse. Sighing respiration possible.

Abscess of Cerebrum.—Increase of all signs of extradural scess: Great headache; stupor and hebetude; pinched countenan very slow pulse, usually below 56, dropping as pressure increa as low as 26. Numbness of muscles of opposite side. Partial he plegia. Impaired deglutition. Irregular respiration. Marked ference in knee-jerks; opposite one greater. Wide pupils; pu on same side the larger; choked disc or optic neuritis possible.

Cerebellar Abscess.—General signs of pus as in cerebral scess: Nystagmus; sensation of rotation of objects; intense v tigo; cerebellar fit. Prior to death spread of infection may br on signs of meningitis,

Meningitis.—Septic symptoms very marked; rapid pulse; irreg- ular respirations; large pupils; semiunconsciousness or uncon- sciousness; rigid neck. Cranial nerve involvement, producing stra- ismus, conjugate deviation of orbits, etc.; difficult deglutition, Cheyne-Stoke's respiration, high fever and death.

106. **The Emmanuel Movement.**—Hinman discusses this novement and holds that it can do a great deal of good if visely executed and carefully controlled. It does not neces- arily encroach on the duties of the medical profession.

Therapeutic Gazette, Detroit

January

07 Results Following Operations. J. G. Clark, Philadelphia.
08 Alcoholism and Its Treatment. W. House, Portland, Ore.
09 *Shall We Bleed?—Shall We Blister? R. L. Hinton, Prescott, Ark.
10 Actions of Bile and Some of Its Constituents on Intestinal Peristalsis and the Circulation. I. Ott, Easton, Pa., and J. C. Scott, Talma, Ind.
11 *Method of Protecting Abdominal Wounds Against Infection by Means of a Peritoneal Tube, with Special Reference to Its Use in Connection with the Gridiron Operation in Septic Cases. G. Torrance, Birmingham.

109. **Bleeding and Blistering.**—Hinton reports cases of pneu- onia, catarrhal pneumonia and congestion of the bowels in hich bleeding and blistering were used to advantage. He ys that if the physician has decided that the case is suit- ole for bleeding he must have confidence in the remedy and se it boldly, not sparingly, or the patient will fail to get its nefit. He discusses the objection of blood letting as a drain the system and has never yet been able to see in reason, id certainly not by observation and experience, that the dis- rging and unclogging of an important vital organ by re- oving a mass of impure blood, tends to the much-dreaded ostration.

111. **Protecting Abdominal Wounds Against Infection.**—Tor- nce describes his method as follows: The ordinary "grid- n" operation is done, and the peritoneum is then caught and incised in the line of the skin incision; each side of the ritoneal wound is then drawn out and sutured to the skin both sides with a running suture of catgut or a few inter- pted sutures. Retractors may then be put in and the ad- sions broken up and the appendix removed; one or two all drains are now placed, and each end of the incision sed around them by means of one or two through-and- ough silk-worm-gut sutures. To insure better approxima- n of the deep layer of muscles a silkworm-gut suture may placed on either side of the skin incision before the peri- ieum is opened, and left to be tied when the operation is npleted.

Yale Medical Journal, New Haven, Conn.

January

Early Diagnosis of Gallstones. R. H. Fitz, Boston.
Heredity and Environment. F. N. Braman, New London, Conn.
*Grocco's Sign. G. Blumer, New Haven, Conn.
*Bearing of Recent Investigations on the Treatment of Typhoid and Its Complications. C. J. Foote, New Haven, Conn.

14. **Grocco's Sign.**—Blumer thinks it must be concluded, r a critical survey of the facts at hand, that paravertebral ness, when decidedly triangular in shape, is fairly dis- tive of pleural effusion when associated with signs of in- horacic diseases. It also seems certain that it is of dis- t value in the recognition of small effusions, and of en- ulated effusions, provided that these are in contact with spinal column. When the triangle does occur as a result lisease below the diaphragm, it is usually symmetrical, rs in shape from the typical triangle of pleural effusion, should be distinguished without trouble on this account, on account of the presence of symptoms pointing to intra- minal disease.

5. Abstracted in The Journal, July 25, 1908, p. 339.

American Journal of Urology, New York

January

Some Cases of Tuberculosis of the Kidneys of Diagnostic Interest. L. Casper, Berlin, Germany.
Indications for and Technic of Partial Nephrectomy. C. G. Cumston, Boston.
Sounds Versus Dilators. A. Ravogli, Cincinnati.
Byron Robinson's Three Ureteral Isthmuses. T. B. Wood, Chicago.

West Virginia Medical Journal, Wheeling

January

120 Indications for and Comparative Methods in Removal of the Eye. W. K. Butler, Washington, D. C.
121 Treatment of Perforative Peritonitis. R. J. Reed, Wheeling.
122 Complications and Sequelæ Affecting the Respiratory and Circulatory Systems. R. J. Hersey, Wheeling.
123 *Nervous and Mental Complications of Influenza. J. R. Bloss, Huntington.
124 Nose, Throat and Ear Complications of Influenza. T. W. Moore, Huntington.
125 Diagnosis and Treatment of Typhoid Fever. L. L. Edgell, Keyser.
126 Minor Things in Medicine. J. F. Bigony, Hinton.

123. Abstracted in The Journal, June 6, 1908, p. 1933.

Vermont Medical Monthly, Burlington

January

127 Differential Diagnosis of Scarlet Fever, with Special Reference to the Scarlatiniform Eruptions. G. R. Pisek, New York.
128 Colitis, Sigmoiditis and Rectitis, and Importance of the Proctoscope in Their Treatment. T. C. Hill, Boston.
129 Complications of Pneumonia. G. S. Bates, Morrisville, Vt.

University of Pennsylvania Medical Bulletin, Philadelphia

January

130 *Some Newer Facts in Connection with Diabetes Mellitus. The von Noorden Diet Tables. J. Tyson, Philadelphia.
131 Operative Treatment of Papillo-Edema (Choked Disc), with Special Reference to Decompressing Trephining. G. E. de Schweinitz and T. B. Holloway, Philadelphia.
132 Variations in the Arteries of the Human Body. G. Fetterolf, Philadelphia.
133 *Tumors of the Salivary Glands. J. Speese, Philadelphia.

130. **Diabetes Mellitus.**—Tyson discusses acidosis and other important facts which have increased the efficiency of the symptomatic treatment. He describes the following test for acetone: To 15 c.c. of urine add 1 c.c. of acetic acid and a drop of strong sodium nitroprussid solution. Float on top of this from 5 c.c. to 10 c.c. of ammonium hydrate. The end-reaction is shown by a beautiful purple at the line of contact, communicated to the urine if the tube is shaken. He cites the important practical conclusions revolutionizing in some respects our treatment of diabetes but verified by experience, that in very bad cases, so far from carbohydrate food being harmful, it becomes actually necessary in order to secure a proper proteid metabolism, and prevent the circulating and fixed proteids from breaking up into the volatile acids which contribute to acidosis and diabetic coma. He discusses the von Noorden diet table.

133. This article also appears in the *Pennsylvania Medical Journal*, January, 1909.

Pennsylvania Medical Journal, Athens

January

134 *Some Obstetrical Kicks. J. H. Wilson, Beaver.
135 Tumors of the Salivary Glands. J. Speese, Philadelphia.
136 *Beginning Signs of Retinal Angiosclerosis. W. Reber, Philadelphia.
137 *Gross Obstructive Vascular Disease in the Retina. C. M. Harris, Johnstown, Pa.
138 *Relation of the Faculty of Hearing to the Faculty of Speech. G. Hudson-Makuen, Philadelphia.
139 Importance of First-Aid Dressings in Wounds of Civil Life. G. W. Guthrie, Wilkes-Barre.
140 *Need of Better Provision for the Treatment of Mental Disease in Its Early Stage. J. M. Mosher, Albany, N. Y.
141 Medical Requirements in Pennsylvania. A. R. Craig, Philadelphia.
142 Random Thoughts on Medical Organization. W. B. Konkle, Montoursville.

134. Abstracted in The Journal, Oct. 3, 1908, p. 1179.

136. Abstracted in The Journal, Oct. 17, 1908, p. 1357, and also published in *Annals of Ophthalmology*, January, 1909.

137. Abstracted in The Journal, Oct. 17, 1908, p. 1357, and published in *Annals of Ophthalmology*, January, 1909.

138. Abstracted in The Journal, Oct. 24, 1908, p. 1456.

140. Abstracted in The Journal, Oct. 10, 1908, p. 1270.

Medical Herald, St. Joseph, Mo.

January

143 Care of Perineum During and After Parturition. J. H. Talboy, Sioux City, Iowa.
144 Some of the More Unusual Uses of Plaster of Paris in General and Orthopedic Surgery. H. W. Orr, Lincoln, Neb.
145 Immunity to Disease. C. B. Hardin, Kansas City, Mo.
146 Treacherous Character of Appendicitis. E. Lanphear, St. Louis.
147 Treatment of Bronchopneumonia in Infants and Children. L. C. Davis, South Milwaukee, Wis.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

January 23

1 *Myoma and Pregnancy. Sir W. Smyly.
2 Adenomyoma of the Uterus. J. Bland-Sutton.
3 Cases of Adenocarcinoma of the Uterus. K. M. M. Kerr.
4 Ruptured Tubal Pregnancy at Four Months: Operation in Cottage. Recovery. T. L. Llewellyn.
5 Pyelitis of Pregnancy Treated with *Bacillus coli* Vaccine. H. T. Hicks.
6 Acute Inversion of the Uterus. A. W. Holthusen.
7 *An Experiment in Treatment of Epilepsy. D. Goyder.
8 Flagellation of Lymphocytes in Presence of Excitants Both Artificial and Cancerous. H. C. Ross and C. J. Macalister.
9 Treatment of Pernicious Anemia. B. Bramwell.
10 Free Use of Bacteriologic Cultures for the Destruction of Rats and Mice. J. Danysz.
11 Acute Pancreatitis Followed by Pancreatic Abscess: Operation; Recovery. C. H. Robinson.
12 Arrow Wounds in Northern Nigeria. A. C. Parsons.

1. **Myoma in Pregnancy.**—Smyly considers the subject, first as regards the effect of pregnancy on the tumors; and secondly, as to the effect of the tumors on the course of pregnancy, childbirth and the puerperium. Pregnancy in a myomatous uterus causes changes in the position, size, shape, and consistence of the tumor. The tumors rarely give rise to serious complications in the course of pregnancy, childbirth and puerperium; but the following symptoms have been recorded as due to them: Hemorrhages, abortions, placenta prævia, ectopic pregnancy, intestinal obstruction, ischuria and obstruction of the ureters, with consequent hydronephrosis; twisting of the pedicle with peritonitis; and serious pressure symptoms from the great size of the growth, or from retroversion and impaction of the uterus in the pelvis. Owing to the fact that many symptoms are common both to the tumors and to pregnancy, there is often great difficulty in diagnosis. During labor, tumors of the body of the uterus seldom give rise to trouble, though they may cause uterine inertia and obstruct dilatation when situated in the lower segment or cervix. But large tumors adherent in Douglas' pouch, or which have developed into the subserous areolar tissue, may cause serious and even insuperable obstacles to delivery. Malpresentations and placenta prævia occur with frequency. In the third stage myomata cause trouble more frequently than in any of the other stages—inversion of the uterus, adhesion of the placenta, postpartum hemorrhage and septic complications. During pregnancy interference is seldom called for, although removal has been practiced without interrupting gestation. The induction of abortion has been abandoned. At term and during labor, when no obstruction or other complication occurs, no special treatment is needed. Polypi should be removed and cervical myomata enucleated, but tumors growing into cellular tissue can seldom be removed *per vaginam* without great danger. In large and obstructing tumors the obstetrician should make it a rule to wait as long as spontaneous delivery is possible, but not long enough to render operation useless. Efforts to drag the fetus past the obstruction by forceps, version, etc., are generally to be condemned. Cesarean section alone is seldom sufficient. It should usually be combined with enucleation of the tumors or extirpation of the uterus. Panhysterectomy has proved more successful than the supravaginal operation, for the stump is commonly septic and obstructing tumors are usually situated so low that a disease-free stump can not be obtained. When the fetus is known to be dead it is better to remove the uterus unopened.

7. **Epilepsy.**—Goyder reports an experiment of the Bradford guardians who removed the sane epileptics from the workhouse to test the effect on them of open air residence with appropriate occupation, but with entire exclusion of medical treatment or the use of any drugs, it having been asserted that this course would reduce the number of attacks and would probably effect a cure. The method of treatment previously followed by Goyder, of giving these patients sodium bromid as salt with the food and excluding the use of common salt, was therefore suspended. He watched the results, which he tabulates, and which show a great increase in the number of attacks, which again subsided on the restoration of the sodium bromid treatment. In observing the effect of the bromid treatment, it is found that when the epileptics come under its full influence they become rather listless, stupid, and drowsy; that is the expected result, and a result to be attained; it indicates the point of saturation of the system by the salt, the point when the fits become controlled; the daily dose can then be diminished one-half, but not altogether discontinued. The drowsy, listless, symptoms soon pass off and the patient is again fit for work. It should be said that the administration of the salt is not confined to giving a definite amount with the three daily meals, but the bread is especially baked for the patients, the amount of common salt usually mixed with the dough being excluded and replaced by an equivalent of the bromid salt.

Lancet, London

January 23

13 *A Recapitulation Lecture (on Skin Diseases). Sir J. Hutchinson.
14 *Fractures of the Olecranon and Their Treatment by Direct and Internal Splintage. E. M. Corner.
15 *Intestinal Indigestion. P. J. Cammidge.
16 Cause of Achromasia in Leucocytes. H. C. Ross.
17 "Endemic Funiculitis." D. K. Coutts.
18 Infantile Splenic Anemia, with Notes of Ten Cases. W. K. Hunter.
19 Hospital Work in Egypt. H. B. Day.
20 Precept of the Archbishop of Canterbury (A. D. 1445) Forbidding Barbers to Carry on Their Trade Sundays. D'A. Power.

13. **Recapitulation of Skin Diseases.**—Hutchinson discusses the following conditions: acromegaly, sudoriparous cysts with xanthelasmic pigmentation, xanthelasmic pigmentation, xanthoma glycosuricum, xanthelasmic milium, leprosy, the early diagnosis of cancer, tumors of the female breast, common pruriginous eruptions of childhood and alopecia areata.

14. **Fractures of the Olecranon.**—Corner studies a number of cases of fractures of the olecranon, and discusses the principles and practice of direct internal splintage as applied to them. He holds that his studies of the results of wiring the olecranon have demonstrated the following points: 1. Internal splints lead to absorption of the hard substances of the bone round them. 2. This condition in its turn leads to the loosening of the internal splint, and therefore the more easily to its breaking with a sudden effort, to the commencing extrusion of a screw, and to some separation of the fragments. 3. If the part is kept at rest by external splints, in addition, the soft bone around the internal splint will harden and reossify, bringing about bony union between the fragments. 4. If the part is exercised, as it must be when the fracture is in the neighborhood of a joint, the fragments are still further separated from each other and the union between them is fibrous, not bony. 5. A perfectly good and excellently functional limb is obtained with such a fibrous union, with some possible limitation of extreme flexion and extreme extension. 6. This limitation is caused by the adhesion or cicatrical contraction of the attachments of the olecranon to the humerus putting the triceps at a mechanical disadvantage, arising an being inserted on the same bone. 7. The advantage of direc and internal splintage lies solely in its allowing movement to be begun early, preventing much limitation to the movements of the olecranon on the humerus. 8. From the poin of view of the subsequent value of the limb, it makes littl or no difference whether the union between the fragments i fibrous or bony, provided that the olecranon moves freely. It is a matter of indifference as to the nature of the interna splint used, such as a silver wire, copper wire, iron wire silk. Screws are not so good as sutures in this situation; a absorbable suture is not a good internal splint, because i presence will be required for some weeks at least. 10. F success the operation area must not suppurate. 11. In ne lected cases the fragments of the broken ulna may becom more and more separated, and if the skin becomes adherent violent effort may tear open the joint. 12. An excellent resu can be obtained with or without operation, provided the ole ranon does not become restricted in its movements on t humerus; the more its restriction, the worse the result. Hen the mobility or immobility of the olecranon on the humerus a very important clinical index of the value of operation the case. 13. If the fragments are to be sutured the operati

hould be done as soon after the accident as the condition of he skin allows. 14. Operation is indicated in the majority of cases, particularly by wide separation of the fragments in he early period and by the imperfect mobility of the olec- anon in the later stages. 15. The earlier that operation is ndertaken the better the prognosis of its results.

15. **Intestinal Indigestion.**—Cammidge discusses the altera- ions in the digestive processes leading to intestinal indiges- ion. He describes the symptomatology, and in diagnosis in- ists especially on a complete and exhaustive analysis of the eces, macroscopically, microscopically, chemically and bac- eriologically. In analysis of the urine, special attention must e devoted to the pancreatic reaction. The stomach contents hould be examined, both before and after a test meal, for vidence of hyperchlorhydria, catarrh, dilatation, etc. The rly recognition of intestinal indigestion is of great import- nce, for toxemia may arise and unfit the patient for any men- l work, and many such patients drift into the "somewhat eterogeneous group of cases provisionally labeled 'neuras- enia.'" A remote consequence is diabetes, apparently due involvement of the pancreas. It is usually slow and insid ns.

Medical Press and Circular, London

January 20

21 *Cerebral Abscess. W. Taylor.
22 Salicylates in Rheumatic Affections. R. Stockman.
23 Syphilitic Facial Paralysis. Prof. G. Milian.
24 *Mangosteen Treatment of Dysentery. M. Ambrose.

21. **Cerebral Abscess.**—Taylor discusses cerebral and cere- llar abscesses, and particularly makes the point that, in ese days of diagnostic lumbar puncture, great caution must displayed in using it in the presence of cerebral or cerebel- r abscess, lest the altered conditions of tension lead to pture of the abscess into the membranes.

24. **The Mangosteen in Dysentery.**—Ambrose gives the his- ry of four cases, out of some hundred, recorded during epi- mics in the Far East, in which the failure of ipecacuanha d other customary treatments was followed by the adoption a Penang native remedy, namely the rind of the mango- en fruit. The mangosteen rinds are roasted and powdered d mixed with Chinese sugar in the proportion by weight of o of the former and one of the latter. From half a dram a dram of this powder is administered every three or four urs until formed stools, free from blood and mucus, are ssed. He describes the botany of the fruit, which comes m the *Garcinia mangostanc*, N. O. *Guttiferæ*.

Clinical Journal, London

January 20

Malaria. F. M. Sandwith.
Sore Eyelids. N. B. Herman.
Pathology of the Ovum. J. Bland-Sutton.

Journal of Hygiene, London

November

Toxicology of Nickel Carbonyl. H. W. Armit.
Outbreak of Poisoning from Infected Brawn (Pork Cheese). W. G. Savage and C. H. Gunson.
Rôle of Bacteria in the Biologic Methods of Sewage Purification, with Special Reference to Dentrification. W. Mair.
*Principles Involved in the Standardization of Disinfectants and the Influence of Organic Matter on Germicidal Value. H. Chick and C. J. Martin.
Comparison of the Power of a Germicide Emulsified or Dissolved, with an Interpretation of the Superiority of the Emulsified Form. H. Chick and C. J. Martin.

1. **Disinfectants.**—Chick and Martin describe an elaborate es of experiments looking toward a mode of standardizing nfectants. They describe the conditions that must be plied with in comparing the germicidal value of disinfect- s, and suggest means to satisfy them. They discuss the ial considerations involved in the case of disinfectants con- ing mercury, the choice of a test organism, and the influ- e of organic matter. They also describe a method of dardizing disinfectants in the presence of feces.

Australasian Medical Gazette, Sydney

December

*Status of Obstetrics and Gynecology. E. T. Thring.
The Status of Dermatology. W. McMurray.
*Applications of the Precipitin Reaction in Diagnosis of Hydatid Disease. D. A. Welsh, H. G. Chapman and J. C. Storey.
36 Early Recognition and Treatment of Puerperal Sepsis. T. G Wilson.
37 Abuse of Hospitals and Its Effect on the National Character. R. Worrall.
38 Rupture of Stomach—Partial Gastrectomy—Recovery. T. Ambrose.
39 Case of Henoch's Purpura. W. C. Howle.
40 Diphtheria Outbreak at Boulder, West Australia. R. A. Parker.

33. **Status of Obstetrics and Gynecology.**—Thring pleads for a broader standpoint and a more thorough training in matters gynecologic. He considers it necessary that we should reconsider the position of gynecology and obstetrics: First, as to their relation to general surgery and medicine; secondly, as to the training necessary for those who practice them; and thirdly, as to the probable line or lines of advance in the immediate future.

35. **Precipitin Reaction in Hydatid Disease.**—Welsh, Chapman and Story refer to the results previously obtained by the first two and published in the *Australasian Medical Gazette*, January, 1908 (abstracted in The Journal, April 18, 1908, p. 1309) and in the *Lancet*, May 9, 1908 (abstracted in The Journal, June 6, 1908, p. 1945). Their present communication, which is of the nature of a progress report, deals mainly with the interactions of hydatid fluids (a) not derived from the patient whose serum was being tested, (b) of longer standing than those used in the first series of cases, and (c) subjected to various treatment, in order to preserve them in a sterile condition for many months. The conditions of experiment were, therefore, less favorable than in the first series of cases. The authors state their conclusions under the foregoing conditions as follows: 1. A precipitate is not obtained in any interaction between hydatid fluid and human serum from a patient not invaded by hydatid cysts: 2. Having regard to the long duration and probable irregularity of the interchange of protein molecules between a hydatid cyst and its human host, and having regard also to the possible unsuitability of the hydatid fluid, we must expect a certain number of precipitin tests to fail to give a satisfactory precipitate, and this has been the authors' experience. 3. In the conditions of a diagnostic precipitin test, as described by them for patients suspected of harboring hydatid cysts, a negative reaction is inconclusive, but a positive reaction is conclusive of hydatid invasion, and the latter may be obtained in circumstances of clinical importance.

Dublin Journal of Medical Science

January

41 Baths and Mineral Waters, and Some Fallacies Connected Therewith: A Criticism. W. G. Smith.
42 Study of Developmental Abnormalities as an Aid to that of Human Embryology, Based on Observations on a Persistent Left Superior Vena Cava. D. P. FitzGerald.
43 Sterilization. C. G. Cumston.

Journal of Obstetrics and Gynecology of the British Empire, London

January

44 Rosslin's "Rosegarten": Its Relation to the Past (the Muscio Manuscripts and Soranos), Particularly with Regard to Podalic Version. E. Ingerslev.
45 *Bacteria of the Puerperal Uterus, with Special Reference to the Presence of Hemolytic Streptococci. A. W. W. Lea and E. J. Sidebotham.

45. **Bacteria of the Puerperal Uterus.**—Lea and Sidebotham summarize their personal investigations as follows:

1. In a series of 58 cases in which the lochial secretion was examined between the second and ninth day after delivery, organisms were found to exist in the cervical canal and cavity of the uterus in 80 per cent. of the cases observed.

2. The organisms were mainly those which have been shown to be present in the vaginal secretion during pregnancy. There is, however, considerable evidence to show that organisms also ascend from without during the early days of the puerperium.

3. The course of the puerperium, in the great majority of cases, was entirely uninfluenced by the presence of organisms.

4. Streptococci were cultivated in 20 per cent of cases, and frequently showed marked power of hemolysis.

5. The presence of hemolytic streptococci in the vaginal or uterine secretion can not, in itself, be regarded as an indication of infection.

Intercolonial Medical Journal of Australasia, Melbourne

December

46 Present Position of Spinal Analgesia, an Experience of 278 Cases. B. T. Zwar.
47 Modern Methods in the Investigation of Gastric Disorders. J. F. Wilkinson.
48 Administration of Some General Anesthetics. R. T. Sutherland.

Archives Générales de Chirurgie, Paris

December, II, No. 12, pp. 554-664

49 *Early Typhoid Cholecystitis (Cholécystite typhique précoce.) L. Bobbio and Gennari.
50 *Esophagoscopy in Severe Cicatricial Stenosis of the Esophagus. (Du traitement par l'oesophagoscopie de nos derniers cas de rétrécissements cicatriciels à forme grave de l'oesophage.) Guisez.
51 *Transplantation of Ovaries. (Les greffes ovariennes avec ou sans anastomoses vasculaires.) Mauclaire.

49. **Early Typhoid Cholecystitis.**—Bobbio and Gennari relate a case of typhoid in a woman of 38, two months after her second childbirth. Five days after the first general symptoms pain developed in the right side and the gall bladder was seen to be much swollen. Five days later the pulse of 140 and temperature of 104 F. suggested acute cholecystitis with septicemia, and notwithstanding prompt operation the patient succumbed in a few days. The walls of the gall bladder were found studded with small miliary abscesses while the intestine had scarcely yet become involved in the typhoid process.

50. **Treatment of Stricture of the Esophagus Under Esophagoscopy.**—Guisez was able to cure by dilating or cutting in twenty-three out of 28 very serious cases of impassible stenosis of the esophagus. The esophagus was restored to normal size and shape and the patients are able to eat nearly or quite like other people. The results were better the more recent the development of the strictures. The short, valve-like strictures responded most readily; multiplicity of the strictures was no obstacle to final success, each one being treated in turn. The long strictures with longitudinal infiltration were the most difficult to cure and to keep cured as the stenosis displayed a great tendency to recur. He gives an illustrated description of the esophagoscope and cutting instruments used, with two views of one stricture before and after the three slits were cut in it.

51. **Engrafted Ovaries.**—Mauclaire goes over the history of transplantation of ovarian tissues, summarizing the 19 clinical cases in which autotransplantation gave remote positive results. He then summarizes 13 others in which the ovary was taken from another person. The last in the list is from his own practice. A woman of 29 with bilateral salpingitis for three years had long suffered from irregular, overfrequent and painful menses. He removed both tubes and ovaries, leaving the uterus, and implanted an ovary taken from a woman of 35, who had undergone an operation half an hour before for uterine fibroma and one ovary had been removed. The graft was not successful in this case, and the patient still suffers from the disturbances of the postoperative menopause. In another case he tried to re-establish the circulation through the implanted ovary by anastomosis of blood vessels, and he is convinced that success will lie in this direction. In conclusion he quotes with approval Franklin Martin's assertions in regard to the feasibility and promising future of engrafting the ovaries.

Bulletin de l'Académie de Médecine, Paris

January 5, LXXIII, No. 1, pp. 1-58

52 Improvement of Sclerosis in Patches Under Radiotherapy. (Deux cas de sclérose en plaques améliorés par la radiothérapie.) F. Raymond.

January 12, No. 2, pp. 59-92

53 Typhoid Epidemics at Toulon. L. E. Bertrand.
54 *Prophylaxis of Thrombosis and Embolism. (Coagulation et décoagulation du sang dans les veines.) Chantemesse.

54. **Prophylaxis of Thrombosis and Embolism.**—Chantemesse describes a method by which it is possible to see at a glance whether the coagulating power of the blood is above or below normal. A minute quantity of the blood is mixed with a solution of some salt that prevents coagulation, and with a series of capillary pipettes containing equal amounts of a 1/400, 1/600, 1/700, 1/800, 1/1000, 1/1200 and 1/1500 solution of potassium oxalate, only two or three drops of blood are required to make an accurate test of the condition of the blood in regard to the coagulability at any time. This reveals impending hemorrhage or impending thrombosis, as the blood is seen to be less or more coagulable than normal. In case of the former, administration of a calcium salt will restore the coagulating power to normal, while if the blood coagulates too readily this can be remedied by administration of citric acid—the effects of each watched by repeating the test. He is confident that by this simple means it is within our power to ward off thrombosis and embolism after operations for uterine fibroma, etc., or childbirth, and to ward off hemorrhage in typhoid. He has noticed that whenever there has been much loss of blood from repeated external hemorrhage or internal hemolysis, the organism strives to defend itself against further loss of the kind by increasing the intravenous coagulability of the blood. In typhoid, for instance, and in uterine hemorrhage the coagulating power of the blood increases to a marked degree, and if the circulation becomes sluggish, either spontaneously or in consequence of some ligature, a thrombus gradually forms, then phlebitis, and sometimes—especially after operations for uterine fibroma—the catastrophe of embolism follows. He gave calcium salts to a patient with hemorrhagic typhoid until he overshot the mark and phlebitis resulted; then giving citric acid to render the blood more fluid, the phlebitis rapidly retrogressed, but he carried this to excess also and the hemorrhages returned.. By the pipette potassium oxalate test it is possible to oversee the condition exactly and turn the scale at will.

Grèce Médicale, Syra, Greece

December 15, X, No. 24, pp. 45-48

55 Radical Treatment of Inguinal Hernia. E. Kallionzis. Commenced in No. 22.

Obstétrique, Paris

I, N. S., No. 6, pp. 561-628

56 Research on the Blood and Urine of New-Born Infants. (Recherches sur le sang et sur l'urine des nouveau-nés pour servir à l'étude de l'ictère simple des nouveau-nés.) V. Cathala and R. Daunay.

Presse Médicale, Paris

January 9, XVII, No. 3, pp. 17-24

57 *Typhoid Bacilli Carriers. (Porteurs de germes et fièvre typhoide.) R. Debré.
58 *Influence of External Temperature on the Glycosuria of Diabetics. H. Busquet.

January 13, No. 4, pp. 25-32

59 *False Sclerosis of Nervous Tissue. (Fausses scléroses du tissu nerveux.) G. Durante.
60 Dysenteric Amœbæ and Suppuration in the Liver. (Amibes dysentériques et suppuration du foie.) E. Marchoux.
61 Mydriatic Action of Serum and Urine in Nephritis and in Nephrectomized Animals. G. Macaroff.

57. **Typhoid Bacilli Carriers.**—Debré quotes statistics which show that in a recent analysis of 451 cases of typhoid in women in Germany, 80 per cent. were domestics more or less connected with the cooking of the meals. Rondet has recently observed a family epidemic in which typhoid developed in a series of cases as the persons ate food prepared by the members of the family caring for the sick and those who had recovered from the disease months before. This explains the family epidemics among the poor, as the persons taking care of the sick are also those who prepare the food. In wealthy families the cooks are responsible for the epidemics if they happen to be bacilli carriers—the persons taking care of the sick not participating in the preparation of the food. Job and Grysez have recently reported a typhoid epidemic which was traced to a creamery and persisted after strict disinfection. One of the employés was finally found to have had typhoid six months before and still to be harboring the bacilli. As soon as she was transferred elsewhere the epidemic ceased. He adds that the drastic measures adopted in Soper's case, reported in The Journal, June 15, 1907, page 2019, can seldom be applied, but that chronic typhoid bacilli carriers should at least be excluded from all occupations that have anything to do with food.

58. **Influence of External Temperature on the Glycosuria of Diabetics.**—Busquet's tests of three diabetic patients showed conclusively that the proportion of sugar in the urine constantly decreased when the patients were kept specially warm and increased in the cold. The tests were made with rooms heated to 11 and 12 C. (51 and 53 F.) or at a temperature of 20 C. (68 F.). He theorizes to explain this favorable action of warmth on diabetics, and draws the practical conclusion that diabetics should avoid cold and chilling and should seek to live in a warm even temperature. His clinical experience

confirms in every respect the findings of Lüthje with dogs after removal of the pancreas and glycosuric patients at a temperature of 30 C. (86 F.). Busquet did not apply such extremes of temperature.

59. **False Sclerosis of Nerve Tissue.**—Durante discusses the changes sometimes observed in nerve tissue and shows that some of them are more apparent than real. The nervous elements are modified but some of the fibers still retain their essential characteristics and are thus capable of restoration of function. This explains, he remarks, the clinical polymorphism so frequently observed, the clinical manifestations varying so widely with apparently identical lesions. His research demonstrates further the importance of training and functional re-education of nerves involved in these pseudofibrosarcomas and false scleroses involving the nervous system, instead of regarding them as beyond relief and neglecting further treatment.

Berliner klinische Wochenschrift

January 11, XLVI, No. 2. pp. 45-92

62 Pathology of Atrioventricular System and Heart Weakness. J. G. Mönekeberg.
63 *Case of Atrophy of the Pancreas. W. Keuthe.
64 *Progressive Polyarthritis in Patient with Psoriasis for Nearly Thirteen Years. (Arthropathia psoriatica.) G. A. Wollenberg.
65 *Remote Results of Cerebrospinal Meningitis. (Folgen der Erkrankung an Cerebrospinalmeningitis.) L. Cohn.
66 Antitryptic Action of Blood Serum. (Antitryptische Wirkung des Blutserums.) V. Fürst.
67 Primary Glaucoma. Helbron.

January 18, No. 3, pp. 93-140

68 *Origin, Prevention and Treatment of Tuberculous Glandular Processes in Neck. (Halsdrüsentuberkulose.) A. Most.
69 Autoserotherapy in Serofibrinous Pleurisy. Sehnütgen.
70 Correlation Between Sexual Characteristics and Suprarenals. (Geschlechtscharaktere und Nebenniere in Correlation.) L. Thumim.
71 Importance of Tuberculin in Campaign Against Tuberculosis. S. Elkan.
72 Therapeutic Use of Emanations. A. Bulling.
73 *Sterilizing Properties of Osmotic Currents. (Ueber sterilisatorische Eigenschaften osmotischer Strömungen.) F. Holzinger.
74 Glucosimeter. (Eine neue einfache, quantitative Zuckerbestimmung mit dem Glukosimeter.) I. Zeehandelaar Jbz.

63. **Case of Atrophy of the Pancreas.**—Keuthe reports the letails of a case of atrophy of the pancreas with two conrements, in a man of 56, the diagnosis being made during ife with almost certainty. The atrophy was so extreme that io outlet to the organ was to be found. None of the six diferent functional tests applied gave positive information, but he findings combined rendered the diagnosis more than probble. The patient was under observation for six years during he exacerbations of the trouble while he returned to work uring the intervals of comparative health. The first symptom as a sudden and violent diarrhea. He had had two attacks f typhoid fever and malaria for one year, about twenty years efore the pancreatic symptoms. Some of the metabolic findigs in this case have been previously published, and the utopsy findings are here illustrated.

64. **Joint Affection Accompanying Psoriasis.**—Wollenberg ives the skiagrams taken at an early stage of the progressive ivolvement of the joints in a young woman who had had soriasis for thirteen years. Great benefit was derived from a x weeks course of mud baths, during which the joint disirbances and psoriasis almost completely vanished. New ints soon became affected, however. The prognosis is unvorable, notwithstanding the great improvement to date. the 100 cases on record of the kind very few cures have been corded. The exacerbations generally parallel those of the in affection. The lack of heart complications differentiates ese cases from secondary chronic articular rheumatism. The iagrams are particularly interesting because they show the ndition within 6, 8 or 14 days of the first symptoms in the ints.

65. **Sequelæ of Epidemic Cerebrospinal Meningitis.**—Cohn rerts his experiences with 82 cases of cerebrospinal meninis; 50 of the patients died and 2 died within two years of intercurrent affection; 27 of the others were recently exined. Complete recovery was the rule in all the mild cases. found that after a month of apparent convalescence it is li possible for hydrocephalus to develop. All the signs of paralysis may retrogress, as also choked disc, but if deafness develops it seems to be irreparable. The serum agglutinated meningococci even after two years in two cases. In another case there was atrophy of the testicles.

68. **Prevention of Tuberculous Glandular Processes in the Neck.**—Most explains tuberculosis of the glands in the neck as due to an infection at the sources whence these glands derive most of their lymph. His research has shown that the danger points for invading infection are the tonsils and where the mucosa of the mouth, nose and eyes joins the skin; all other sources of infection are of subordinate importance. In 60 children with these tuberculous glands, in the majority the trouble was evidently dependent on infection from the tonsils, and in the others from the mucosæ opening on the face. Prophylaxis should therefore aim to keep these points in physiologic condition and to train the child to avoid contact with sources of infection. The glandular process once developed, the operation must be thoroughly radical, removing all the groups of glands that could be possibly involved. He uses Kocher's collar incision which is concealed by the collar later; the operation should be followed by thorough general treatment. The article is illustrated.

73. **Sterilizing Properties of Osmotic Currents.**—Holzinger describes experiments which show that bacteria are unable to proliferate in a culture medium in vessels subjected to osmotic currents. The osmotic currents are able to sterilize a culture medium containing bacteria but no albumin, the sterilization being complete in 48 hours and continuing as long as the osmosis proceeds with sufficient energy.

Correspondenz-Blatt für Schweizer Aerzte, Basle

January, XXXIX, No. 2, pp. 33-72

75 Results of Recent Research on Etiology and Diagnosis of Syphilis, Especially Serodiagnosis. W. Kolle.
76 *Stasis Cyanosis After Compression of Trunk. (Stauungsblutungen nach Compression des Rumpfes.) E. Ruppanner.

76. **Stasis Cyanosis After Compression of the Trunk.**—Ruppanner reports four cases from Wilms' clinic at Basle. Two of the patients were women injured during a theater panic and both, besides the stasis cyanosis, were unconscious for nearly twenty-four hours and neither had any remembrance of how they were injured. The swollen aspect and the cyanosis rapidly retrogress as a rule, and by the end of three or four weeks there is no trace of the injury except possibly the still bloodshot eyes. The prognosis is good in every respect except in regard to vision. Consecutive atrophy of the optic nerve has been reported in two cases and in Neck's case the hemorrhage in the macula became transformed into opaque patches. The parts of the skin showing the cyanotic patches are never tender, demonstrating that they are not the result of direct trauma. One surgeon supposed the cyanotic patient was asphyxiated and made ready for tracheotomy until the patient's tranquil breathing showed his mistake. The sharp limitation of the hemorrhagic infiltration and cyanosis below a circular line around the neck may erroneously suggest strangling. In some cases the symptoms may simulate fracture of the base of the skull, especially the suffusion in the conjunctivæ, and the discoloration of the lids, with the hemorrhages from nose, mouth and ears. He is inclined to explain the syndrome produced by compression of the trunk as the result of intense venous hyperemia with reflex closure of the glottis and tension of the abdominal walls, the latter increasing still more the pressure inside the abdomen and chest.

Deutsche medizinische Wochenschrift, Berlin

January 14, XXXV, No. 2, pp. 49-88

77 *Diagnosis and Treatment of Inoperable Gastric Carcinoma. (Diagnose und Behandlung des nicht operablen Magencarcinoms.) L. Kuttner.
78 *Removal of Middle Segment of Stomach on Account of Ulcer. (Entfernung des mittleren Abschnittes vom Magen wegen Geschwür.) Riedel. Commenced in No. 1.
79 *Indications for Spinal Anesthesia, Especially with Abdominal Operations. (Indikationsstellung zur Lumbalanästhesie.) E. Holländer.
80 *Progress in Treatment of Flatfoot Disturbances. (Behandlung der Insufficientia pedis.) A. Schanz.
81 Treatment of Skin Affections with the Quartz Lamp. (Behandlung von Hautkrankheiten mit der Kromayerschen Quarzlampe.) F. Bering.

82 Explanation of Early Reaction After Roentgen-Ray Treatment. (Zur Aetiologie der Frühreaktion nach Röntgenbestrahlung.) H. E. Schmidt.
83 Medication by Inhalation. (Zur Inhalationstherapie.) M. Lubinski.
84 *Treatment of Pertussis. (Zur Therapie des Keuchhustens.) Senftleben.
85 Historical Development of Pharmacotherapy. H. Schulz. Commenced in No. 1.

77. **Diagnosis and Treatment of Gastric Cancer.**—Kuttner calls attention to the onset of the stomach affection as instructive regarding its malignant or non-malignant nature. In all his experience he has known of only three cases in which profuse hematemesis was the initial symptom; in the others there was always a history of acute dyspepsia or chronic gastric catarrh rebellious to ordinary measures. At the same time, he remarks, there is very little danger that a non-malignant chronic gastric catarrh or achylia will become transformed later into a malignant neoplasm. He has encountered only four cases in which years of achylia had preceded the development of cancer. On the other hand, it is a comparatively frequent experience to encounter cancer in patients with a history of gastric ulcer immediately preceding, or with even a long interval of apparent health. Loss of appetite is an instructive symptom of cancer, especially when there is pronounced repugnance to meat. The age is less important for the diagnosis than hitherto assumed; the wider his experience, the larger the number of youthful patients discovered to have cancer—their youth preventing the correct diagnosis in many cases. A family tendency is also an aid to the diagnosis, as also the displacement of the tumor when the stomach is inflated with air, the peristaltic and antiperistaltic movements in the stomach and occult blood in stomach content or stool. The lack of hydrochloric acid and the presence of lactic acid are not specific for cancer but if with lack of hydrochloric acid and good motor functioning no occult blood can be detected in stomach content or stool on repeated examination this is presumptive evidence against the probability of cancer in dubious cases. Left pleuritis of otherwise unexplained origin should suggest the possibility of carcinoma of the lesser curvature. Small scraps of ice or ice-cold water or champagne are useful in case of vomiting, or from 2 to 5 drops of chloroform on ice, or morphin. If the vomiting persists, great relief may be obtained by rinsing out the stomach, possibly using some disinfectant in the water if there is much fermentation. Saline purgatives should be strictly avoided, and rhubarb or cascara used when enemas fail. In diarrhea, lavage of the stomach generally gives relief or bismuth, opium, etc., may be found necessary.

78. **Removal of Middle Segment of Stomach for Ulcer.**—Riedel states that he has performed this operation on 23 patients, with 26 per cent. mortality. On the other hand, none of his patients died in the series of cases in which the operation was restricted to restoring the communication between the cardia and pylorus or to gastroenterostomy. At the same time he regards this resection of the middle segment of the stomach as the operation of the future as all other technics give uncertain results while this restores comparatively normal conditions. The stomach is a little shortened but otherwise it retains its normal shape and it functionates normally. Surgeons have hitherto been more interested in ulcers in the pyloric region as these entail stenosis, but he declares that the callous ulcers which develop in the middle section of the stomach deserve attention fully as much. In his experience they are almost as frequent as the pyloric ulcers—2 to 3—and although the callous ulcer is apparently small yet it destroys the stomach wall very extensively, thus seriously altering its shape. As the ulcer in the middle segment is to the left of the median line, pain from an ulcer in this section is felt under the left costal arch or at the back on the left. As hematemesis does not occur in more than half the cases, this pain and increasing loss of weight are the only signs of the trouble until a tumor becomes palpable. Internal treatment must be exhausted, of course, before surgical measures are contemplated, especially as an ulcer in the mucosa will heal under these measures, but they have no effect on the callous ulcer. Mere excision or gastroenterostomy gives unsatisfactory results as such an extent of stomach wall has been injured by the encroaching ulcer that even approximately normal conditions can not be restored. The proper treatment is to cut out completely the segment involved and suture the parallel edges of the stumps together. His experience shows that this is a comparatively simple and harmless operation, but that it should not be attempted on patients suffering from concomitant heart or lung affections.

79. **Spinal Anesthesia and Its Indications.**—Holländer protests against the way in which surgeons seem to be turning aside from spinal anesthesia. It never fails for operations on the legs, but he prefers local anesthesia for these, except for elderly, decrepit patients. For affections of the abdomen and trunk, especially those with suppuration, requiring tedious operations, the patients generally being much debilitated, spinal anesthesia offers peculiar advantages, not the least among them being the lesser liability to postoperative atony of the bowel. It has been his experience that patients who have had operations done under various technics prefer the spinal method, not minding the retention of consciousness. It sometimes proves a direct aid during the work as the patient can be asked to strain, cough, etc. On the other hand, the surgeon would be much hampered by it in case of an unexpected hemorrhage or other mishap. The fact that there need be no fear of transient postoperative paralysis of the intestines frequently turns the scale in favor of the spinal technic. The addition of adrenalin to the fluid injected causes increased tonicity in the intestines; they look as if they had been lying for a time in formalin. The tonus may even become excessive and peristalsis so vigorous that the intestine may simulate a tumor. This stiffness and prominence of the intestines is a great help in operating and it promotes uneventful healing. In 19 cases of appendicitis in which the operation was done under spinal anesthesia, the condition afterward compared most favorably with that of patients operated on by the usual inhalation technic. He has performed forty-one other abdominal operations with the spinal technic and prompt recovery, including operations on the stomach, pancreas, kidney, gall bladder and intestines besides operations on the uterus and ovaries. In another case a much debilitated woman with a carcinoma in the rectum involving also vagina and uterus was operated on as the large neoplasm was movable. It was removed by the abdominal route under spinal anesthesia, the operation lasting two and a half hours. The woman seemed better after than before the operation; there was no collapse, but she succumbed later to sepsis from gangrene of the sigmoid flexure which had been sutured to the anus.

80. **Treatment of Flatfoot.**—Schanz calls attention to the fact, which has been generally overlooked hitherto, that the arch of the foot is a transverse as well as a longitudinal arch. The transverse mechanism may be out of gear without disturbance of the longitudinal or both may be involved. This is the explanation of the persistence of symptoms after correction of flatfoot: the transverse arch has not been corrected with the longitudinal. The disturbances in the transverse arch are experienced in the front part of the foot and it spreads out abnormally wide; between the ball of the big toe and the ball of the little toe the distance is over a quarter of an inch wider than in the other foot. By strapping the foot with adhesive plaster to bend it into proper shape to restore the transverse arch, all disturbances vanish. He prefers for the purpose a strip of cotton flannel and Finck's glue. This makes a plaster that fits better and is more easily removed. The glue is made of 7 parts Venice turpentine; 6 parts mastic; 12 parts colophony; 4 parts white resin, and 90 parts 90 per cent. alcohol, mixed and filtered. A thin layer of this mucilage is spread over the foot, and the fuzzy side of the cotton flannel adheres firmly to it. He regards this combination of glue and cotton flannel as a marked advance in the technic of such dressings. He also gives an illustrated description of a durable leather device to wear to sustain both the longitudinal and the transverse arch.

84. **Treatment of Whooping Cough.**—Senftleben thinks that quinin and antipyrin can be depended on to abort or attenuate pertussis, but that, as usually given, the dislike of the child to take medicine leads to inadequate dosage or to its total neglect. This can be obviated by injecting a solution of the drug into the rectum. The solubility of the antipyrin commends it for the purpose, and he has 1 gm. (15 grains) dissolved in 25 gm. warm water, injected three times a day, for a child over 12, with smaller doses for younger children. He has never noticed any ill effects on the heart, while, when the injections are commenced early, the disease is frequently aborted. It does not depress the appetite given in this way, and the therapeutic effect sems to be constant and reliable.

Medizinische Klinik, Berlin

January 10, V, No. 2, pp. 41-78

86 *Diagnosis of Abdominal Affections. (Zur abdominalen Diagnostik.) R. Schmidt.
87 Modern Care of Puerperæ. (Erfahrungen mit moderner Wochenpflege.) E. Opitz. Commenced in No. 1.
88 Clinical Importance of Tryptic Ferments and Their Antibodies. (Die klinische Bedeutung der tryptischen Fermente und ihrer Antikörper.) G. von Bergmann.
89 Etiology of Perverse Sexual Impulses. (Zur Aetiologie der konträren Sexualempfindung.) J. Sadger.
90 Advantages of Soap Suppositories in Appendicitis. (Seifenzäpfchen bei Perityphilitis.) W. Zeuner.
91 Relation of Dermatology to General Medicine. Wolters. Commenced in No. 1.

86. **Abdominal Diagnosis.**—Schmidt gives a long list of points useful in the diagnosis of abdominal affections, citing cases from his experience to sustain his statements. In one case a man of 62 with symptoms of cirrhosis of the liver was auscultated and a distinct systolic murmur was heard, most marked over the right lobe. This strictly systolic murmur over the liver differentiated at once carcinomatous infiltration, confirmed by autopsy. In this last case the murmur disappeared after a time, probably from complete obliteration of an afferent artery. These systolic murmurs may also be observed in cancer of the stomach and pancreas, evidently being the result of compression of some artery. The murmur is most pronounced at the end of expiration. The splashing sound in the intestine is as instructive as in the stomach. Instead of the usual means of eliciting it, he advises the technic as for Hippocrates' test for pneumothorax, substituting the pelvis for the shoulder. Friction sounds are very instructive, showing inflammation around the organ which may yield promptly to local revulsion. Friction sounds are very important as the first symptom of incipient uberculous peritonitis, before ascites has developed. He remarks that when the abdominal reflexes are very active, inflammatory processes in the abdomen may be excluded, as a ule, the assumption of neurogenic disturbances being more plausible. The palpation findings are usually more instructive in the morning than in the afternoon, when there are apt to e gases in the stomach and intestines. He warns that a umor may be movable when the patient breathes with the iaphragm, while the same tumor with purely costal breathing oes not move at all. To insure that the patient breathes ith his diaphragm he lays one hand on the epigastrium and ells the patient to inspire until the hand is lifted. Schmidt egards the diazo reaction as extremely important in the diagosis of tuberculous peritonitis. It never occurs in such prounced form in other affections; the findings were always egative in his cases of cirrhosis. Ehrlich's aldehyd reaction instructive in regard to disturbances in the liver. The findgs are almost always positive with diffuse cirrhotic prosses and acute congestive liver and at the beginning and d of catarrhal jaundice, but it is seldom observed in cancer in typhoid. In one case lactic acid bacilli could be culvated from the stool, but not from the vomit, and he diagsed a lymphosarcoma in the small intestine, confirmed by topsy. The small intestine had enlarged to form almost a cond stomach. A tuberculous stricture in the small instine may also give this finding of lactic acid bacilli exsively in the stool. The addition of blood to the culture edium promotes the growth of the bacilli. In case of a rhous, diffuse, infiltrating carcinoma in the stomach, the getation is more of a colon bacillus type. Sarcinæ in the stomach content or stool indicate stenosis at the pylorus. In one case, the diagnosis of a neoplasm in the kidney seemed unmistakable, but he differentiated a gastric cancer on account of the number of sarcinæ in the stool and the fact that the violent pains were promptly abolished by anesthesin. This diagnosis was also confirmed by autopsy. Vegetation of Gram-positive anaërobies of the pseudocolon bacillus type is found in many cases of achylia and intestinal fermentative dyspepsia, but such patients are almost invariably young neuropathics. It may be regarded as a stigma of the neuropathic condition. He has never found the leptothrix in malignant intestinal processes. In conclusion, he remarks that there are plenty of means to differentiate affections in the abdomen without inflicting the disagreeable test diet on patients, the power of digestion varying within such wide range at different times in the same individual and especially under the influence of emotions, that the findings are often actually misleading.

Münchener medizinische Wochenschrift

January 12, LVI, No. 2, pp. 57-112

92 *Latent Proliferation of Typhoid Bacilli. (Ueber den latenten Mikrobismus der Typhusbazillen.) M. Lüdke.
93 Serodiagnosis in Syphilis and Other Infectious Diseases. (Die Wassermannsche Seroreaktion bei Lues und anderen Infektionskrankheiten.) F. Rolly.
94 Fat-Splitting Ferment in the Lymphocytes. (Fettspaltendes Ferment in den Lymphozyten.) S. Bergel.
95 *External Version. (Die äussere Wendung.) A. Labhardt.
96 Sterilization and Use of Rubber Gloves. (Zur Sterilisation und Verwendung der Gummihandschuhe.) Heye.
97 Determination of Antigens in Complement Fixation in Tuberculosis. (Nachweis der Antigene bei der Komplementablenkung der Tuberkulose.) J. Bauer.
98 Fibrinous Stomatitis from Pneumococcus Infection. (Ueber fibrinöse Schleimhautentzündung durch Pneumokokkeninfektion.) Mann.
99 Electroscope for Urethra and Bladder. (Ein Spezialelektroskop für Urethroskopie und direkte Kystoskopie.) W. Brünings.
100 Origin of Concrements. (Zur Konkrementbildung.) H. Schade. Commenced in No. 1.
101 *Prevention, Treatment and Forensic Importance of Injuries from Roentgen Rays. (Die Schädigungen, welche durch Röntgenstrahlen hervorgerufen werden.) H. Gocht. Commenced in No. 1.
102 How the Practitioner Can Promote Breast Nursing. (Was kann der praktische Arzt zur Verbreitung des Selbststillens tun?) Vidal.

92. **Latent Typhoid Bacilli in the Organism.**—Lüdke reports extensive experimental research which shows that virulent typhoid germs may be lurking in the spleen and bone marrow when the blood is sterile. His research further throws light on the question of immunity as he found that the agglutinating power increased in inverse proportion to the number of bacilli in the blood. It seems probable that the germs lose most of their virulence when they are located in the tissues, but that they regain virulence as they enter the circulating blood which apparently is a peculiarly favorable culture medium.

95. **External Version.**—Labhardt writes from von Herff's clinic at Basle to describe the indications for external version accepted there and 63 cases in which it was done. This represents only 28 per cent. of the 225 cases of transverse presentation encountered during the last seven years. Only 2 of the women were primiparæ. Excluding 3 cases of extragenital morbidity, there were only 7 or 11 per cent., in which there was fever—a remarkably low percentage when it is considered that external version is applied only in pathologic deliveries. If the transverse presentation can be changed to a head presentation by external version, this is an extraordinary gain for both mother and child; if it can be merely changed to a breech, this is no special advantage for the child, but it spares the mother intrauterine maneuvers, and this is likewise great gain for the mother. Forty-seven out of 51 children were delivered alive by head presentation and 9 out of 12 with breech presentation. In only one instance was the version possibly responsible for the death of the fetus by prolapse of the cord. In one case the asphyxia of the child was due to the funnel-shaped pelvis.

101. **Injuries from the Roentgen Rays.**—Gocht emphasizes the importance of avoidance of the rays and of every possible source of mechanical irritation in case of signs of an x-ray dermatitis, even too frequent washing. Plaster of Paris is pa-

culiarly harmful in this respect. Cold water has always been more satisfactory than warm, especially cold sea water. Court plaster protects, keeps out the air and shuts in the moisture, and has proved very useful in his experience. Cocain and other solutions which have a paralyzing action on the vessels should be scrupulously avoided, but a combination of sulphur and tar in the form of an unguent is easily applied with a broad brush and is very soothing and healing. He advises mechanical removal of all warty, horny protuberances, and excision of large ulcerating areas, suturing afterward or covering with Thiersch flaps. If the burn is near a joint, care must be taken not to allow the development of contractures. His experience as expert in five damage suits brought on account of injury from the therapeutic application of the *x*-rays, impels him to urge physicians to extreme care in protection, dosage and precautions of all kinds, and that they should inform the patients beforehand of the possibility of overdosage even under every precaution. They should also inquire if the patient has had any experience before with Roentgen exposures and whether he is specially susceptible to the *x*-rays. The physician is occasionally reproached for leaving the room for a short time during the exposure, but it must be distinctly understood that this does not imply neglect on his part, as the apparatus and tubes now used work with sufficient regularity for the short period of exposure. In Roentgen damage suits, the experts called on to testify should be Roentgen specialists, or at least have had considerable experience with Roentgen work and the biologic properties of the rays. Injuries from *x*-ray exposures are growing constantly rarer; the main contingent of the sufferers are the mechanics, physicians and their assistants who are interested in perfecting the science of Roentgenology.

Wiener klinische Wochenschrift

January 7, XXII, No. 1, pp. 1-42

103 Serpiginous Corneal Ulcer. (Ulcus serpens corneæ.) E. Fuchs.
104 Pernicious Anemia from the Distoma. A. Gluzinski.
105 Serotherapy of Puerperal Process. (Versuche mit Rekonvaleszentenserum.) T. Meissl.
106 Body Temperature After Injection and Reinjection of Alien Serum. H. Pfeiffer.
107 Spondylitis and Lumbar Hernia. A. Saxl.
108 Physicians at Health Resorts. (Beziehungen der balneologischen Wissenschaft und kurärztlichen Tätigkeit zur Prosperität der Kurorte.) L. Wick.

January 14, No. 2, pp. 43-78

109 Present Status of Etiologic Diagnosis and Antitoxic Treatment of Asiatic Cholera. R. Kraus.
110 Behavior of Cholera Stools in Precipitin Tests. (Verhalten der Cholerastühle gegenüber Serum- und Kotpräzipitin.) R. Kraus and M. Wilenko.
111 Relations of Putrefaction in Intestines to Exclusion of Bile from Intestine. (Beziehungen der Darmfäulnis zum Gallenabschlusse vom Darme.) A. Rodella.
112 *Internal Chloroform Intoxication and Its Treatment. (Interne Chloroformvergiftung und ihre Therapie.) K. Wirth.
113 *Postoperative Parotitis. F. Orthner.
114 *Foreign Bodies in Heart. (Fremdkörper im Herzen.) R. T. Schwarzwald. Commenced in No. 1.

112. **Internal Intoxication with Chloroform and Its Treatment.**—Wirth has encountered two cases of intoxication with chloroform, although only 30 such cases seem to have been reported in the literature. His first patient was a young man who drank 150 gm. (5 ounces) of pure chloroform with suicidal intent. Notwithstanding rinsing of the stomach with water and milk, saline infusion, etc., enough chloroform remained to prove fatal and the patient died in twenty-two hours without recovering consciousness. The fact that chloroform does not dissolve readily in water and sinks to the bottom suggested that better results might be obtained by rinsing the stomach with oil, and he soon had an occasion to verify this assumption. A man of 43 drank from 80 to 90 gm. chloroform as a cure for sleeplessness, and Wirth rinsed out the stomach with warm sesame oil, as this was first at hand, and then rinsed with olive oil until there was no odor of chloroform in the stomach content. He thus used up 7,000 c.c. of oil, the lavage continued for one and a half hours. On account of asphyxia, artificial respiration had to be done for a time, interrupting the lavage. Venesection, withdrawing 300 c.c of blood was followed by saline infusion, and in 24 hours the patient was himself again except for a slight headache. He did not seem to suffer from the usual chloroform irritation of the digestive tract. The favorable termination in this case is undoubtedly to be ascribed, Wirth declares, to the thorough washing out of the stomach with the warm oil until the last trace of chloroform had been removed.

113. **Postoperative Parotitis.**—Orthner calls attention to the large proportion of cases in which postoperative parotitis followed an ovariotomy. The temperature will show whether the parotitis is a manifestation of severe general pyemic or septic infection; if the temperature is normal there is no need for alarm. In his three cases the parotitis developed after ovariotomy, and lasted for weeks before all the objective and subjective symptoms had vanished, but there were no complications. The depressing effect of the parotitis as the patients are recovering and appetite is returning, is the most unpleasant feature of this complication, with the disfigurement and incessant pain.

114. **Foreign Bodies in the Heart.**—Schwarzwald reviews various cases on record of migrating foreign bodies finding their way into the heart. In a personal case described a needle had passed through the heart and several needles were found in the abdominal wall or near the sternum. The needle in the heart must have worked its way into the pulmonary artery. The case is unique, in that the foreign body must have passed completely through the heart. He assumes that the needles made their way through the front of the chest or abdomen, although nothing was known to explain the occurrence. Death was sudden, with no prodrome.

Zentralblatt für Chirurgie, Leipsic

January 13, XXXVI, No. 3, pp. 73-104

115 *Antiferment Treatment of Suppurative Processes with Concentrated Animal Antiferment Serum. (Antifermentbehandlung eitriger Prozesse mit hochwertigem tierischem Antifermentserum.) E. Müller.
116 *Extension by Transverse Nail. (Extension am querdurchnagelten Knochen.) Wilms.

115. See abstract No. 79, in The Journal, February 6. 1909, page 516.

116. **Extension by Nail Driven Through the Bone.**—Wilms uses a nail shaped something like a chisel, and has never had any mishaps with it, but has always found it extremely useful and reliable for extension after reduction of fractures. For the arm or leg he drives the nail only through the tibia or radius alone, not through both bones. The tip of the nail protrudes beyond the skin and has an eye in which the wire is fastened for the extension. He has applied this nail technic in thirteen cases; it is especially useful in case of T fracture of the humerus.

Zentralblatt für Gynäkologie, Leipsic

January 16, XXXIII, No. 3, pp. 73-120

117 *What Does Modern Therapy of Placenta Prævia Accomplish? (Was leistet die moderne Therapie bei der Placenta praevia?) W. Hannes.
118 *Serodiagnosis of Syphilis in Obstetrics. (Zur serodiagnostik der Lues in der Geburtshilfe.) Engelmann.
119 Ophthalmia in the New-born and Silver Acetate. (Die Ophthalmoblennorrhoea und das Argentum acetic.) E. Scipiades.
120 Forceps for High Breech Extraction. (Extraktion des hochstehenden Steisses mit meiner Steisszange.) K. Eisenstein.
121 *Treatment of Abortion. (Zur Abortbehandlung.) S. Chazan.

117. **Treatment of Placenta Prævia.**—Hannes relates the experiences with placenta prævia at Küstner's clinic at Breslau, a total of 246 cases. The maternal mortality was 6.6 per cent., and this mortality would have been much reduced if the inflatable bag, which is the main reliance in treatment of placenta prævia, had been applied earlier. The 8 deaths among the 143 women treated with the hystereurynter were not connected with the use of the bag in any way. If it had been used in more cases and earlier, there would have been fewer deaths from anemia, he is convinced. Of the 147 viable children, 70 per cent. left the hospital in good condition and 75 per cent. in the 132 cases in which the hystereurynter had been used. He urges that the old method of version, with its fetal mortality of 75 or 80 per cent., should be discarded for the hystereurynter with 75 to 80 per cent. living children. Every woman with placenta prævia should be placed in the hands of an expert at the earliest possible moment but every

practitioner should be an expert in the use of the hystereurynter.

118. **Serodiagnosis of Syphilis in Obstetrics.**—Engelmann calls attention to the necessity of regarding the widow of a syphilitic as infected even although she may be married to a healthy man and be apparently healthy herself. In a recent case in his experience the widow after her marriage to a healthy second husband gave birth to two children with the stigmata of inherited syphilis. The specific seroreaction after the birth of the second syphilitic child was pronounced. Specific treatment was instituted at once, and the woman's latent syphilis seems now to have been cured. He remarks that such cases sustain the assumption that inherited syphilis is always derived from the mother. The serodiagnosis seems to be able to reveal the latent syphilis and thus to permit a cure before irreparable damage has been done to the offspring—if only the possibility of syphilis is borne in mind. This is particularly important for the apparently healthy widows of known syphilitics.

121. **Treatment of Abortion.**—Chazan advocates the curette for old cases, but warns most energetically against it for recent cases of abortion. For years he has emptied the uterus by the hand alone each year in an average of 100 cases of recent abortion, and without a single mishap of any kind.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 27, XXIX, No. 155, pp. 1661-1676

122 Wedge Resection of Tuberculous Knee. (Resezione cuneiforme del ginocchio a scopo curativo e ortopedico in processo tubercolare.) G. Moroni.
123 Antagonistic Action of Pancreas Extract to Suprarenal Extract. (Sul potere antiadrenalinico dell'estratto pancreatico.) G. Ghedini.

December 29, No. 156, pp. 1677-1684

124 Symptomatology of Tuberculin Reactions. (Semeiologia delle reazioni tubercoliniche.) G. Massini.
125 Sensitizer in Serum in Chorea. (Sulla presenza di sensibilizzatrici nel siero di sangue di coreici.) E. Calcaterra.

January 3, XXX, No. 1, pp. 1-16

126 Operative Treatment of Intestinal Occlusion. A. Montini.

January 7, No. 3, pp. 25-32

127 Operative Treatment of Chronic Endometritis. P. Romeo.

January 10, No. 4, pp. 33-48

128 Subcutaneous Administration of Purgatives. (Dei purganti per via ipodermica.) C. Nicolini.

Policlinico, Rome

January 3, XVI, Practical Section, No. 1, pp. 1-36

29 Hemolytic Jaundice. (Itteri emolitici.) G. Basile.
30 *Salt in Prophylaxis of Ankylostomiasis. (Nuovo metodo di profilassi contro l'anchilostomiasi.) M. Chiadini.

January 10, No. 2, pp. 37-68

31 Arterial Pressure in the Tuberculous in Relation to Development of the Circulation Center and of the Nervous System. A. Nardi. Commenced in No. 1.

January 17, No. 3, pp. 69-100

32 Reparative Processes in the Ovary After Resection. (Sui processi di riparazione dell'ovaio consecutivi alla resezione.) S. Turretta.
33 *Meningitic Syndrome in Pernicious Malaria. G. Vitello.

130. **Salt in Prophylaxis of Miner's Anemia.**—The results Chiadini's research have confirmed the prophylactic influ- ice of saline water in mines. The mines with salt springs em to be entirely free from the hookworm. These immune ines have a proportion of at least 2 per cent. of salt in the ater. Miners coming from infested mines never cause an itbreak of ankylostomiasis in these mines. By artificially ndering the water in the mines saline it may prove possible eradicate hookworm disease in endemic foci.

133. **Meningitis Syndrome in Pernicious Malaria.**—Vitello's o little patients lived in a malarial district and the fever each case was intermittent, but all the other features of e sickness suggested both cerebral and spinal meningitis, ecially the Kernig sign, contraction of the neck and tris- is. He recalled to mind Capozzi's remark that malaria is most industrious simulator of all kinds of affections, and ve quinin, with prompt and satisfactory results. The men- eal symptoms grew more intense with the onset of each rile paroxysm, and they displayed no regular sequence as true meningitis. It seems evident, he says, that the men- eal symptoms were due to disturbances in the circulation the meninges, not to actual inflammation.

Riforma Medica, Naples

January 4, XXV, No. 1, pp. 1-28

134 Diagnosis of Tumors at the Base of the Brain. (Tumori della base dell'encefalo.) G. Rummo.
135 Primary Syphilitic Polyneuritis in Tertiary Period. C. Frugoni.

Hospitalstidende, Copenhagen

December 2, LI, No. 49, pp. 1369-1392

136 *Astereognosis. K. Malling.

December 9, No. 50, pp. 1393-1416

137 *Roentgen-Ray Treatment of Exophthalmic Goiter. (Om Röntgenbehandling af Morbus Basedowii.) G. Jørgensen.

December 23, No. 52, pp. 1441-1480

138 New Feature of Visual Field in Glaucoma. (En ny Egenskab hos Glaukomsynsfeltet.) H. Ronne.

December 30, No. 53, pp. 1481-1496

139 *Paraffin Prothesis. V. S. Stein.

January 6, LII, No. 1, pp. 1-32

140 Diagnosis of Erysipelas. Sørensen.

136. **Astereognosis.**—Malling has been making a special study of loss of the power to recognize the shape of objects by touch. He has examined sixteen patients with various nervous affections, and describes three cases in which the astereognosis was pronounced. His experience shows that it has no clinical value as a sign of the localization of a brain lesion in or below the cortex. Also that there is no evidence in favor of the assumption of a special center for this sense. It is rather the result of an associative psychic process composed of elements derived from the simple qualities of the sense of touch.

137. **Roentgen Treatment of Exophthalmic Goiter.**—Jørgensen reports seventeen cases of exophthalmic goiter in which a systematic course of Roentgen treatment was instituted. In only two instances did the thyroid show any sign of decreasing in size, and none of the symptoms was improved in any patient to an extent to justify the assumption of any direct curative action. Some of the patients found the nervous symptoms improve somewhat and they gained a little in weight, but this occurs almost always when such patients are admitted to the hospital. He concludes by urging prompt resort to the surgeon when the exophthalmic goiter does not improve under hygienic-dietetic measures.

139. **Paraffin Prothesis.**—Stein here reports considerable research on the best technic for paraffin prothesis, the results confirming the reliability of the method for determining the boiling point by taking up a wire loopful of the paraffin and holding it in a goblet of water in which stands a thermometer and gradually heating until the paraffin begins to melt around the edges of the loop. He rejects all mixtures of the paraffin with vaselin, as it is difficult to estimate correctly the melting point of the mixture. The melting point, he thinks, should be considerably below 50 C.

Ugeskrift for Læger, Copenhagen

November 19, LXX, No. 47, pp. 1335-1366

141 *Decapsulation of Kidneys in Eclampsia. E. Müller. Commenced in No. 46.

December 3, No. 49, pp. 1401-1438

142 *Cardiospasm. K.-Petersen.

January 7, LXXI, No. 1, pp. 1-55

143 *Bloch-Verdin's Sphygmometer. H. Jansen and O. Petersen.

January 14, No. 2, pp. 33-56

144 *Physiologic Action of Roentgen Rays. (Röntgenstraalernes fysiologiske Virkninger.) J. F. Fischer.

141. **Decapsulation of the Kidneys in Eclampsia.**—Müller describes a case in which the convulsions persisted after delivery of a living child six weeks before term. On account of the persisting hemorrhage the placenta was removed by hand, but the coma persisted with occasional convulsions and turbid urine with 1 per cent. albumin. Under a little ether, decapsulation of both kidneys was done the day after delivery, as the patient seemed to be moribund. Improvement was soon perceptible and no convulsions occurred after the operation, while diuresis rapidly increased and recovery was soon complete. He summarizes the details of 23 other cases from the literature, and shows in the 8 fatalities that in scarcely any instance could the decapsulation have been incriminated. In one of these cases the decapsulation was not done until the

patient had lain in coma for several days after delivery, and in another not until after nearly five days of total anuria. Müller has had seventeen cases of puerperal eclampsia in his experience, and nephritis was evident in all. Most of the patients left the hospital with the nephritis still persisting, but in one case the kidneys were apparently restored to normal. Four of the five women with eclampsia after induced abortion recovered as soon as the uterus had been emptied. In all the cases on record the prompt re-establishment of diuresis was noticeable, he says.

142. **Cardiospasm.**—Petersen reports three cases which show the necessity for discrimination in treatment. One patient was a girl of 15 with severe disturbances from cardiospasm, although the esophagoscope revealed nothing abnormal. Belladonna and bromids, with dietetic measures to combat the hyperacidity, soon restored conditions to normal. Another patient was a man of 42, and he was cured by feeding through a sound and dilatation of the cardia with Geissler's sound. The third patient was a young domestic, and a cure was obtained only by a laparotomy with forcible dilatation of the cardia with the finger. This is the first operative case of the kind that has been reported in Denmark.

143. **Bloch-Verdin Sphygmometer.**—Jansen and Petersen give an illustrated description of this simple little instrument, which is a modification of the Basch sphygmomanometer, and relate clinical experiences. It does not pretend to be an instrument of precision, but it allows oversight of the conditions sufficient for all ordinary clinical purposes. It takes the place in measurement of the blood pressure of Tallquist's hemoglobinometer for estimation of the percentage of hemoglobin—being sufficiently exact for the desired purpose.

144. **Physiologic Action of Roentgen Rays.**—Fischer discusses the local action of the rays on the skin, and internal organs and their property of inhibiting growth. Experience has demonstrated that the rays act first and predominantly on the spleen, lymph glands and bone marrow and on the epithelium of the testicles, ovaries and skin, but that no tissue escapes their influence. It is only a question of greater or less resistance on the part of the different tissues. The intensity of the reaction depends entirely on the amount of radio-units absorbed. The cell elements are the point of attack, and the reaction is strongest at the points where cell multiplication is proceeding most actively. The younger the cell, the greater the influence of the rays; the reaction may be so intense that mitosis is arrested.

Upsala Läkareförenings Förhandlingar

December, XIV, No. 2, pp. 107-204

145 *Primary Cancer in the Appendix. (Om primär kancer i processus vermiformis.) V. Wahlgren.
146 *Spinal anesthesia. (Om subarachnoidal anestesi.) F. Zachrisson. Commenced in No. 1.
147 Infectious Processes in Abdomen Originating in the Stomach.) (Några ord om infektiösa processer i bukhålan utgångna från ventrikeln.) K. Dahlgren.
148 Experiences with Spinal Anesthesia at Upsala. (Subarachnoidalanestesien vid kir. kliniken i Upsala, 05-07.) L. Bergström.
149 Sensibility of the Viscera. (Kritiken af Lennanders arbeten om känseln i bukhålan.) G. Nyström.
150 Dicalcic Phosphate as Sediment in Urine. (Om dikalciumfosfat som sediment i urin.) C. T. Mörner.
151 *Diagnosis of Tuberculosis of the Kidneys. (Om njurttuberkulosens diagnostik.) G. Ekehorn.

145. **Primary Cancer of the Appendix.**—Wahlgren adds another to the 72 cases on record and comments on the usually favorable prognosis. In 23 of the 25 operative cases collected by Zaaijer there has been no recurrence during the interval since. Wahlgren's patient was a girl of 15, and the operation was done two weeks after the first signs of pain, which gradually became localized in the right iliac fossa. She is in good health nearly three years after the operation. The details of the 72 cases are given in turn.

146. **Spinal Anesthesia.**—This article is the work of the late Professor Lennander, although completed by Zachrisson. It concludes with a quotation from The Journal, saying that the ideal anesthetic will abolish pain by the abolishment of consciousness, but without danger to life. He adds that spinal anesthesia does not fulfil these conditions.

151. **Diagnosis of Kidney Tuberculosis.**—In this thesis Ekehorn reviews his extensive experience with tuberculous processes in the kidneys, and asserts that he regards it as a duty for every practitioner to be able to diagnose tuberculosis in the urinary apparatus. It does not require specialist skill. He refers to his method of centrifugalizing and contrast staining with carbol fuchsin and malachite green, described in detail in The Journal, February 13, page 601. Catheterization of the ureter is indispensable in every case of suspected tuberculosis of the kidney, always on the sound side if only one ureter is catheterized; it is sometimes impossible to introduce the catheter into the diseased ureter. He emphasizes the fact that no one has any right to remove the diseased kidney without knowledge of the conditions in its mate. The results of nephrectomy in tuberculosis have been very satisfactory. The results are better, of course, the earlier it is done; the secondary bladder process generally soon heals.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Retinitis Pigmentosa. With an Analysis of Seventeen Cases occurring in Deaf Mutes. An Essay Awarded the Alvarenga Prize of the College of Physicians of Philadelphia, July, 1908. By William T. Shoemaker, M.D., Philadelphia. Laboratory Examinations of the Blood and Urine by John M. Swan, M.D., Philadelphia. Cloth Pp. 106, with illustrations. Price $2. Philadelphia: J. B Lippincott Co.

Seven Hundred Surgical Suggestions. Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, B.S., M.D., Assistant Adjunct Surgeon, Mount Sinai Hospital, New York, Eli Moschcowitz, A.B., M.D., Assistant Physician, Mount Sinai Hospital Dispensary, New York, and Harold M. Hays, M.A., M.D. Third Series. Cloth. Pp. 153. Price $1. New York: Surgery Publishing Co., 1909.

Hematological Atlas. With a Description of the Technic of Blood Examination. By Karl Schleip, M.D., Scientific Assistant in the Medical Clinic University of Freiburg. English Adaptation of Text by Frederic E. Sondern, M.D., Professor of Clinical Pathology New York Postgraduate Medical School and Hospital. Half Leather. Pp. 256, with illustrations. Price, $10. New York: Rebman Co.

Soured Milk and Pure Cultures of Lactic Acid Bacilli in the Treatment of Disease. By George Herschell, M.D., Lond., Fellow of the Royal Society of Medicine. Cloth. Pp. 32, with illustrations. Price 1 shilling 6 pence. London: Henry J. Glaisher. Chicago: W. T. Keener & Co., 1909.

Physical Diagnosis and Laboratory Diagnosis. By Henry P. Kohberger, Ph.B., M.D., Associate Professor of Medicine and Director of Clinical Laboratory, University of Pittsburgh (Med. Dept.) Flexible Leather. Pp. 155. Price $1. Pittsburgh: Medical Abstract Publishing Co.

Children Who Need Not Have Been Blind; Prevention a Public Duty. (Prevention of Blindness No. 2). January, 1909. Paper. Pp. 39, with illustrations. New York: Special Committee on Prevention of Blindness of the New York Association for the Blind, 289 Fourth Ave.

Obstetrics in Abstract. By William D. Inglis, A.M., M.D., Professor of Obstetrics in the Starling-Ohio Medical College. Flexible Leather. Pp. 171. Price $1. Pittsburgh: Medical Abstract Publishing Co.

Report of the Connecticut Agricultural Experimental Station. Food Products. 1908. (By John Phillips Street). Being Part IX of the Biennial Report of 1907-1908. Paper. Pp. 716.

The Development of the Chick. By Frank R. Lillie, Professor in the University of Chicago. Cloth. Pp. 472, with illustrations. Price $4. New York: Henry Holt & Co., 1908.

Wandlungen der Medizin und des Aerztestandes in den letzten 50 Jahren. Von O. von Bollinger. Paper. Pp. 44. Price, 1 mark. München: J. F. Lehmanns Verlag, 1909.

Handbuch der Biochemie des Menschen und der Tiere. Von Carl Oppenheimer, Berlin. Installments 8, 9 and 10. Paper. Price, 5 marks each. Jena: Verlag von Gustav Fischer.

Transactions of the American Climatological Association. For the Year 1908, Vol. XXIV. Cloth. Pp. 290, with illustrations. Philadelphia: Printed for the Association, 1908.

Publications of the Massachusetts General Hospital, Boston, Vol. II, No. 1; Selected Papers by the Staff. Paper. Pp. 393, with illustrations. Boston, October, 1908.

Malarial Fevers. By S. P. James, M.D., D.P.H., Major, Indian Medical Service. Edition 3. Paper. Pp. 94. Calcutta: Superintendent Government Printing, India, 1908.

Blood Examination in Surgical Diagnosis. By Ira S. Wile, M.S., M.D., Cloth. Pp. 161, with illustrations. Price $2. New York: Surgery Publishing Co., 1908.

Eighth Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children. 1908. Paper. Pp. 48, with illustrations.

Annual Report of the Asylum for Chronic Insane, Milwaukee County. 1908. Paper. Pp. 52, with illustrations.

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Original Articles

FREQUENCY OF TUBERCULOSIS IN CHILDHOOD *

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If we vaccinate a man for the first time, we see, at the point of inoculation, no specific changes during the first days, but the vaccinal effect is produced only on the third to the fourth day and reaches its maximum on the eighth to the tenth day. When, however, we repeat the vaccination after several months, we find that there appears, within twenty-four hours, a small ocal inflammation which afterward disappears rapidly. From this early reaction we can diagnose a previous noculation if we are not informed of the history.

After careful study of these small skin eruptions in owpox inoculation, I tried the same method in tuberulosis and found that only individuals who had been nfected previously with tuberculosis showed within wenty-four hours a local inflammation after the inocuation with Koch's old tuberculin.

It appeared that this skin reaction was, in principle, lentical with Koch's febrile reaction after injection of uberculin and that it corresponds especially to the *tichreaktion* of the subcutaneous tissue, which has een first described by Epstein and Escherich and later udied more closely by von Schick, Klingmüller and F. amburger.

After my publication on the cutaneous reaction as a st for the presence of tuberculosis, Wolff-Eisner and almette found similar local changes after the instillaon of dilutions of tuberculin into the conjunctiva, and oro and Lignières found them after the application tuberculin by friction of the intact skin.

My cutaneous method has the advantage over the jection of tuberculin that it does not produce any neral symptoms. It has the advantage over the cutanes reaction of producing entirely harmless inflammary efflorescences on the skin and over the percutaneous plication of tuberculin that it can be carried out more ickly and more uniformly. It is, however, not as sitive as the *Stichreaktion* and does not produce inmmatory phenomena of the tuberculous foci, which, er Koch's injection, can be utilized diagnostically.

My method of applying the test is as follows: The n of the forearm is scrubbed with ether; then two ps of undiluted old tuberculin are dropped about r inches distant from each other. Then, with a cinating lancet, the point of which has the form of a all chisel, a superficial circular scarification is made between the two drops (for the control of the traumatic redness following the small scarification). Finally, the same scarification is made inside of the two drops; a few fibers of cotton are put on the drops so that they will not flow. After five minutes the cotton is taken off. No dressing is applied. The papula is examined after twenty-four and forty-eight hours. It is considered as positive when the tuberculin scarifications are clearly different from the control places, but the inflammatory reactive area must measure at least 1/6 of an inch (5 mm.).

RESULTS OF THE TEST

During the last year and a half I have made a cutaneous test on all the children who were admitted to the children's clinic of Professor Escherich in Vienna. Nearly half of these children were repeatedly examined and in many instances the results were controlled by subcutaneous injections of tuberculin made by Dr. Hamburger. Two hundred subjects were examined postmortem.

The results of these studies are shown in the two accompanying charts. Chart 1 includes all cases with the exception of those suffering from measles. The latter cases were omitted because during measles the cutaneous tuberculin test is always negative, as I have already pointed out in a former communication. This chart shows, therefore, the results of the tests in 1,407 cases. They are arranged according to age. For each year, from birth to the age of 14, one vertical division is made, and in each division is noted the percentage of reacting and non-reacting cases. The reacting cases are marked by shading. It is evident that in the first year the shading includes only 5 per cent. of the cases, rapidly increasing in the following years, and reaches a percentage of 80 in the tenth year. This high percentage can not be considered as being the figure for all children, as very many cases are admitted into the hospitals because of tuberculosis. In order to make the matter clear, I have marked in black those cases in which tuberculosis was manifest. You see that the black rises in the first year nearly as high as the shading. This shows that, in the first year of life, nearly all reacting patients present clinical symptoms of the disease. In the succeeding years we see that the shading denoting positive reactions far exceeds the black. This proves that not all infected patients present clinical symptoms; in other words, that latent tuberculosis becomes more frequent in succeeding years.

This increase of latent tuberculosis is more clearly shown in the second chart. All manifestly tuberculous cases are omitted. This includes all of those which are marked black on Chart 1, and, besides, all cases which were, in any way, suspected of tuberculosis; that is, all children with bronchitis or anemia. The children who

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Paper read by invitation before the Chicago Medical Society, . 14, 1908.

As noted in the department of Medical News in The Journal, . 20, 1909, page 642, Dr. von Pirquet is moving to Baltimore.

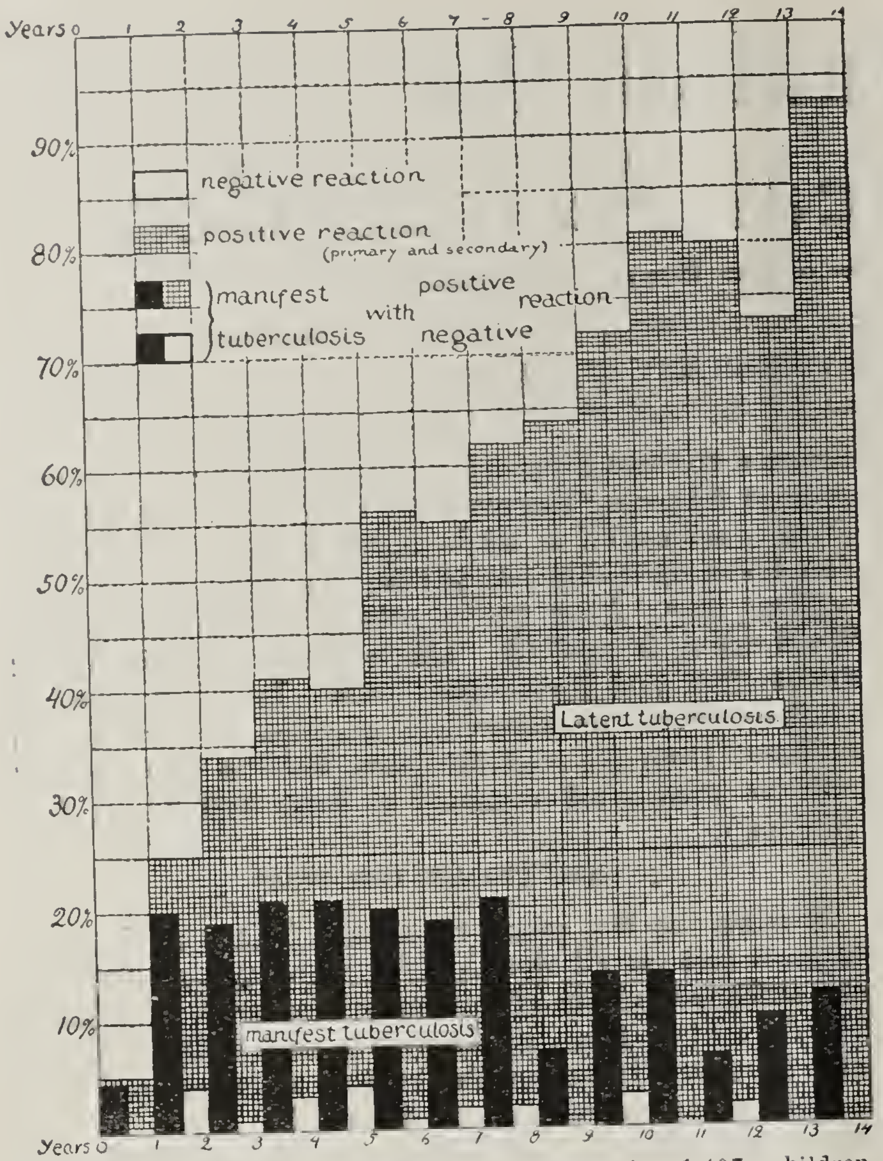

Chart 1.—Cutaneous tuberculin reaction in 1,407 children. Escherich Clinic, Vienna.

In this table the positive reactions are grouped as primary and secondary. In cases presenting clinical evidence of tuberculosis the reaction is positive in almost all cases after twenty-four hours, whereas in latent tuberculosis, especially in older children, we see that about half of the patients do react only after some days (this I have termed a "torpid reaction"), and some react only to a second test ("secondary reaction"). These two forms of reaction are indicated in the chart, and include also cases in which the cutaneous test was negative, but hypodermic injection of tuberculin proved positive. These three kinds of reaction have this in common: that a slight reactivity against tuberculin exists which is too weak to be evidenced immediately, but which is aroused after the first application.

SIGNIFICANCE OF THE REACTION

What does this form of reaction mean? One can say with some certainty that it generally means a slight and old tuberculous infection which is in the process o healing. Up to the present time I have not had a sufficient number of postmortem examinations to prov this point absolutely. But the following reasons speak for the validity of this view: first, at autopsies second ary or torpid reactions were found to have been pro duced by slight and old tubercles; second, fresh an clinically manifest tuberculosis does not show this form of reaction; third, the increase of these secondary reac tions from year to year corresponds in its percentag to that established by Dr. Hamburger for the frequenc of healed tubercles found at autopsy in children wh died from other causes, and, fourth, we have a simila delay in the development of the local phenomena in r

TABLE OF CHART 1.—CUTANEOUS TUBERCULIN REACTION IN 1,407 CHILDREN. ESCHERICH CLINIC, VIENNA

PART I

Years	0—1	1—2	2—3	3—4	4—5	5—6	6—7
No. of all cases	410	116	98	110	87	91	86
Reaction, positive	21 (5 %)	24 (4 %)	32 (33 %)	42 (38 %)	31 (36 %)	50 (55 %)	46 (53 %)
Manifestly tuberc. reacting	21	23	19	23	19	18	17
Manifestly tuberc. not reacting (miliary tuberc.)	1 (5 %)	4 (20 %)	1 (19 %)	3 (21 %)	4 (21 %)	1 (20 %)	2 (19 %)

PART II

Years	7—8	8—9	9—10	10—11	11—12	12—13	13—14
No. of all cases	59	94	63	57	55	49	32
Reaction, positive	35 (60 %)	60 (64 %)	43 (69 %)	46 (81 %)	43 (78 %)	36 (73 %)	30 (93 %
Manifestly tuberc. reacting	12	7	9	8	3	6	4
Manifestly tuberc. not reacting (miliary tuberc.)	1 (21 %)	.. (7 %)	2 (14 %)	.. (14 %)	1 (6 %)	.. (10 %)	.. (12 %

are dealt with in Chart 2 are chiefly those which came to the hospital for some acute infection and the healthy babies belonging to our so-called *Säuglingsschutzstelle* (the dispensary inaugurated by Professor Escherich to which healthy children are brought for observation and in which the mothers are taught how to care for them).

Chart 2 refers to the average occurrence of latent tuberculosis in the healthy children of Vienna. It is seen that, in the first two years, no shading appears. This shows that during that time an infection with tuberculosis practically does not occur without the existence of some clinical phenomena, such as bronchitis or anemia. On the other hand, the increase in the number of reacting children in the following years is nearly as high as in Chart 1 and reaches 70 per cent. in the tenth year.

vaccination with cowpox in cases in which a long ti has elapsed after the previous vaccination.

I conceive that the reactivity against tuberculin a pears some weeks after the infection has occurred a then increases in degree after some months to a c siderable height. If the tuberculosis is overcome the individual and is healed, the reactivity slowly creases in the following years below the level of cuta ous activity. We know from the studies of vari antibodies that, in an organism which has once form antibodies and has lost them, a slight reinfection o second injection with the same poison quickly sti lates a new and strong formation of antibodies. I similar fashion, if a person with a latent or he tuberculosis is again infected with tubercle bacilli o he absorbs even a minimal amount of tuberculous son (by means, for instance, of a cutaneous tuberculin test) he again forms antibodies and shows, some days or a week later, a high reactivity. A high reactivity does not prove the existence of an active tuberculous process in the sense that the tuberculosis is progressive. It only proves that the organism has recently come in contact with tubercle bacilli or their poisons.

Therefore, from a consideration of Chart 2, we can conclude that in older children the presence of a tuberculin reactivity may be compatible with apparently perfect health. This coincides with the facts established by Naegeli, F. Hamburger and others, based on autopsies made in children of various ages.

The percentage of infected (reacting) children is a particularly high one in my table. In other cities it will hardly be as high because tuberculosis is notoriously prevalent in Vienna. Furthermore, all my patients belonged to the poorer classes. My statistics, therefore, lose in some degree their general value. Our children are infected at a much earlier age on account of the prevalence of tuberculosis among their parents. It is necessary to make similar studies in every city in order to ascertain the frequency of tuberculosis in general.

METHOD AND AIMS OF INTERNATIONAL STATISTICAL STUDY

I, therefore, wish to suggest a definite method for international use. The method is as follows:

All children are submitted to the cutaneous test. The ollowing day they are inspected. Those showing a ositive reaction are noted as belonging in the group f early reactions. A week later those who showed no ction are again tested and inspected a day later. If y then react, they are grouped in the class of second- reactions. Those who have not reacted on either asion can be considered as belonging to the non- cting class. This method of testing requires about hour for a hundred children and only half an hour consumed in the inspecting process. Medical school cers could easily accomplish this at the opening of schools in autumn. One forenoon would be sufficient for a school of from 400 to 600 children. As the t is absolutely harmless, there can be no objection to rying out such valuable investigations.

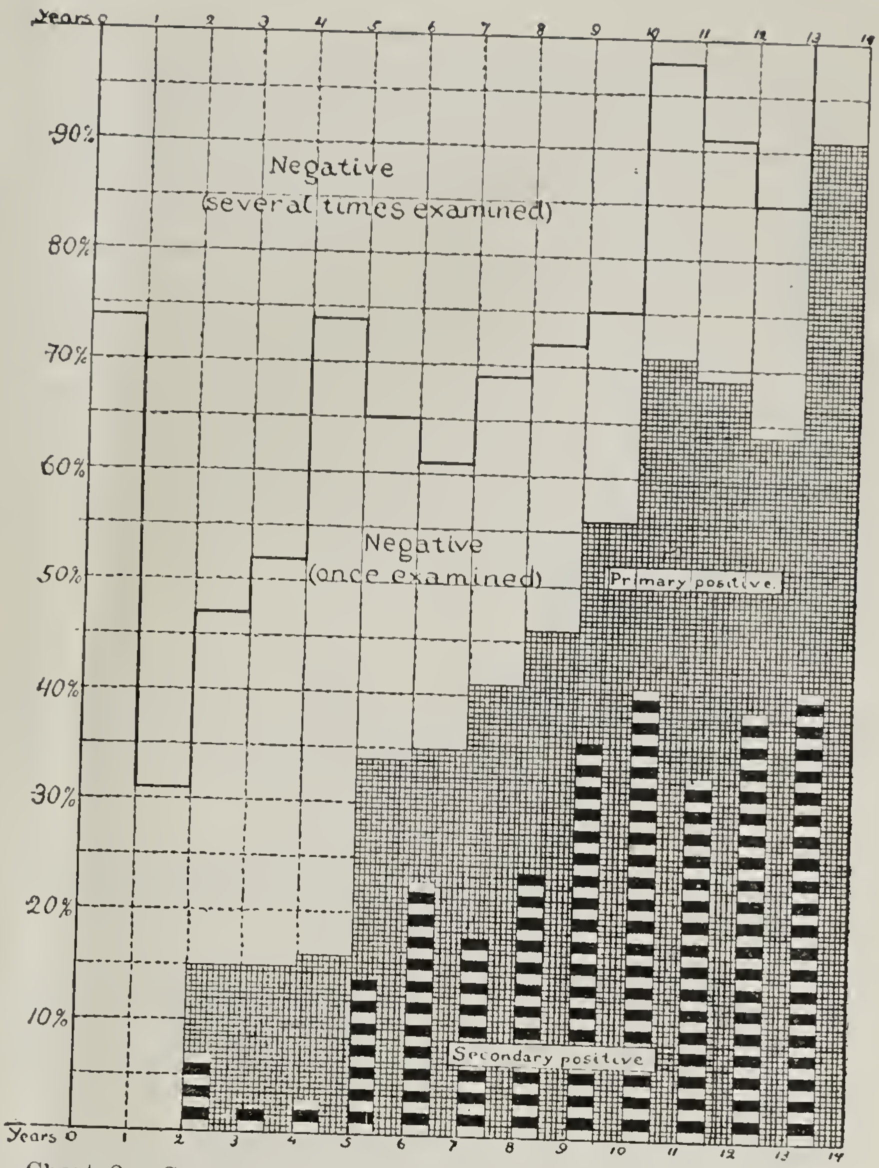

Chart 2.—Cutaneous tuberculin reaction in 1,134 children, clinically non-tuberculous. Escherich Clinic, Vienna.

TABLE OF CHART 2.—CUTANEOUS TUBERCULIN REACTION IN 1,134 CHILDREN CLINICALLY NON-TUBERCULOUS, ESCHERICH CLINIC, VIENNA.

PART I

Years	0—1	1—2	2—3	3—4	4—5	5—6	6—7
All cases minus all surely tuberc. and all suspect (pallor, bronchitis)	410—(21+1) =388	116—(23+ 4) =89	98—(19+4) =75	110—(23+10) =87	87—(19+6) =62	91—(18+7) =66	86—(17+8) =61
Frequently examined negative, also on autopsy tb.-free	84 (26 %)	61 (69 %)	40 (55 %)	37 (48 %)	16 (26 %)	23 (35 %)	24 (39 %)
Primary positive (both clinically unsuspected)	....	....	5 (7 %)	10 (12 %)	8 (13 %)	13 (20 %)	7 (12 %)
Torpid or secondary reaction	....	....	5 (7 %)	2 (2 %)	2 (3 %)	9 (14 %)	14 (23 %)

PART II

Years	7—8	8—9	9—10	10—11	11—12	12—13	11—14
All cases minus all surely tuberc. and all suspect (pallor, bronchitis)	59—(12+8) =39	94—(7+15) =72	63—(9+9) =45	57—(8+ 5) =44	55—(3+7) =45	49—(6+7) =36	32—(4+6) =22
Frequently examined negative, also on autopsy tb.-free	12 (31 %)	20 (28 %)	11 (24 %)	1 (2 %)	4 (9 %)	5 (14 %)	....
Primary positive (both clinically unsuspected)	9 (23 %)	16 (22 %)	9 (20 %)	13 (30 %)	16 (36 %)	9 (25 %)	11 (50 %)
Torpid or secondary reaction	7 (18 %)	17 (24 %)	16 (36 %)	18 (41 %)	15 (33 %)	14 (39 %)	9 (41 %)

The classification given above is not a perfect one, inasmuch as the class of non-reacting children will contain some individuals who, at a further repetition of the test, would react and, therefore, would have to be transferred from the third to the second class. Three or more trials for three or more consecutive weeks can be easily performed in hospitals. One can also employ the more rapid method of Dr. Hamburger, which consists in injecting one milligram of tuberculin subcutaneously into the non-reacting children and examining them on the following day for a local subcutaneous reaction (so-called *Stichreaktion*). This method is, on the whole, quicker and more exact, but is not as feasible for use on a large scale as, for example, in schools.

For practical and especially for statistical purposes the repeated cutaneous test may be considered sufficient.

The next idea in reference to my proposal of an international statistical study is to ascertain at what age children generally acquire the tuberculous affection. We should then be able to say at what age they are most susceptible. I hope that, by repeated annual tests and the determination at the same time of the clinical symptoms which arise between the last negative and the first positive reaction, we may be able to establish the onset of the disease. In this way we shall be in a position to institute the proper hygienic measures for the prevention of tuberculous infection in childhood, especially at the period of greatest danger.

THE DISEASES OF THE CEREBRAL ARTERIES

THEIR EFFECTS AND TREATMENT, WITH SPECIAL REFERENCE TO ARTERIOSCLEROSIS *

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To consider the manifestations of the conditions of the blood vessels of the brain, with reference to indications or suggestions for measures to prevent or at least postpone an attack of hemiplegia, is the purpose of this contribution.

Small or common things are sometimes overlooked in the eager pursuit of the large or more obscure ones, and this often results in the passing of a common disease while searching for the uncommon. The final perception of the aggregation of symptoms which, taken singly, are of trivial significance, not infrequently reminds us of our earlier sins of omission.

The fundamental cause of hemorrhage and thrombus seems to be undoubtedly an alteration in the vessel wall, a thickening of one or more of the coats of the arteries, or arteriosclerosis.

It has been stated long ago, in a way that has become proverbial, that there is no better indication of the age of an individual than the condition of his blood vessels. In the main this is true, but how much more certain is the indication when we are able to apply this statement to the cerebral vessels, as compared with vessels elsewhere!

Many opinions and arguments have been brought forward regarding the influences which have a bearing on the cause of arterial changes. A very important group is that referred to as toxic, and the most important in this group is syphilis. This influence is so thoroughly recognized that arterial occlusion occurring before the age of 40 is regarded with suspicion even in the presence of the most emphatic negative history.

When the vascular system is attacked by syphilis, two conditions may be considered, the untreated and the partly or insufficiently treated disease. In the former the vessel is suddenly attacked, and this as a rule with the evidences of endarteritis elsewhere. These conditions may come on during the secondary eruption. It is far more frequent to observe a patient in the thirties, who shows a transitory weakness of an arm, more or less sudden in onset, with numbness and tingling of the same side, or a unilateral oculomotor paralysis, who admits having had one or more of the manifestations of syphilis ten to twenty years before, and who has been to Hot Springs for four to eight weeks, had been rubbed with mercury and had taken "potash," after which he was pronounced cured. These are the partly or incompletely treated patients.

It seems inadvisable to enter into the various opinions as to whether high blood pressure is the cause of arteriosclerosis or *vice versa*; suffice it to say that they usually exist together. There are, however, two points bearing on the etiology which are deserving of mention:

1. With the thickening of the vessel wall the elasticity must be impaired, and, while normally the range between the systolic and the diastolic pressure is considerable, this lessening of elasticity would seem t shorten the range, with the result that the average pressure is increased through which a more continuous strain is exerted on the vessel wall.

2. It is also to be borne in mind that sclerotic arteries, or a predisposition toward them, are as muc of an individual peculiarity, possibly through inheritance, as a big hand, a tough skin, or a large head.

PATHOLOGY

There are two forms of arteriosclerosis recognized the diffuse and the nodular.

In most arteries, according to the observations of vo Bergmann, the selective tendency of these varieties i opposed; the cerebral vessels, however, are abou equally affected by both forms; these arteries wer found to be affected by the diffuse form in 40 per cen and in the nodular form in 43 per cent. Both form however, may coexist in the same vessel. This impo tant observation seems to explain the apparent pred lection on the part of the cerebral arteries. It also fu nishes an explanation for the finding of the heav beaded or nodular and the tortuous pipe-stem cond tions to be felt in the radials in individuals who sho no evidence of affection of the cerebral vessels. It ma be said that the condition of the general arterial syste is not always an index and, therefore, should not alo exclude the possibility of the existence of cerebral a terial sclerosis.

The two varieties of arterial thickening offer pos bilities which are better considered separately. Fir the nodular form, by reason of the irregularity of i distribution and the intervening portions of vess with little change, suggests the likelihood of aneurism These aneurisms occur either as multiple miliary ane risms, affecting the smaller vessels, varying from 1/1 to 1/25 of an inch (Gowers), of which as many as hundred have been found in a single brain, or they m affect the larger brain vessels. They are more freque on the left side, vary from the size of a pea to th of an egg, and are genuine aneurisms involving all coa (Edwards). One point regarding aneurisms wort of attention is that they may be more or less transito a sudden dilatation of a vessel supplied with abunda elastic tissue is quite possible, and it requires no gr imagination to conceive the possibility of the sud return to normal on the lessening of the tension. Ag under this circumstance it may be very difficult demonstrate such dilatations postmortem, however c tain we may be of their occurrence during life. R ture of either variety is a common result with the c sequent hemorrhage.

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* Read at the first annual meeting of Boulder County Society, Longmont, Colo., April 2, 1908.

The foregoing condition of the vessel wall is nearly always associated with plaquing, roughening of the intima and deposit of fibrin, and these conditions, associated with local slowing of the blood stream and weakening of the heart, favor the formation of the thrombi. It is important to bear in mind, however, that slowing of the blood current does not necessarily mean lowered blood pressure. It is the slowing of the current with the high tension combined that is most favorable to thrombus formation.

In the diffuse form, when uniform, the changes are for the most part nutritional, but may, as the thickening increases, affect one side more than another. Thrombus may occur, but partial or incomplete occlusion is more frequent and either end is softening which s proportionate to the degree.

SYMPTOMS

In no other condition is it so imperative to weigh vith the greatest care the slightest evidence of disease, ior is there a condition in which it is more difficult to mpress the patient with the seriousness of the seemngly trivial manifestations than in cerebral arterioclerosis; in no other is the fact of this seriousness rought so forcibly to the attention when it is too late o remedy as in the case of rupture or occlusion of the essel.

Of the general symptoms of cerebral arteriosclerosis, eadache stands first. This is usually dull, not throbing, and quite often described as a feeling as if a tight and were compressing the head; it occurs most freuently in the morning after walking about and diminhes as the day advances—except in syphilis, in which se it is usually severe and at night. Dizziness or vergo is next in importance. Numbness, tingling, twitchg, weakness in a limb, or in one-half of the body, disrbances in articulation are also common. Collins rently attempted to group, as a definite clinical variety, number of cases of cerebral arteriosclerosis. The subctive symptoms were few and often elicited with difulty: "Headache, dull and fugitive; giddiness, with sense of insecurity of station and gait not attributle to the giddiness; occasional emotional symptoms; ange in general appearance with a characteristic gait d attitude and altered physiognomy. There is freently a lowered blood pressure in this class of cases, 0 to 130 mm. (S.)." This is probably the result of secondary cardiac weakness.

When more localized the symptoms may be divided o those just previous to a "stroke" and those during attack; the former may be most readily described the reports of cases which follow.

DIAGNOSIS

This usually presents little difficulty, particularly in anced cases, if carefully studied, and especially if lizing symptoms be present. Obviously, it is import that the condition be recognized early, and it is e that the little things should be carefully weighed ectively. Increased blood pressure, increase in the e and lengthening of the first heart sound, accented second heart sound and an increase in the tidal e of sloping ascent and delayed decline should lead he suspicion of arteriosclerosis.

t is to be borne in mind that the high tension may he result of other existing conditions, such as brain or, pulmonary disease, toxemia, overwork, etc., and ervous strain it may be prolonged without sclerosis. he tension is treated we may not be called on to treat the sclerosis. In the words of Thoma, "by avoiding the causes of increasing the blood pressure, by proper hygiene and regimen, serious and fatal vascular disease might be anticipated; if it became possible to recognize arteriosclerosis sufficiently early it would be easy to limit the danger of rupture of blood vessels and aneurismal formation." Again, it must be remembered that the condition of the general arterial system is not an index to the condition of the cerebral arteries and should not be given too much weight in excluding cerebral arteriosclerosis. The age and habit of the patient, the character of the headache and the time of its occurrence; vertigo, numbness and tingling, repeatedly occuring in the same locality; sclerosis of the retinal vessels as revealed by the ophthalmoscope; slight weakness of one side of the body with a tendency to favor the same side, should lead one to suspect the condition. The suspicion is strengthened by syncopal attacks, localized twitching or epileptiform seizures, transitory attacks of paresis, with aphasia or dysarthria, psychic symptoms and finally the occurrence of the so-called "stroke."

The ophthalmoscope is of the greatest service here; with it optic neuritis or atrophy may often be recognized at once, either of which speaks strongly against vascular disease. It is rare, if ever, that the optic nerve presents either change as a result of a purely vascular lesion. By it is revealed the condition of the central artery, which is one of the most important guides as to the state of the cerebral vessels.

A reflex lately described by Gordon shows promise of being of value in determining whether, in an attack, a vessel is occluded or not. It has been named the paradoxic reflex and is elicited by firm digital compression of the calf muscles at about the insertion of the gastrocnemii while the foot is resting and relaxed. If the pyramidal tracts are irritated there is extension of the toes with some separation, and if not, they are flexed or almost immobile. The reflex is present before the Babinski phenomenon. When complete occlusion occurs this reflex is lost and the Babinski becomes marked. In a case of thrombus (probably specific) observed recently, in which there was weakness of one side of the face and tongue, and slight weakness of the arm, this reflex was present and the Babinski absent on the same side. Contrary to orders, the patient was allowed to be up and about until complete hemiplegia supervened; the Babinski sign became marked and the paradoxic disappeared.

It would seem that transitory attacks of paresis of short duration are best explained by acute dilatations of the vessels rather than by occlusion or vasomotor spasm, particularly, if they subside on reduction of the blood pressure. This is also true of localized twitching. The fact that in many of these cases there is immediately following such an attack an increased strength, as shown by dynamometer record, on the side affected, is also noteworthy.

Stupor and coma are not infrequently associated with cerebral arteriosclerosis and may suggest uremia or other forms of toxemia.

From the fact that coma may be artificially induced by compression of the carotids it seems probable that interference with the cerebral circulation as a result of sclerosis, together with low tension, may alone induce such a state. A low blood pressure combined with a slow rate of pulse during coma should speak rather for sclerosis than uremia.

The prognosis before the attack is dependent on the degree and variety of the sclerosis and the obedience of the patient. In the main it is fairly good in either variety of arteriosclerosis if not so far advanced as to greatly impair the nutrition. Recurrences, however, are to be expected sooner or later, though, as had been stated, they may be postponed a considerable length of time. After the attack the chances of clearing an obstructed vessel are doubtful, and if a complete hemiplegia has occurred the use of the affected side will be proportionate to the ability of the opposite side of the brain to take up the function, together with the preventing of contractures. Hemorrhage is more often fatal and less promising.

TREATMENT

The all important factor is rest and quiet as soon as symptoms of a definite character are established. The diet should be carefully guarded. A constant peculiarity to be noted in most cases is the abnormal appetite; the patients veritably eat until they can not walk, and to keep the consumption of food down will be no little task, since they do not seem to appreciate the amount they are eating. While the patients are at rest the diet should be light, easily digestible and limited in quantity.

Iodin, notwithstanding opinions to the contrary, in view of its action in increasing katabolism and its tendency to attack those tissues most recently formed, is obviously of value here. It should be borne in mind, however, that since increased blood pressure has been the cause, this must first be met if the most pronounced effect of the medicament is to be obtained. The results with potassium iodid are much more prompt and marked if absolute rest is maintained than if not. Iodids are too often regarded as antisyphilitics and the administration of them is assumed to be indicated by reason of syphilitic disease. This is, however, not the case. Iodin is not antagonistic to the virus of the disease; it is, or should be, used only to remove the results of the disease —hyperplasia, granulomata, etc.—and is indicated when the same conditions exist as a result of other infections as well as those of syphilis.

Then the plan which I employ is as follows:

1. Absolute rest in bed.
2. Saline catharsis (preceded by calomel if necessary); magnesium sulphate or sodium phosphate may be employed. This is an effective means of keeping the tension moderate or low.
3. Potassium iodid, beginning with 10 minims and increasing a drop each day of the saturated solution until 50, 60 or 70 drops, three times daily, are reached. Should iodism be manifested, the iodid may be stopped for twenty-four hours and resumed where it was left off. After the maximum is reached it should be diminished until 30 or 20 drops are taken and then discontinued. A tonic may then be instituted, such as strychnin, beginning with 1/30 grain and later increasing to 1/24 or 1/20 grain. It is best given in the compound syrup of phosphates of the National Formulary, which is a rich phosphatic reconstructant.

If the hemoglobin is low, iron and arsenic may be alternated with the above.

If syphilis is a probability, the virus should be combated with mercury alone, as soon as possible, and followed by iodids and later with tonic chalybeates.

The so-called serums, such as Poehl's and that of Truneceek, antisclerosin and the like, which contain, in the main, sodium chlorid, sodium sulphate, sodium phosphate, sodium carbonate, magnesium phosphate an glycero-phosphate of calcium, are advocated, and som good results are claimed for them. They are best give after the more acute symptoms have subsided, such a twitching, localized weakness, numbness and tingling.

When sudden weakness, uncontrollable twitching o spasm come on suddenly and progress rapidly, nitro glycerin or sodium nitrite may be used with advantag until, by saline catharsis, the hypertension may be reduced. Thyroid extract has also been highly recommended for the control of the high tension.

Another remedy is deserving of more attention tha it has received, namely, thiosinamin. This substanc was first introduced by von Hebra in 1892, who foun it of value in the treatment of lupus and old cicatrice That it possesses the power of softening cicatricial tissu such as strictures, corneal opacities and adhesions at th base of chronic deafness has been frequently observe I have used it with apparent good results. In one ca of cerebellar gumma it was given following a very heav course of iodid in view of the evidences of cyst, th capsule of the tumor having apparently resisted th iodid; the postmortem revealed a secondary hydr cephalus from obstruction to the foramen of Magendi and a slight cavity at the point expected, communica ing with the fourth ventricle, but no capsule.

It is given in substance or with milk sugar in i creasing doses of from ½ to 2 grains.

In conclusion it may be stated that in the majorit of these cases much may be done, but it is the physicia who is best enabled to appreciate the danger avoide for, as has been mentioned, few patients, and even tho standing blindfolded, as it were, on the brink of a prec pice, can be made to understand the seriousness of t probabilities until it is too late. The alternative ma be truthfully and forcefully regarded as one between s or eight weeks in bed, on the one hand, and death, li in a wheel chair, or at least a permanent defectivenes on the other.

REPORT OF CASES

CASE 1.—*Patient.*—A man aged 52, whose family histo was negative and whose early history was irrelevant, exce that he had been a moderate drinker and had for some yea suffered from asthma of emphysematous origin, with the usu chronic bronchitis. Specific disease was denied. He had h a gastric hemorrhage two years before; urine was normal.

History.—Within the year previous he had experienced attack during which he was unable to articulate. This last about an hour. Following this he was well for some month then another attack occurred in which he would mispla words in attempting to speak; he was aware of what he sired to say though he could not place his words proper This attack was of about two hours' duration. Both were companied by dizziness and headaches were frequent, and tributed to other causes (indigestion, etc.). He was becomi sallow and ashen about the face. On Sept. 24, 1906, after hearty meal, preceded by an appetizer, he occupied himself about the kitchen of his house, which was quite warm; suddenly felt himself falling forward and to the right side, in attempting to stand the same tendency to face to the ri persisted, and he could not keep from going to the right s and striking the wall. During this or before there was headache nor vertigo. Aphasia was absent. The pulse volu was markedly increased and the strength of the right diminished. The anterior temporal arteries were quite pro nent. After twelve hours' rest in bed and the use of culatory depressants the strength of the affected side bec increased above that of the unaffected side. The pati gained so rapidly that he could be kept at rest only for a days. About six or seven months later he began one aftern to experience twitching of the abdominal muscles of the ri side. This subsided after the second 1/100 grain of nitroglycerin. Later he ate a very hearty dinner, preceded by liquor, and an hour later the twitching recurred rapidly, extended to the arm, and then a general convulsion followed with complete unconsciousness and biting of the tongue.

Examination, Treatment and Diagnosis.—When seen the pa- ient was lying in bed, somewhat dazed and with some weakness of the right side. The pulse volume was very high, hough slow in rate. The temporal arteries were seen to be ery prominent and tortuous. The deep reflexes were increased bont equally; superficials increased but no Babinski phenomenon. The patient was put to bed and at absolute rest for our weeks. Potassium iodid was given in increasing doses up o 50 drops, three times daily, and then reduced to 30, when onic treatment including compound syrup of the phosphates as instituted. A complete change, objective and subjective, as the result, which persisted up to the time of the attack escribed below; there were no vertiginous attacks and no eadache. The radials showed only moderate sclerosis while he retinal vessels were quite thickened and tortuous. There ere no sensory symptoms. A nodular form of arteriosclerosis ffecting the inferior external frontal and the ascending arietal branches of the middle cerebral with recurrent aneur- m or sudden dilatation seems to coincide best with the clin- al manifestations of this case. This diagnosis is supported y the suddenness of the onset as well as the rapid abatement the symptoms following the lowering of blood pressure. he order of occurrence from below is interesting, as evidenced the areas involved, namely, motor speech, coordinate eech, motor in extremities and abdominal followed by right- led convulsion becoming general.

Course of Disease.—On arising and attempting to walk, pt. 4, 1908, the patient found that his left foot dragged and s hand very weak, as a result of which he dropped several ticles. He did not seek medical aid but persisted in going out aided by a cane. There was a decided clouding of the nsciousness during the day. About noon he sought a Turk- bath, where he fell and was carried out shortly after en- ing and taken to his office, where he remained in a dazed te until late in the afternoon. He made his way to the ephone with great difficulty, summoned assistance and was en to his home. On observation, the same evening, he was porous and inclined to be quite emotional. The left side of body was almost motionless, cooler than the right, and, in rt, presenting all the evidence of a left hemiplegia of ombotic origin, including a positive Babinski phenomenon on left side. He was removed to the hospital and placed in . On the day following the lower left half of the face, left n and leg were involved and the motion was limited to ht movement of the arm from the shoulder. The treatment s substantially the same as in the previous attack. After ut ten days the improvement was progressive. Twenty-four s after admission the plantar reflex became flexor in type. finer movements of the fingers were gradually resumed the patient returned to his business Oct. 12, 1908, thirty- t days after the onset. This attack emphasizes the condi- of the cerebral vessels and would seem to evidence the ct of the treatment, as regards the vessels of the left side he brain, which were in the previous attacks the seat of urbance.

ase 2.—*History.*—A bank teller of 28, who had previously yed good health, and denied specific infection and alco- cs, on arising one morning, noticed that his left arm "felt y"—felt warmer than the right, and fell to the side, jerk- uncontrollably. This rapidly passed away and he went to k as usual feeling well but for pain over the right eye, h he had experienced before. Later he had an attack ac- panied by headache in which the right fields of vision were d. He stated that in looking at an amount intently he was to see only the figures to the left of the decimal point. It recalled that recently when he supposed he had placed in a certain compartment he would later find them on the ; in other words, he was unable to trust his left hand out watching it. The attacks were of short duration. A days later, on awakening, he became dizzy and would have n had he not caught himself with the right hand; his left was useless; there was headache over the left eye, the left side of the face was drawn and the tongue was protruded slightly to the right side. There was some numbness but not in the face or tongue. With the disappearance of the numbness, in about three and a half hours, he suddenly became possessed of the power of his arm and face.

Examination.—At this time the thermometer showed a constant lowered temperature of the left side. Dynamometer: Right, 335; left, 290. (The patient was right-handed.) The eyes showed no change other than a slight internal rotation of the left eye. Fields were normal. The retinal vessels were not tortuous though somewhat sclerotic and at places a whitish exudate was evident.

Diagnosis and Treatment.—In this case it was thought that a condition obtained in the posterior cerebral and pontile vessels somewhat similar to that which was believed to exist in the former case. Rest in bed with iodids, followed by tonic, was the treatment and there has been no recurrence since August, 1907.

Case 3.—*History.*—A man showing his age and hard work with a negative family and previous history was well until three months before the time of the first observation, when he fell on account of sudden weakness of his right side, though for three years he had been getting progressively weaker. On September 22, he fell and was unconscious for about fifteen minutes.

Examination.—The patient showed weakness of the right side. Dynamometer: Right, 100; left, 100. (The patient was right-handed.) Both radials were markedly atheromatous. The patient's memory was impaired for recent events. In speaking a drawl was evident. There was evident weakness of the right side of the body and the nasolabial fold was more marked on the left side. There was no change in the eyes except a considerable sclerosis of the retinal vessels.

Treatment and Course of Disease.—Treatment, beginning Oct. 24, 1906, was the same as the preceding. The notations on the chart show that with the increasing iodids the mental condition at first declined, urine passed involuntarily, restlessness increased and at times the right side seemed quite powerless. On November 2 there was twitching of the left side; November 7, involuntary defecation. On November 22 the iodids were discontinued; November 26, the patient was quieter, slept and ate much better; micturition and defecation were under control. On December 16 the iodids were resumed. Two days later there was stupor with stertorous breathing and dysphagia; consciousness was regained in about thirty hours; respiration became normal and dysphagia disappeared. On December 26 the patient walked without help, but his gait was very unsteady. On December 31 potassium iodid was discontinued at 30 drops and general diet ordered with tonic. On January 26 the patient was up and dressed; walked with the aid of a cane. On February 14 the iodids were resumed. Improvement was more rapid. On March 21 the iodid was discontinued at 46 drops and tonic resumed. On April 16 the patient was quite clear; walked unassisted and was dismissed from hospital. There has been no recurrence since, but mental enfeeblement is slowly progressing.

The diagnosis of cerebral arteriosclerosis with partial thrombus of the left side seemed to be justified.

The following case is reported not only to show the necessity of recognizing the early manifestations but the importance of insisting on rest as a part of the treatment, and also, since it seemed to show the action of iodin, in that it leaves the vessel affected in better condition than others.

Case 4.—*History.*—The patient was a woman of 69 with a negative family and previous history and the mother of nine children. Nine years before the present attack she became dizzy and fell forward and to the right while on the street, striking the right side of the face. For four years she had complained of headache and dizziness, during which she had attacks in which she would pitch forward, usually to the right side.

Examination.—The patient complained of twitching of the right side with considerable tingling and annoying prickling of the tongue on the same side. In walking she favored the right side. There was a coarse tremor on the same side. Dynamometer: Right, 100; left, 100. (The patient was right-handed.) After rest and treatment the strength became in seven days, right 154, left 140, and no recurrence until eight months later, when, about 11 a. m., the patient began to complain of numbness of the left hand and foot accompanied by irregular twitching. Pulse was high in tension and 60 per minute in rate.

Course of Disease.—Contrary to advice, the patient persisted in going about, and at 4 p. m. she began to weaken on the left side and slowly fell to the floor after an attempt to work. She was again cautioned to remain quiet. Orders were disobeyed and at 6 p. m. the same side began to weaken gradually, continuing to grow weaker until 2 a. m., when the entire left side was completely paralyzed. There had been no loss of consciousness and but slight dizziness. The course from this time was that of a completely occluding thrombus on the right side, and at present—two and a half years later—the patient is barely able to stand and has but a limited use of the hand.

Case 5.—This is one which was of the diffuse type and quite advanced in the cerebral vessels, especially those anteriorly located and at the base.

History.—The patient was a man aged 56, born in Maine, with a negative family history other than the fact that his mother died of tuberculosis. He had never used liquors and denied venereal disease emphatically. About December, 1906, he noticed a feeling of tightness in his head, as though "the top was coming off," which first occurred only on stooping. This was greatly relieved by taking a saline cathartic. There was no dizziness or numbness. About January, 1907, he became unsteady on his feet with a tendency to go to the left. About this time his tongue became thick and he had difficulty in speaking which was more marked after excitement. There was also some difficulty in writing. Shortly afterward he began to have headaches, more often in the occiput, aggravated by clerical work, and accompanied by nausea but no vomiting. There was no localized weakness nor numbness.

Examination.—The patient was a man of good color and well developed. The radial arteries showed only a moderate sclerosis and no nodules. Memory and attention were good. In writing the patient soon became unable to form letters, though he knew the proper rotation; and this inability was not associated with any peculiar sensation in the hands or arms. Dynamometer: Right, 250; left, 230. (The patient was right-handed). In walking with the eyes open he staggered to either side slightly, while when the eyes were closed the staggering was marked, though neither side was favored. There was no ataxia in the arms. The knee-jerks were increased and more so on the right side. Forearm reflexes were slightly increased. The plantar reflexes were very active, the right somewhat extensor in type. Tactile, pain, temperature, localization and postural senses were present and equal, though pain and temperature were somewhat delayed and uncertain. Stereognostic sense was present. External ocular motion was normal; the pupils were about 3.5 mm., equal and responded to light, accommodation and in convergence. Vision, O. D., 20/30; O. S., 20/30. The fields of vision were apparently normal. The fundi showed no changes except in the vessels, which were very sclerotic, the blood stream calling to mind a thermometer capillary tube. Hearing: Right, 14/24; left, 20/24. Taste of salt or sugar was not perceived on either side.

Course of Disease.—Soon after treatment the patient began to fail mentally in that he became indifferent, first to his business affairs, and later to everything. Urine and feces passed in bed with unconcern. His memory gradually failed. The weakness increased equally and with it a desire to sleep. When aroused he would reply to questions in a mumbling manner. There was no difficulty in swallowing at any time. The taking of iodids seemed to hasten the decline at each attempt at resumption. All treatment was ineffective and the patient gradually became weaker until his death, in October, 1907. Unfortunately no autopsy could be had.

Diagnosis.—There was here undoubtedly a condition of diffuse arteriosclerosis, as a result of which nutritional change were advanced to a degree at which softening was encourage by alteratives before the sclerosis was attacked.

316 Mack Block.

THE ABUSE OF SURGERY *

J. L. WIGGINS, M.D.
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The prevailing custom of requiring an annual addres from the president of the association presents a delightful opportunity to scold without being scolded in return. I shall use the privilege to consider some of th abuses of surgery by amateur surgeons; by which I d not mean life-saving procedures at which it is impossible to secure an experienced operator, but operation of choice.

By the time the medical student graduates he i imbued with the idea that surgery is the only department of medicine worth considering; after serving period as hospital interne he is still more firmly convinced of the truth of the idea. Everything that pertains to general practice finds him listless and uninterested; only an opportunity to shed blood wakes him up The young practitioner's newly-furnished offices contai a profusion of surgical instruments and works on surgery; his single work on general practice is scarcel touched. After he has forgotten much that is indispensable for intelligent operative work, he perhaps attends a postgraduate school and is turned out, a finishe surgeon, after a six weeks' course of instruction, durin which he has been occupied mainly in watching a expert operator work at a distance.

A diploma from an accredited medical school to-da means much more than a similar diploma did twent years ago. Higher preliminary requirements, a longe course of study, more thorough instruction, better clinical facilities and more capable teachers—all warran the expectation of a higher degree of efficiency in th modern graduate. Yet such graduates have often disappointed reasonable expectations most woefully, whil men with inferior advantages have far exceeded all anticipations.

The amateur in surgery sometimes excuses himsel by the example of those who, beginning with apparentl less equipment, have reached a position of assured pr ficiency. He says that he must begin some time t learn by experience as they did. This excuse would valid if surgery were to-day what it was twenty yea ago. Large clinics and postgraduate schools scarcel existed then. The operators and surgeons of twent years ago did the best they could in the circumstance they did much good and some harm. Attempts whic were permissible or commendable then would be criminal to-day.

It takes more than the ability to cut and sew make a surgeon. There is a wide distinction betwee the words "operator" and "surgeon," and a recent gra uate, except in rare instances, is not competent even operate. Skill, confidence and judgment in any voc tion come from constant practice. No medical ma would select an occasional operator to perform an i portant operation on himself or a member of his famil Their knowledge protects physicians; is not the publ entitled to equal protection? Yet the law at present permits a licensed physician to rummage around in the abdomen at will, even though his previous surgical experiences may have been limited to the opening of an abscess. It is true that conditions are gradually readjusting themselves; but there ought to be some common basis of understanding as to the minimum qualification to be expected of one who elects to practice a specialty.

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* President's address before the Ohio Valley Medical Associati French Lick, Ind., Nov. 11, 1908.

In Germany the Prussian minister of public instruction, through the Scientific Commission for Medical Affairs, has addressed to the medical councils the suggestion,[1] on which they are expected to take authoritative action, that the right to use the title of specialist be restricted to those who have had a requisite amount of postgraduate training—three years, as a rule—obtained at officially recognized and approved institutes or under approved specialists. In Austria[2] a similar ruling has been submitted to the profession by the ministry of education, with the additional provision that no one is to be recognized as a specialist in more than one branch.

It would be scarcely practicable to adopt these rules in this country at the present time. Nor is it advisable that surgeons should be turned out by the gross, machine-made. A period of general practice will develop etter surgical judgment and a higher sense of responsibility in a man than will the devitalizing moral atmosphere too frequently found in our large hospitals. Some such requirements as the following should, however, be enforced:

A man who decides to specialize in surgery should file notice of his intention with the state board, and should e furnished by it with a list of accredited postgraduate chools. His course of special postgraduate study should e not less than one year long, and should give him a rm practical, as well as theoretical, basis for work. No ne should be permitted to call himself a surgeon or to ractice surgery unless specially licensed.

One of the advantages which would accrue from plac- ng these restrictions on the practice of surgery would e the limitation of the supply of surgeons, for no mat- r how perfect the training, unless there be reasonable pportunity for practice, the hand soon loses its cunning nd the judgment errs. It is reasonable to suppose that creditable equipment of skill and judgment could be aintained by a surgeon drawing from a population of om 50,000 to 60,000.

Suppose that these requirements are in the main suf- ient, and that they are enforced by law; have the ofession and the public any right to make further mands? They have. Many details contribute to ake the results of surgical operations vicious, passable perfect, judged by our present standards. No one man, matter how well equipped nor how resourceful he y be, can give proper attention to every detail of an eration. In order that his work may approach per- tion, he owes it to himself, to the patient, and to the sulting physician to provide a trained assistant and experienced anesthetizer. These should be as much a rt of his armamentarium as his instruments and his owledge. They should share his responsibilities in ir individual departments. Nothing too severe can said in condemnation of the vicious custom, almost ule, of the operator drafting his assistants from those sent. The surgeon is consulted presumably on ac- nt of his attainments, his experience and, let it be hoped, his honesty. It is a compliment which no man can ignore; under these conditions one who does not give the best of all he has is unworthy. He owes it to himself, to his consultant and, most of all, to his defenseless patient, that every avenue of possible danger be safeguarded. The assistant who is unacquainted with the surgeon's individual methods not only does not assist, but in many instances interferes with the operator, often inadvertently courting complications by some simple error of omission or commission. When the question is one of health or illness, life or death, sentiment should not outweigh duty. The surgeon's object, once understood, will be appreciated, and no earnest physician will withhold cooperation in attaining the best results for his patient. It may be urged in objection that trained assistants are rare outside of large hospitals or exceptional conditions, and that one doing a restricted amount of work is unable to maintain such assistance; yet I have personal knowledge of at least a score of men in smaller cities who have perfected an organization composed of a few men who, while engaged in general practice, have found it possible to attain a high degree of proficiency as assistants. These men have found this association indispensable. The degree of efficiency may not be as high as that maintained in the larger clinics, but it is worthy of commendation.

One of the most valuable assets in any community is the educated, capable and honest family physician. His position is assured. He should not, and he will not, be displaced by the specialist, no matter how gifted. The welfare of his community is in his keeping. It is his family. Try as he may, he can not escape the moral obligations that rest on him. He is the first consulted; and when he deems a disease amenable only to surgical procedure his opinion is sought in regard to the surgeon who may be safely trusted. At times he may err, but there is small danger when he is actuated by honest impulses.

I reiterate that my purpose is not to discourage honest effort, if the means employed in preliminary preparation are in keeping with the responsibilities of the work. I only desire to call attention to existing evils, and to arouse public opinion to condemn or, if need be, to restrain this wild scramble of incompetent aspirants for perquisites and honors unearned and unmerited.

11½ North Main Street.

ADVANTAGES AND DIFFICULTIES OF PUBLICITY IN CONNECTION WITH MUNICIPAL PUBLIC HEALTH WORK *

ERNEST C. LEVY, M. D.
Chief Health Officer
RICHMOND, VA.

Education of the public is one of the most fundamental necessities in all public health work. Our efforts to reach the public are of two kinds: first, to educate them directly on matters of sanitation and personal hygiene, whereby they may be taught to do their share of the general work for the improvement of the public health, and, second, to acquaint them with the immediate work of their own local department of health.

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1. Berlin Letter, THE JOURNAL A. M. A., Sept. 19, 1908, li, 1024.
2. Vienna Letter, THE JOURNAL A. M. A., Oct. 3, 1908, li, 1167.

* Read before the Section of Municipal Health Officers at the thirty-sixth annual meeting of the American Public Health Association, Winnipeg, Manitoba, Aug. 25-28, 1908.

The first kind of publicity has been fully discussed both in the annual address of the President of the American Medical Association[1] and in the report of the Board of Public Instruction of the same Association.[2] I shall, therefore, confine myself to the second phase of the subject.

In our efforts to apply the teachings of sanitary science in our own community, we are constantly hampered by the passive opposition of ignorance and indifference and the active opposition of obstinacy and selfish interests of certain classes, all of which can be combated best by keeping the public informed on the policies of the health department. Again, opposition arises from the feeling that our knowledge of preventive medicine is imperfect. None can be more painfully aware than are we health officers ourselves of that fact, yet there is no community in this country in which the health department is allowed to give to the public the full practical benefit of firmly established sanitary principles. When practice has caught up with the teachings of sanitary science, then it will be time enough to base arguments on the imperfections of that science itself. Since this attitude of opposition is assumed chiefly by the ignorant, publicity is here, too, the logical remedy.

Let us take the subject of tuberculosis as an example. The public must be shown what the mortality from tuberculosis is right at home, what it costs their own city each year, what local conditions have a special bearing on the problem (and it must be made very plain that in their own community there exist the same opportunities for successful work that are found in those places in which the campaign is already far advanced), and how their own local department of health purposes dealing with the problem.

If the community is one in which nothing has previously been done, articles should be published in the daily papers showing why registration of cases is regarded as the first step, explaining just what is meant by registration, and endeavoring to remove the prejudice which naturally exists against this measure. Naturally, at the same time, the doctors of the city should be reached by special means and the matter discussed from their standpoint, through circular letters and by announcements before the local medical society, but this does not belong to the aspect of the subject which is under discussion.

Next, articles should be published in connection with the passage of an antispitting law and later with its enforcement. In the same way, publicity will aid in having free bacteriologic examination of sputum; the public should know what this is for, what it can and what it can not accomplish. They should appreciate the necessity of such work as this being paid for by the city itself.

Later on, the health department will probably start its dispensaries for consumption. Several articles will then be needed, to explain, first of all, the necessity of furnishing free advice and treatment for those who are unable to pay for it, who would, therefore, inevitably go from bad to worse and finally die, and who would, meanwhile, be a constant menace to the community. It should also be explained why the dispensary is the logical precursor of the sanatorium and the hospital for tuberculosis. Then, after the dispensaries are established, articles will be needed from time to time giving accounts of their workings, telling of the number of patients treated and selecting a few cases to bring out the fact that cure (or arrest of the disease) is being secured in many instances, describing conditions found in the homes by the visiting nurses, and showing that such places are menaces to the community unless they are under control.

The more completely the public has the workings of the health department placed before them at each stage of progress, the more active the people will be in lending their cordial support to every move and the less damage can be done by those individuals (present in every community) who oppose every step in advance. The health officer should, therefore, endeavor to keep the public informed as to what is being done. But this is not always easy. If it were possible for the health officer himself to write the articles (including the headlines) exactly as he wished them to appear, and if the newspapers would then publish them in just that form neither adding to them nor cutting, the chief difficulties of the problem would be solved. But it is obviousl impossible for the health officer always to find time fo this and, besides, many excellent health officers woul make a failure of just this kind of work, skill in popular writing not being one of the prime accomplishment demanded of our profession.

The health officer, being thus forced to rely almos entirely on the newspaper staff for putting these article into shape, encounters two classes of difficulties. Th first arises from the impossibility of getting the paper to follow up any of the work of the health departmen in a systematic manner, and the second is due to th unfortunate tendency to sensationalism shown by al our newspapers.

There is scarcely a paper in the country which ca manage to present to its readers a logical series of articles extending over a considerable period of time an dealing, for example, with such a subject as the loca tuberculosis campaign. To the ordinary reporter, eac day's facts are good only for a special "story," rathe than for merely one chapter of the whole consecutive account of plans and work. This difficulty is almost insu mountable. It would not be so hopeless if one reporte on each paper were regularly assigned to the work, bu it often happens that, after the health officer has spe many hours in getting some obliging reporter to unde stand somewhat fully the plans of the health depar ment, an entirely new reporter shows up some day as h successor on the city hall assignment and treats the fac given him as if they were some entirely new matter (a indeed, they are to him) with which the department dealing for the first time.

Naturally editors endeavor to give the public exact what they want. Most persons, reading their pape hastily and imperfectly, would not carry in their min from day to day and from week to week, the thread what had gone before. Until the public itself has come even more actively aroused to the possibilities preventive medicine as a subject in which each o should himself be vitally interested, and until, in co sequence, information along these lines is as eage sought as is the daily instalment in a long-drawn-o murder trial, it would seem that the difficulty un immediate discussion must remain unsolved.

The tendency to sensationalism on the part of daily papers stands always in the way of such public as the health officer desires. Every reporter is on the lookout for good "stories," and, therefore, those points which the health officer wishes especially to emphasize are fairly certain of receiving less attention than other phases of the subject. This often results in articles which are either utterly misleading or which dismiss in a few words the features which are essential from a public health point of view and give undue prominence to some side fact or incident, and this, through liberal embellishment by the reporter, is made to furnish not only the main part of the article, but also the wonderful headlines under which it appears.

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[1] Burrell, Herbert L.: A New Duty of the Medical Profession; the Education of the Public in Scientific Medicine, The Journal A. M. A., June 6, 1908, l, 1873.

[2] The Journal A. M. A., May 23, 1908, l, 1742.

One of the most striking and annoying incidents of this kind in my own experience occurred in the winter of 1907. Late one afternoon I was called up by telephone from the office of the president of the Richmond, Fredericksburg & Potomac Railroad, and told that there were two negro smallpox suspects on the south-bound train, due in Richmond at 7:15. They had boarded the train at Baltimore, but the conductor had not had his suspicions aroused until after leaving Washington.

I was informed that the president of the railroad desired to do whatever the health department of this city required. I at once replied that the train must be held at Acca, a station three miles outside of Richmond, until I got there. Although the train was the through Florida express, crowded as it always is in midwinter, he president at once agreed. It was less than an hour nd a half before the time that the train was due in Richmond, which meant a little over an hour before it was due at Acca. After much difficulty I succeeded in nding our diagnostician, and set out for the four-mile rive from the center of the city.

At Acca we found the train standing on the track, here it had been for ten or fifteen minutes. The suspects were locked in a coach to themselves. They showed xcellent recent vaccination scars and were found to ave nothing more serious than measles. The train was lowed to proceed, with the trainmen under instructions keep the coach locked until the men were put off at eir destination, a few miles south of Richmond, and bring it back to Richmond next morning for fumigaon—not so much because this was thought to be necesry as to allay any criticism against the railroad.

Two days afterward I incidentally told a reporter on e of our afternoon papers of this occurrence for the rpose of illustrating the excellent manner in which ery one was trying to cooperate with our newly organd health department, and expressed special satisfacn with the action of the railroad president.

But when the paper came out, there on the first page, tending across a double column, were the glaring adlines: "Health Chief Levy Holds Up a Train. mallpox Suspects Bound for Richmond Detained at ca. Doctors Win Wild Race Against Time in the ght!" Under this appeared a most thrilling account how the health department had learned of the susted cases; how, with only an hour to spare, the health cer had summoned the diagnostician and jumped into buggy. "With a cold north wind chilling them to marrow, the two physicians, plying the whip fre-ntly and vigorously to the spirited steed that drew light buggy, made their wild race against time, over w and ice-covered roads cloaked in Stygian dark-s," and arrived just as the headlight of the engine eared. (Of course, it would never have done, from a matic standpoint, to have had the train standing when they arrived!) As the train slowed down, the health officer had flashed his badge and called on the engineer and conductor to halt. After much protest they did so. Even reportorial ingenuity could make nothing of the dénouement, and the story ended with the anticlimax of the verdict of measles.

Naturally, the railroad president, having the interests of his road deeply at heart, was much annoyed by this account. He complained bitterly of the injury done himself and his road, stating—which was perfectly true —that the department would have known nothing of the matter if he had not himself informed us. The whole matter was finally adjusted by a communication setting forth the facts and disclaiming responsibility for the reporter's account. To this day, however, this incident might affect the readiness with which we would be given information in similar cases.

In order to have correct accounts appear in the daily papers, there is but one course, and that is to write exactly what one wishes to have published. But this is utterly impracticable as a matter of routine. The reporter drops in for a minute to ask, "Anything to-day?" Or, perhaps, he wishes some specific information as to prevalent health conditions. He has been through the city hall, getting reports of police court cases here, marriage licenses there, building inspector's permits elsewhere, and so on through the building. To him, only happenings of the day are good for "stories." The information of this kind to be had in the office of the health department is ordinarily little, and he has a natural tendency to dress it up to suit himself.

Not even by actually writing an article oneself can this sensationalism be completely guarded against. There still remain the unknowable editorial or reportorial introduction and the ever-present peril of headlines which are not borne out by what appears beneath them. I recall an occasion when, at the request of the city editor, I wrote a two-and-a-half-column article on the milk supply of Richmond, to appear in Sunday's paper. In order to have it certain to appear correctly, I asked to see proof and was allowed to do so. By the merest accident, when I went back with this proof, the compositor happened to bring into the editorial room his proof of the headlines which the editor had himself prepared. These lines would have created an impression exactly opposite to that which I had aimed to produce in the article itself.

This account of the difficulties of securing thorough cooperation on the part of the press must not be taken as too strong a protest against the methods of editors and reporters. It merely shows a side of the publicity question which must always be borne in mind. We must, on the other side, never forget that newspapers are not conducted primarily for the benefit of our departments and that we can not, therefore, have all these things managed just as we would like.

In spite of all these difficulties, on the whole the advantages of newspaper publicity far outweigh the occasional drawbacks. Perhaps even the sensationalism which is so repugnant to the health officer may not be altogether bad. Certainly it secures a hearing from men and women who in these strenuous times demand highly seasoned pabulum and who, in their hurried reading of the newspaper as they go to and from their work, will not deliberately select and read an article which promises no excitement, even though that article may inform them on vitally important matters relating to their own well-being. If even an occasional fact of this kind can be made to enter their consciousness along with the more highly seasoned story of the reporter, some good has been done. It is the business of newspaper men to study and learn the methods of reaching the reading public. After all, may not the editor and the reporter understand these matters better than we, and may not the very parts of their stories which irritate and annoy the health officer be the only thing which secures a hearing for us at all in certain quarters where we wish most to be heard?

Certainly, if the newspapers err in their manner of presentation, on the other hand, there is never a time when they will not willingly give any desired amount of space to public health questions. I myself have never encountered a refusal, not even when asking, late on Saturday, for a considerable amount of space in Sunday's paper. Our Richmond papers have repeatedly gone so far, when requested, as to publish in full articles which have appeared in either the morning paper of the same day or the afternoon paper of the day before, and this is a severe test of their friendship, as no newspaper relishes this course.

The health officer may legitimately use, in his efforts to reach the public for its own good, other means, which space will not permit me to discuss here. Monthly or weekly bulletins, special bulletins dealing with matters of special importance, lectures to the general public and to school teachers and children, and even the present-day moving-picture shows, are all means which have much to commend them.

In these, too, the advantages are to some extent offset by peculiar difficulties, and these must either be conquered or else endured as being more than counterbalanced by the good that can be done. The health officer will always find some who are ready to criticize his every attempt in this direction as a mere effort at self-advertising. This, too, he must make the best of, being at all times watchful lest, in spite of himself, this element enter actually into the case. Then, knowing his real motives, he may, with such philosophy as he may command, accept these criticisms, as he must learn to accept the hundreds of others which assail every public servant who regards public office as a public trust.

615 East Franklin Street.

PLEASURES AND HOPES OF THE HEALTH OFFICER *

CHARLES V. CHAPIN, M.D.

PROVIDENCE, R. I.

When Dr. Durgin asked me to write about the pleasures of a health officer I felt that my task was akin to that of the naturalist who essayed the well-known work on the snakes of Ireland. But I remember that my father, who was much interested in ornithology, once shot a white blackbird, and members of the American Public Health Association, familiar as they doubtless are with the principles of biology and with the strange mutations which from time to time appear among plants and animals, may consider it not entirely hopeless to search for pleasure in the routine of a health officer's life.

In the first place, the health officer may usually draw his salary. This, however, is probably not a very great pleasure, and, indeed, on looking up the matter some time since I found that there were many small communities (and this word small may be taken in more senses than one) in which even this pleasure was denied him.

We are told that one of the greatest enjoyments in life is to feel that one's pay is earned by honest labor. This is certainly a pleasure that is within the reach of every health officer, though it may be denied to some unhappy railroad magnates, insurance presidents and promoters of mining propositions. There is no health officer who does not find plenty of work, and there are few who neglect their duties—surely none of the members of our new section. The pleasure of duty well done, which is, indeed, no mean pleasure, is possible for each of us. Rarely can we expect more. The plaudits of the world are not for us. A man's pocket is his most sensitive point, and his liberty is almost as dear as life. Our business, daily and hourly, leads to the depletion of men's pockets and the restriction of their liberty. We can not expect the thanks of those who feel themselves aggrieved. If the neighbor who has been relieved of a long-standing nuisance, or the man who has been saved from rabies by the Pasteur treatment or the community which has had a smallpox outbreak checked by efficient action, have a good word for us we are more than content. Yet strange things may happen I have heard of a clergyman, separated from his family by the health officer during a long siege of scarlet fever who sent a present in token of considerate treatment and of a family removed to the smallpox hospital wh afterward expressed satisfaction that they were not lef at home with all the annoyances and trials that hom isolation would have involved. The farmer, too, ha been known to have a change of heart and to thank th health officer for requiring him to free his herd fron tuberculosis; and even the mill owner has in time bee led to see the advantages of the improved ventilatio that was forced on him. Perhaps even a newspape which has been bitter in its attacks later comes to advo cate the policy which it formerly opposed. These ar the white blackbirds which occasionally fly across ou field of vision.

To do our duty day by day is, indeed, a pleasure; t abate nuisances, to isolate contagious diseases promptl to examine school children, to license hogs, to liste patiently to complaints, to diagnose doubtful cases, t record births and deaths, to distribute milk for babie to vaccinate, to kill mosquitoes, to give out antitoxi to inspect baby farms, to examine dogs' brains, to di tribute circulars, to make blood tests, to back up th family physicians, to keep the reporters good-nature to answer fool questions, are all in the day's work. Ce tain things, of which the above items are a mere su gestion, are by common consent required of the healt officer. Extensive routine procedures are laid down the authorities in the text-books on sanitary scienc But the health officer, however faithful, who gets in a rut is not doing his full duty. Do not blindly follo obsolete works on municipal sanitation. Sanitation by no means a finished art, though, judging from t methods employed in some cities, one might suspect t contrary. Every day brings some discovery in t sphere of sanitary science, and every day develops so new application or modification of our art. There c be little comfort in being behindhand in the race. not wait for a meeting of the American Public Heal Association to be spurred to progress. Keep movi

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* Read before the Section on Municipal Sanitation of the American Public Health Association, Winnipeg, Sept. 12, 1908

yourself. Half the pleasure in one's work is in keeping abreast of the times, in taking the best journals, in keeping in touch with the latest discoveries, and in learning what the scientific men of all lands are doing in bacteriology, micro-zoology, biochemistry, serotherapy, vital statistics, and epidemiology, as well as in the more prosaic fields of practical sanitation. If you have not tried it, you can little realize to what pleasure the subscription to, and perusal of, the *Index Medicus* will lead.

A very good friend of mine had inscribed over the ireplace in his club the motto, "Don't Take Yourself Seriously." That is doubtless an excellent motto for a club, for in our social intercourse nothing wearies us so much as the man who can see nothing beyond his own work and aims, and who insists that what is impor- ant for him must be important for everybody else. The health officer should not talk sanitation at his club (if he can afford to belong to one) or to his family, or to his bosom friends. He should realize that perhaps religion, and art, and commerce, and agriculture, and even golf and bridge, have their place in the world. While it is folly for the health officer to be serious at all times, and particularly to strive to compel everyone else to make hygiene the chief object of life, yet I firmly believe that he ought to take his business very seriously. Otherwise much pleasure may be lost to himself, and perhaps some good to the world. Even my friend who would bar the serious man from his club, as a manufac- urer takes himself as seriously, and successfully so, as ny man in the busy little state of Rhode Island.

Sanitary science is an important and fascinating science. Practical sanitation is as immediately useful s any work that man can do. I am afraid that, even with all our glib talk about the value of human life and ealth, we do not have a full and serious comprehension f our profession. If we did we would make greater ffort to perfect our methods and to add something to he store of scientific truth. The greatest pleasure which a health officer can possibly have is to have done omething to advance his profession. You and I may ot be able to devise a system of school inspection like Dr. Durgin, to inaugurate municipal warfare against uberculosis like Dr. Biggs, to establish milk depots like Nathan Straus, to invent novel methods of sanitation s has Col. Gorgas at Havana and Panama, to discover he etiology of a disease like Drs. Reed and Carroll, or o find a curative serum like Dr. Flexner; but it should e the ambition, and the reasonable ambition, of every ne to add some stone, however small, to the structure f our science, or to improve, however slightly, our ractice. We can at least record deaths with accuracy, repare tables with care, make family histories in cases contagious disease and note the facts of isolation, dis- fection, hospital treatment, vaccination and the use sera. Every man can learn to observe and to record, nd what we want is facts, facts, facts. Every health ficer can, and should, write a good report, one which ill be a real help to every student of sanitary problems. e must realize how little we know and how much ere is to learn. It will then be a duty and the great- t of pleasures to do something, however little, to add mething to the mass of scientific knowledge, which me day in the crucible of a mind greater than ours ll yield a truth that will bring our science and our t one step nearer the exactness which is our goal.

As for the hopes of health officers, as we are opti- ists, we have many. We hope for the establishment of a national bureau of health, and we hope that it will not be planned by clergymen, or college presidents, or politicians. We hope that some time the Public Health Reports will be filled with useful information. We hope that every local unit of government will have its health officer, and that the ice-man and the undertaker will not be considered suitable candidates, but that every health officer will be trained for his work. We hope that he will receive a reasonable reward for his services, and that the pay for saving a child's life with antitoxin will at least equal that received by a plumber for mending a leaky pipe; and that for managing a yellow-fever outbreak a man may receive as much per week as a catcher on a baseball nine. We hope that the writers of text-books will some day tell their readers how rare is a typical case of scarlet fever or typhoid fever, and that the medical schools will teach their students that medical science really exists, and that they should not be mere mechanics. We hope some day to issue a permit for the burial of the last doctor who thinks he can diagnose diphtheria and smallpox with his nose; we hope for the day when superstition shall have been banished from therapeutics and when the newspapers shall have forgotten the sewer-gas bogey. We can not expect that figures will ever cease to lie, but we may hope that vital statisticians will. We hope that someone will discover the germ of measles, and of scarlet fever, and will tell us the mode of infection in smallpox and tuberculosis, and why, while so many are carrying the pneumococcus, so few develop pneumonia, and will explain how the fresh-air cure cures. We hope some one will tell us why we condemn beef from the tuberculous cattle, which has never been known to kill any one, and allow the sale of trichina-infected pork, which has killed many, and why we forbid the sale of immature veal because it is indigestible, but do not interfere with the serving of Welsh rarebit! In fine, we hope for the steady advancement of sanitary science and the steady improvement of sanitary practice, and we hope, and are sure, that the new municipal section which is born here in Winnipeg will be a powerful factor for both.

FOOD INTOXICATION IN INFANCY*

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We are all familiar with the fact that disturbances of the alimentary tract, such as indigestion, summer complaint, ileocolitis, cholera infantum, etc., are commonly accompanied by more or less profound nervous symptoms that in their totality make up the clinical picture of an intoxication. The babies thus affected are listless, drowsy, stuporous, heavy-eyed, with eyes fixed on vacancy, are hard to rouse and quickly sink back into their stupor, which in severe cases may amount to coma. They look as if under the influence of a drug, as if poisoned or intoxicated or "dopey." We have become so accustomed to thinking that such intoxications, characterized as they are by fever, leucocytosis, psychic depression, collapse and evidences of indigestion or enteritis, must be due to a bacterial toxin that a simpler explanation has escaped us. In a series of papers that will serve as models of profoundly critical and convincing scientific investigation and exposition Finkelstein[1] of Berlin, during the last year, has demonstrated very convincingly, as it seems to me, that these intoxications are not due to the absorption of bacterial toxins, but are the result of a perversion of food metabolism. They are thus rather to be classed with uremia or diabetic coma than with pneumonia or typhoid, for instance. In other words, we have a food intoxication, an "alimentary intoxication," as Finkelstein calls it, or, as Walls has suggested, to avoid the ambiguity of the English term "alimentary," a "metabolic" intoxication. Startling as this view may seem at first, its adoption as a working hypothesis will quickly convince one of its reasonableness, and will lead to practical results that seem almost miraculous. I will only mention in passing that he who sees only one baby, already so profoundly intoxicated that in the light of past experience he can consider death only a matter of hours, within twenty-four hours show marked improvement, and within forty-eight hours every evidence of well-established convalescence, with no treatment of any kind except the withholding of food and the free administration of water—whoever sees this, if only once, is in a receptive mood toward the idea of a food intoxication, rather than one of bacterial origin; when he sees this repeated, in its essential features in nearly every case, with the precision of a law, he becomes convinced.

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It is necessary to define still more clearly the meaning of the term "food intoxication" as the subject of this paper. It is in no way synonymous with such indefinite and unscientific expressions as "putrefactive absorption," "intestinal autointoxication," etc. It is not a digestive but a metabolic disturbance. It is not the result of the ingestion of sour, or spoiled, or boiled, or improperly constituted milk or other food. The most wholesome, fresh, nearly germ-free cow's milk, or human milk, or other food, under certain circumstances that will be elaborated later, when given in amounts that exceed the infant's ability to metabolize, can act as a poison as certainly as any drug in the pharmacopeia. Neither do we here have a fermentative or putrefactive change with absorption of toxic products of bacterial activity; the bowels may be nearly normal, usually somewhat loose but not characteristically foul or decomposed. The trouble lies beyond the lining of the intestinal canal. It is in the intermediary metabolism that the toxins are elaborated.

The object of this paper is to analyze and sharply define this clinical picture, to show the reasonableness of its pathogenesis, and, above all, to outline practically a simple, rational and most effective treatment based on this conception.

The symptomatology and clinical setting are perhaps made most clear by considering a typical case such as we see so frequently in the summer time. A child that apparently has been thriving becomes fretful, is less playful, does not care for its bottle, is perhaps slightly feverish; its bowels move three to six or more times a day and the movements are somewhat sour, often pale yellow or greenish, are curdy and show every evidence of indigestion. The baby is not very sick; its weight remains about the same; its food is continued as it has been; and no physician is consulted. A change so striking that it does not escape the mother comes over the child. The baby that has been only a "little upset" for a few days is unmistakably sick, and the doctor is calle at once. He finds a pale and listless baby, with heav drooping, vacant eyes. The general appearance is o of prostration. The face wears an anxious expressio The child looks as if under the influence of a powerf drug. It refuses all its food but usually takes wat freely. Its temperature is 103 F. Its respirations a 50 and labored. The bowel movements are still mo frequent than before, sour and irritating, pale yellow greenish. If the food is continued the child common gets rapidly worse, goes into collapse, with marked lo in weight, and may die in a terminal coma. So cha acteristic is the whole picture that if once familiar wi it, one can always recognize it at a glance. It is evide that the condition I have described is not an uncomm one. It is the usual intoxication that accompanies "ga trointestinal disturbances" or "gastroenteric intoxi tion," or "summer complaint." It is this that I wi to emphasize: that this symptom-complex is not a ra or new thing; that it is one of the most common thin with which we have to deal in infancy.

If now we take these common every-day intoxicatio and analyze them more carefully we shall find that th all have certain well-marked symptoms in comm This symptom-complex can be demonstrated in prac cally every case, although individual symptoms vary that two cases superficially may seem to have little common. It will be worth while to consider these sym toms common to all of them in greater detail.

The first and most striking symptom, the one th gives the condition its name, is the marked psychic pression; the eyes are heavy, more or less fixed, slow move, half closed; the child looks not only drowsy in a stupor, which varies from the mildest degree t condition of coma. At times it is restless with anxious look, but in every case there is the distinct pearance of an intoxication.

A second very striking symptom is a peculiar type respiration. The child breathes more rapidly and dee than normal and there is practically no pause betw breaths as in the healthy condition. This sympt varies greatly. At times it is barely recognizable, again it is so marked that it is hard to believe that th is not some lung trouble. The child may pant for bre at a rate of 60 to 70 respirations a minute, with a sh expiratory grunt that frequently leads to a diagnosis pneumonia or pleurisy. To one who has been un miliar with this picture it is always a surprise to how regularly this type of breathing occurs.

The temperature is variable, but as a rule it is q high, 101 to 104 or 105 F., and in practically all case steadily above normal. It has no diagnostic peculiar It is often low in very severe cases and high in mil ones, although there is a tendency to parallelism betw the degree of fever and the severity of the intoxicat

There is always present a distinct leucocytosis moderate degree, 20,000 to 50,000. This varies dire with the degree of intoxication. It is of special inte that a leucocytosis may be dependent, as here, on ano cause than a bacterial one.

The bowel movements are not characteristic, dep ing more or less on the preceding condition. Usu there is a moderate to a severe diarrhea, with sour digested stools. Foulness is not a common condi and certainly not characteristic. Sometimes ther marked constipation so that it is almost impossibl overcome the intestinal inactivity. In a recent cas

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[1] Finkelstein, H.: Ueber alimentäre Intoxication. Jahrb. f. Kinderh., January, March and July, 1907.

ny own, in which the child was in collapse, semicoma-
ose, breathing 65 times a minute, with a sharp expira-
ory grunt, with tender abdomen, in which repeated in-
ections and cathartics had produced almost no result,
nly the subsequent diarrhea and course of disease made
t certain that there was not intestinal obstruction.

There is always a loss in weight. Commonly this is
apid and persistent. In severe cases there is a state
f collapse, with sunken eyes and extreme prostration.
he urine always shows the presence of sugar (milk-
ugar and galactose) and albumin and some casts. This
ust not be considered as in any way indicative of dia-
etes or nephritis. Finkelstein tells us that he has never
iled to find these abnormal constituents of the urine
hundreds of examinations, provided, of course, the
hild was getting sugar or starch at the time.

While every child that has a food intoxication has all
f these symptoms, from a practical standpoint of diag-
osis there are only a few simple things to consider.
he characteristic facial expression, the look of intoxi-
ation, in its proper clinical setting, is what we prac-
cally base our diagnosis on. The mother of the aver-
ge intelligence whose baby has once been intoxicated
cognizes the condition immediately as *sui generis* when
occurs again. When this appearance is added to a
gestive or nutritional disturbance or infectious process,
ere is no practical need of diagnostic refinement. The
pe of breathing is of great confirmatory diagnostic
lue. The fever is of great value in diagnosing both
e presence and the severity of the condition. The
ucocytosis, glycosuria, albuminuria and cylindruria are
theoretic and purely scientific rather than of practi-
l value except in rare cases. The bowel movements
er nothing that is diagnostic.

An intoxication is never a primary condition. It is
ways engrafted on some other pathologic state. It
pears most commonly as an accompaniment of nutri-
nal and digestive and infectious disturbances of all
nds. Thus it occurs in the course of an enteritis, or
sentery, or indigestion, or overfeeding. But its ap-
arance is by no means restricted to this class of dis-
lers. It occurs as well in connection with any infec-
us process, outside of the alimentary tract, such as
eumonia, or typhoid, or even in any constitutional
order that sufficiently influences the whole organism
these do. In other words, the local condition is not
important one. Whenever the general condition of
whole organism has been reduced to a certain point
re is only one other factor necessary to elicit an in-
ication, and that is food, of sufficient quantity and of
ertain composition. Food is the only thing that will,
the presence of these diverse conditions, produce an
ntical picture of intoxication in all of them, and that
oxication will vary alike in all cases, as the food is
intained, diminished, increased or eliminated. We
e here what Finkelstein has called a "metabolic bank-
tcy," and it matters little whether it occurs in con-
tion with an enteritis, a typhoid or a nephritis. The
important fact is this: that the giving of food, es-
ially of certain composition, will lead to toxic prod-
s of an inadequate metabolism that may and does
to death, and that the absolute withholding of food
quickly restore the organism to its state of health.
certainty, as of a law, with which results follow the
ing or withholding of food, in these so widely differ-
conditions, can hardly be explained on any other
othesis than that the nature and quantity of the food
are the direct factors that determine the presence, or absence, or extent, of an intoxication.

So far I have spoken only of food in general. An infant's food is a complex substance made up of fats, proteids, carbohydrates, water and salts, and these different food elements play widely different rôles in the production and maintenance of an intoxication. Contrary to the still prevalent teaching of our text-books and leading writers, I have long been convinced that the fat is by far the most disturbing element in artificial feeding of infants. Czerny has most clearly shown us what typically follows when we give a child too much milk, and has also demonstrated that the condition is due to too much fat. It will not be amiss to review this briefly because we have here most clearly shown the pathogenesis of food intoxication. The baby that gets more milk than it should have usually becomes restless, pale and flabby and fails to gain in weight or even loses. It is characteristically constipated, the bowel movements being hard, dry, grayish-yellow, or even putty-like in color and consistency, with a strong decomposed odor. They are composed largely of insoluble salts of fatty acids, showing that the fat is the disturbing factor. These overfed babies often stand this abuse for a long time and at first gain remarkably rapidly. Sooner or later, however, in most of them there occurs an acute upheaval that the German writers have aptly called a "catastrophe." There is diarrhea, fever, rapid respiration, psychic depression, etc. In other words, on top of a disorder of nutrition caused by giving too much fat, there is an intoxication, and this intoxication is brought out when the general condition of the child is lowered to such an extent that the amount of food that is given is enough to bring it out. If all food is eliminated for a short time recovery is abrupt and convalescence is uninterrupted if one slowly adds increasing amounts of food. This favorable outcome is certain in proportion as fat is eliminated or used with extreme caution. It is a matter of every-day experience that these patients can not stand cream for a long time, or whole milk except in very small amounts, and yet will stand fat-free milk almost from the start. It was formerly very hard to understand on the basis of an infection why a certain amount of milk would be tolerated, and that every time we exceeded that amount there would be a catastrophe, as we have all seen it hundreds of times.

The following may be cited as a typical case of intoxication following overfeeding with milk:

CASE 1.—Baby H., aged 8 months, weight 16 pounds, had pyelitis at six and a half months. Recovery was complete. Food was gradually increased after this till the child was taking one quart of milk, 18 ounces of water and 8 teaspoonfuls of a proprietary food. The baby vomited somewhat, and was very constipated. The bowel movements were hard, dry, gray and very offensive. The child was restless at night, pale, not gaining as it should after first heavy gain; it gradually refused to take all its milk, finally leaving nearly one-half of it each time.

February 27: The baby took cold, was more irritable than ever. Feverish for two days.

March 1: The baby was quite sick; temperature 101½; respirations 40 and deep. Bowel movements were light gray color, offensive, watery, several during the day. The child looked drowsy. It was put on water with saccharin.

March 2, twelve hours later: The temperature was 103½. Respirations were 60, very rapid and deep, with a sharp expiratory grunt. The child was very pale, listless, eyes drooping, with every appearance of intoxication. The lungs were negative. A diagnosis of possible deep (?) pneumonia with intoxication was made. The child was put on barley water with saccharin.

March 3: Temperature, respiration and facial expression were normal; eyes clear and color better. The child looked around. Lungs were negative. Bowel movements were three in twenty-four hours, greenish, loose, slimy. Feeding with small amount of fat-free milk (6 ounces in twenty-four hours, and barley water, 42 ounces) was begun and increased 6 ounces daily till one quart was given; then sugar was added and later whole milk. Recovery was rapid and uninterrupted.

Sugar is even more liable to call out an intoxication and is second only to fat in its tendency to produce a relapse. In fact, the evidence seems to show that the sugar is the only food element that can intoxicate in the manner here described, and that the fat is rather the prominent factor in the prodromal stages and after the intoxication is established, but that it rarely, if ever, alone directly produces an intoxication.

Any one who sees many babies fed on condensed milk, or malted milk—that is, the sugar foods—is well aware of the fact that such infants are peculiarly prone to these "gastrointestinal disturbances" that we recognize as having all of the earmarks of our food intoxication. Many of these babies show this disturbance regularly whenever a certain amount of the food is exceeded. During convalescence sugar will almost as certainly as the fat produce a relapse if increased too rapidly. Formerly when we considered the sugar as the least harmful of all the food elements and gave babies barley water freely with sugar, convalescence was at best protracted, only too often never established. Now we expect it to be rapid and free from relapses, because we eliminate the fat and give sugar only very cautiously in the food for some time.

For many years the proteid of cow's milk, or rather the casein, alone has been the *bête noire* of our pediatricians. To it has been ascribed the chief rôle as a disturber in feeding cow's milk, and around this idea has centered our percentage system of infant-feeding. The theory that this idea is an erroneous one is enthusiastically accepted as yet by a small minority only in this country. Whatever theory may lead us to think, practically the proteid is not hard to digest, as any one can easily demonstrate by feeding milk from which the fat has been removed and the proteid left undisturbed. On account of the complexity of proteid metabolism we might nevertheless expect in the state of intoxication, in which we have a condition of "metabolic bankruptcy," to find that the proteid would be equally harmful with the fat and the sugar. As a matter of fact, neither casein nor albumin will bring out an intoxication, nor will they bring about a relapse although fed in large quantities. Repeatedly in Dr. Walls' service at Wesley Hospital in the profoundest intoxications, in which we would not have dared to give the smallest amount of sugar for days or of fat for weeks, we have given, after one day of hunger diet, more pure washed casein in watery suspension than the child would have received in the amount of milk that would have been proper for it if it had been healthy and have seen no unfavorable results. Our acknowledgment of Nature's wisdom in providing that an infant should have least trouble in digesting and metabolizing the one essential food element, the proteid, is an undeservedly belated one. The following case will serve to illustrate the harmlessness of the casein:

Case 2.—Baby E., aged 7 months, weight 8 pounds 14 ounces; had always been thin; had had diarrhea for several weeks. The child had been at a home for sick babies, was fed on cow's milk and had been fairly bright till two days before examination (August 9). Then came a marked change. The baby lay motionless and did not even cry, in complete collapse, semicomatose, with eyes sunken, half-closed and fixed, with every evidence of extreme intoxication. It did not seem possible that the child could live twelve hours. Temperature was 99.8. The baby would not take water, seeming too far gone to take it. It was put on water with saccharin. Strychnin sulphate (1/300 gr.) was given every three hours for three days. Water was given with the stomach-tube for two or three times. There were five thin greenish bowel movements in the afternoon and evening.

August 10: The baby was much brighter; it looked around and cried occasionally; its eyes were clearer. Temperature was 99.2. There was no bowel movement. The child took 16 ounces of water in twenty-four hours; its weight was 9 pounds. Food was ordered as follows: Casein of 16 ounces of milk, water 32 ounces, saccharin 1 gr., four ounces every three hours.

August 11: The child was still brighter; smiled. No evidence of intoxication was left. There were two normal skimmed-milk bowel movements, greenish-brown, soft, smooth, with no curds. Temperature was 98.4; weight 8 pounds 10 ounces. The baby took 20 ounces of food.

August 12: Improvement was steady. There was no bowel movement. Temperature was 97.8; weight 8 pounds 5½ ounces. Food was ordered, same as before plus one-half ounce of cane sugar. The child took 25 ounces of food.

August 15: The baby's condition was the same; temperature normal; weight 8 pounds 8 ounces. Sugar was increased to one ounce.

August 17: The child's condition was good in every way. There was one bowel movement in forty-eight hours. Food was ordered as follows: Whole milk, 5 ounces; casein of 1 ounces of milk; water, 14 ounces; cane sugar, 1 ounce; si feedings, 5 ounces each, to be given every four hours.

August 20: The bowel movements were more frequent an greenish. The baby was put on skimmed milk, 15 ounces water, 15 ounces; sugar, 1 ounce. On this and buttermilk i made steady progress.

August 30: The baby's weight was 9 pounds; its conditio excellent in every way.

The exact nature of the toxins is not yet known. Th condition is probably analogous to an acid intoxication The chief interest centers in the idea that we have her toxic substances that are apparently of alimentary, no of bacterial or intestinal origin. This idea is supporte by the following considerations:

1. In many cases of fatal intoxication coming t autopsy no demonstrable pathologic lesions are found i the alimentary canal. It is almost unthinkable that bacterial invasion of the mucosa would leave no sign when the evidences are so manifest in the known inflam matory lesions, such as ileocolitis, enteritis, typhoid, etc In an intoxication the abnormal conditions that may b present are those of the condition on which it may b engrafted.

2. If a symptom-complex, so alike under all circum stances under which it may arise, were due to a micro organism, one would expect that there would be a cer tain specific organism, or group of organisms, wit which it would be associated constantly. There is ap parently no such connection.

3. It hardly seems possible that in any bacterial i vasion of the intestinal wall, such as we have in th known infections like typhoid or ulcerative ileocoliti we could remove all symptoms within twenty-four forty-eight hours by any process, and certainly not simply withdrawing food. In a known infection sta vation will not prevent it from running its cours Furthermore, we would not expect different food e ments to have so different an action under such an

tomic conditions. It is hard enough to see how food could have any influence, much less one so selective. And yet here the course of the disease can be influenced at will with the precision and certainty of a laboratory experiment, can be made better or worse to any degree, by simply increasing or diminishing or eliminating the fat and the sugar of the food.

4. The fact that these intoxications occur in such widely different infections as pneumonia or sepsis or other non-alimentary affections, yet have in all the same characteristics, are in all influenced in exactly the same way by different food elements, can certainly be accounted for more easily by assuming a food intoxication than by assuming a secondary intestinal infection, of which there is no pathologic evidence.

5. From the known behavior of an intoxication, under the influence of different amounts of certain food elements, it is likewise hard to believe that we have here o deal with the absorption of putrefactive or fermentative or other products that are the result of bacterial activity within the intestine. The appearance and odor of the bowel movements do not suggest such a condition. Furthermore, we ordinarily associate putrefaction and toxic products of bacterial activity with proteids, not with sugar and fat; yet here the proteids are innocuous or unimportant, and the fat and the sugar all-important.

What part bacteria play in the primary conditions hat precede the intoxications, especially in the gastro-ntestinal cases, it is impossible to say at the present ime.

The treatment of these intoxications is more or less vident from the pathogenesis and is as satisfactory as t is simple. We have here to deal with a food intoxiation, and the important step is to withhold all food or a sufficient period of time. This simple procedure, n cases of moderate severity, will produce a normal emperature and absence of evident intoxication within wenty-four hours; in severer cases within forty-eight o seventy-two hours. In some few extreme cases this ay take a week or longer. It is, of course, extremely esirable to give water freely during this time. With lenty of water alone a child can live many days; withut even water only a comparatively few days. If not ell taken the water can be sweetened with saccharin 1 grain to the quart), but not, of course, with sugar. eak tea can be given in its place, as is done so much n German clinics. Barley water is practically harmless n these cases and can be given in place of water or tea f desirable for any reason. If at the end of twentyour or forty-eight hours the baby has a normal temperature, a clear eye, is no longer toxic, and has greenishrown, rather slimy-looking bowel movements that are haracteristic of hunger or cereal-water diet, we can egin to give it small quantities of food. Since proteid the most easily taken and the one essential food element, we naturally turn to a milk that is free from fat the first food to give. We give then a small amount skimmed milk in our barley water or water, five to n ounces, for instance, in the twenty-four-hour food. his carries a little sugar with it but not enough to do ny harm. Whey is manifestly not a proper food because is practically a sugar water with a small amount of ctalbumin and salts. We now expect more rapid recovy where formerly we were accustomed to a prolonged nvalescence when we used whey freely. The more cometely fat-free our milk is, the surer is the result. There is often a striking difference between a milk that has had the cream poured off, or dipped off, or siphoned, and a milk that has had the fat removed by the separator. When the fat-free milk is well borne for a day or two, or more, one can safely add a small amount of sugar and very gradually increase this to the amount that the child ought to have if healthy. Only after days, or weeks, or even months, can we safely begin gradually to substitute whole milk for fat-free milk, under careful control as to temperature, facial expression, bowels, etc. The severer the case the slower must be our progress and the more carefully controlled, for in these cases a sudden increase of fat or sugar may lead to most serious results.

A case recently came under my observation, in which in the beginning of the fourth week following an intoxication with painfully slow but steady convalescence, a fatal termination was apparently brought about by the substitution of a diluted whole milk for a fat-free milk of equal dilution.

Drugs occupy a very minor place in the treatment. It is doubtful whether even the preliminary cathartic has much value except for the constipated cases. If indicated, stimulation is, of course, to be resorted to. Alkalies may be of some value.

If the child refuses water, or vomits, as is often the case, the water must be given as normal salt solution per rectum, or by lavage, or in extreme cases under the skin. The child must have water.

The urging of therapeutic starvation may seem trite and commonplace enough. But our knowledge of the cause of these intoxications, as well as of the digestive and nutritional disturbances, and the reasonableness and effectiveness of this procedure based on this knowledge gives to this hunger diet a new and added meaning that justifies added emphasis. "Cutting down the food," "lowering the percentage," "cleaning the baby out with calomel," "giving barley water with sugar" as a routine are not the same thing as withholding for a requisite time, for an obvious reason, all food except water. That convalescence follows a less radical treatment is, of course, to be expected in most cases, but it is at best protracted and less certain. A patient poisoned with strychnin will recover unless the dose was too large, even if mistakenly further strychnin is given as a stimulant; but such a procedure would certainly be poor treatment. Radical starvation is to my mind the greatest weapon in our armamentarium.

If at any time during the convalescence there is a relapse because of too rapid increase in food it is just as desirable as in the first instance to go back to a hunger diet again—and the less one compromises with that procedure the better. We have here a reintoxication, and we must disintoxicate before it is safe to go on again. I think that this is a point which requires special emphasis because it is not observed sufficiently. The amount of food that a child can stand depends on its immediately present condition. A child has been intoxicated. Slowly we work up to twenty ounces of fat-free milk, for instance. We add one-half ounce of sugar or five ounces of whole milk to-day. The child may be reintoxicated to-morrow because of this addition. It is then no longer safe to go back to the twenty ounces of fat-free milk—we must go back to the beginning and start over again. In treating a case of this kind one can not map out a long course of feeding—new changes can rationally be made only when one knows just what the condition of the child is at the time of the proposed change.

The thought naturally occurs that one must be very heroic to take all food away from a baby that seems starving as it is, and especially before parents whose one thought is to get the baby back on its food again. The difficulty is not nearly as great as one might think. As far as the baby is concerned, if the hypothesis of a food intoxication is true, it is evident that the baby can not be too weak or too near starved, but that the absence of food will be better for it than to increase its intoxication by giving more. The baby is now weak and sick, not from hunger but from a food intoxication. If it can stand it, removing its food will leave it hungry but convalescent. If it can not stand the starvation it is manifestly doomed. Even in cases that seem hopeless the change that is often produced in one day by simply removing the food is so evident that one soon loses that fear of too prolonged starvation that is bound to possess one at first.

As to the parents, it is my experience that there is practically no difficulty in getting a mother of average intelligence to do anything for the baby that is explained to her and seems reasonable. If she is told that there is a food intoxication, she can easily be led to see that the thing to do is to remove the food. When she sees what a wonderful change this produces within twenty-four hours, with no other treatment, she is just as convinced and enthusiastic as the doctor. It becomes a very common experience that mothers whose babies easily exceed their food tolerance will call up the doctor at the end of the twenty-four-hour fast that they have instituted themselves. They know very well that the fast was indicated, and now they want to know whether it was long enough and if so how much and what food they can give. In very severe cases, in which prolonged absence of food is indicated and one is not sure about the mother, one can give what looks like a gradual increase of food, say water, then tea, then albumin water or barley water, any one of which is harmless, at least after the first twenty-four hours, and yet will satisfy the mother, while the baby is getting the necessary starvation.

Is there any way of recognizing an impending intoxication so that it can be warded off? An intoxication never bursts forth fully developed. It is always preceded by prodromata that are usually easy to recognize. These may be of long or of very short duration. This is best shown in the cases that accompany digestive or nutritional disturbances. The child becomes unusually fretful and cries much of the time. It fails to gain, or even loses, the weight varying widely from day to day. The bowel movements show decided evidence of indigestion, are more frequent in number, four to five or six times a day, pale in color, or greenish, sour and irritating. If to this is added a variable temperature with occasional spurts of fever up to 100 or 101 not due to some other evident cause, there is an impending intoxication. The temperature of a healthy baby is remarkably constant. In hospital babies in which the temperature and all of the symptoms are quickly recognized we can see these cases coming on, gradually increasing in severity, and passing over without interruption into a full-fledged intoxication. In the prodromal stage it is only necessary to lessen the food to a safe amount and the symptoms will disappear. Mothers are quick to learn the significance of the prodromal stage, and after one or two experiences will tide the baby over the danger themselves the next time by lessening the amount of food.

In the prophylaxis, further, of intoxication, overfeeding must be avoided, absolutely in health and relatively in sickness. The practical value of a strict calorie control of the healthy infant's dietary along the lines laid down by Heubner can hardly be overestimated as a check on overfeeding and the resulting intoxications. In acute illness of any kind that lowers the general condition of the infant the food should be lessened to a safe amount and in a definite manner. Since fat is the chief disturbing element in infant-feeding, it would be unwise to use cream mixtures, and for several years we have used no cream whatever in our diet kitchen at Northwestern University Medical School. In the prodromal dyspeptic stage of an intoxication we have come to fear even diluted whole milk, and have found the partial or complete temporary elimination of fat one of our most valuable therapeutic measures. It is evident that we must guard against the use of too much sugar in our mixtures, and that such foods as condensed milk, malted milk, etc., should be used with great caution if for any reason they should seem indicated. The adoption of a four-hour interval as the usual one between feedings would do much toward the prophylaxis of overfeeding and so of intoxication.

The relation of human milk to these food intoxications is of peculiar interest. We are accustomed to think of mother's milk as the last resort—that if this fails there is no use trying anything else. Doubtless many of us have in extreme cases placed a child on human milk and have been surprised at the sudden and emphatically serious change for the worse. We have here one of the strongest confirmations of the truth of the theory of a food intoxication. If a child in a state of intoxication can not stand fat and sugar there is no reason why it should bear them any better because incorporated in human milk. There is a vast difference in many ways between human and cow's milk fat, and yet they both act as fat in this connection. Salge has demonstrated that these babies can stand a large amount of centrifuged human fat-free milk, though a very small amount of whole milk would produce serious results. A baby can indeed become intoxicated on human milk, disintoxicated on water, reintoxicated on human milk and even on a skimmed or siphoned human milk that is not nearly fat-free, redisintoxicated on water, and then carried safely through convalescence on a centrifuged cow's milk that is practically fat-free. In other words, as we would expect theoretically, an intoxicated baby that can not take human milk will still be able to take a fat-free cow's milk. This is shown in the following case:

CASE 3.—Baby S. (Figs. 1 and 2), aged 6 weeks, had been at the breast and well till four days before examination (July 28, 1908); since then had had a violent diarrhea, ten to fifteen bowel movements daily; did not vomit. Temperature was 100. It had nursed every one or two hours and appeared severely intoxicated. The baby was put on water; it was not to nurse.

July 29: The baby had taken little water. The mother gave it the breast once, possibly oftener. The baby was much worse, in extreme collapse, slightly cyanotic, and semi-comatose, with eyes sunken, half open, dry and fixed (Fig. 1). Temperature was 100. The child's condition seemed hopeless, but it was taken to Wesley Hospital. Tea with saccharin was given by mouth and normal salt solution by rectum.

July 30: The baby was brighter; cried a good deal; and still looked intoxicated. The tissues were hard and stiff. Temperature was 98 to 100. Normal salt solution was stopped d 3 ounces of siphoned human skimmed milk given with tea s afternoon and during the night.

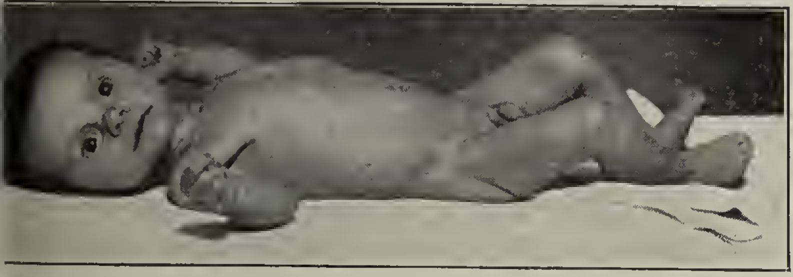
July 31: The baby was decidedly better this morning; ked brighter, and presented practically no evidence of in- ication. There were seven greenish-yellow bowel move- nts, some curds, normal odor and color. Temperature was 6 to 99.8. The allowance of skimmed human milk was in- ased to 5¾ ounces in tea.

August 1: The baby was not nearly so well; looked drowsy, vy-eyed and "dopey" again; was very pale and hard to se. It was almost impossible to get it to take the bottle. seemed nearly as sick as when first seen. Temperature was 2. There was six bowel movements. On account of relapse child was put on equal parts of fat-free cow's milk and er, alternating every two hours with albumin-water.

ugust 2: The child was brighter again. Temperature was 3. There were five bowel movements, smooth and well di- ted. The child improved steadily on this and by the end he week was bright, had a better color and took its food erly. During the second week it gained 14 ounces on a free cow's milk, barley-water and sugar mixture, with the ition of a little nursing from the mother. The baby was harged on the fourteenth day in excellent condition in y way.

The fact that human milk may be but little less ngerous than cow's milk in its relation to intoxica- is of great practical value in those cases in which se a wet nurse as a last resort. It is manifestly not to put such a baby, one whose food tolerance is narrow, at once on food so rich in fat and sugar at given by the breast. We must proceed with ex- e caution. If there is still an unfavorable reaction inimal amounts the child may yet be saved on fat- cow's milk or, as the last resort, on fat-free human The following case illustrated this:

. 1.—Baby S. (Case 3), 6-weeks-old, weight, 7 pounds 10½ s. Intoxication on mother's milk. July 29, 1908.



. 2.—Baby S. (Case 3), after one day of water diet; weight nds 9½ ounces. July 30, 1908.

E 4.—Baby S., aged 7 months, weight 9 pounds, had l only a short time and had never gained as it should. ily reached the limit of milk toleration. This was a l case of malnutrition.

ember 30: The child was somewhat overfed on milk, nces; barley-water, 18 ounces; milk-sugar, 1 ounce, and extract, ¼ ounce. The baby was pale, restless, cried a deal and was constipated. It was put on water for -four hours.

ember 1: The child slept well and was better in every It was put on the same food, omitting the malt extract.

ember 2: The baby was good for one-half day; then had erable night, was fretful and cried a great deal. The bowel movement was slimy and frothy. The child's weight was 9 pounds. It was put again on barley-water without sugar for twenty-four hours to prepare it for the wet-nurse. Temperature was normal.

December 3: The baby took the breast with abundance of milk every four hours; seemed perfectly contented and comfortable. Its weight was 9¼ pounds.

December 4: The baby had a restless night, looked pale, not as well; it had two grayish-yellow, greasy bowel movements. Its weight was 8¾ pounds.

December 5: The baby was very much worse. As the mother said, he was "really sick for the first time in his life," was peevish and fretful for the first part of the twenty-four hours, then listless and waxy, drooping heavy eyes, taking no notice of his surroundings, but wanting to be let alone. The child had the typical appearance of intoxication; was "feverish," according to the mother. Temperature now was only 98.6. One-half teaspoonful of castor oil was given and the child put on barley-water with saccharin.

December 6: The child was very much better; smiled and had wholly lost the intoxicated look but was still very weak. Its eyes were clear; temperature normal. The baby was put on centrifuged fat-free cow's milk, 5 ounces in twenty-four hour food with barley-water.

December 7: The baby was as bright as before it took the breast. The skimmed milk was increased to 10 ounces, and on the following day to 12 ounces and ½ ounce of sugar. Convalescence was uninterrupted on fat-free cow's milk, barley-water and sugar.

The views that I have expressed here have hardly yet entered into our literature. To my mind, they carry in a large measure their own conviction with them. To some of us they appealed at once because they illuminated wholly many a dark corner in our past experience. With this knowledge we could have saved many a baby that we literally fed to death. To one who is in doubt about the truth of the things that Finkelstein has taught us I can only say: Use this idea as a working hypothesis as we have done, and see how many babies you can save who otherwise might die. Still more important, see how many babies you can keep from getting to that point by bearing in mind the pathogenesis of food intoxication.

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THE PHARMACOPEIAL REVISION METHODS OF FOREIGN COUNTRIES

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As it was thought that a comparison of the pharmacopeial methods in other countries might be of service in considering the revision of our own national standard, a list of queries relative to pharmacopeial revision was sent to correspondents in eleven of the leading countries of the world.

The list of topics included size and personnel of revision commission; frequency of revision; time taken in preparing new edition; tenure of revision commission; and issuing of supplements.

Out of the eleven persons addressed, answers came from nine, no responses being received from Greece and Sweden. The data obtained from the other countries was as follows:

Austria.—Present issue, Jan. 1, 1907; prepared by commission, which was appointed by the government, and is composed of 5 physicians, who are professors of the University of Vienna and members of the Supreme Board of Health. Revision was begun Jan. 1, 1905, and finished in November, 1906.

The pharmacopeia is revised every ten years and a supplement issued every two or three years. The commission is a permanent body. Correspondent, U. S. Consul-General Rublee, Vienna.

France.—Present issue, 1895; prepared by a commission, which was appointed by the government, and is composed of 6 professors of medicine, 5 members of the Faculty of Medicine, 6 professors of pharmacy and the 4 officers (president, secretary, etc.). Revision was begun in 1881 and finished in 1895; occasional supplements have been issued. Correspondent, U. S. Consul-General Mason, Paris.

Germany.—Present issue, Jan. 1, 1900; prepared by a commission, which was appointed by the government, and is composed of 14 physicians and 13 pharmacists. Revision was begun in 1898 and finished in 1899. The pharmacopeia is revised every ten years and no supplements are issued. The commission is a permanent body. Correspondent, Prof. E. Schmidt, Marburg.

Great Britain.—Present issue in 1898; prepared by the General Council of Medical Education and Registration of the United Kingdom, which is composed entirely of physicians, who, however, asked aid of an advisory committee of pharmacists, appointing the pharmaceutical chemist, Professor Attfield, as editor of the work. There are no regular periods of revision. The first edition was issued in 1867, the second edition in 1885, and the third edition in 1898. Supplements to the first edition were issued in 1876; to the second edition in 1890. Correspondent, Prof. F. B. Power, London.

Italy.—Present issue May, 1892; prepared by the Superior Board of Health, which was appointed by the government. The commission is composed of the following ex-officio members: The director-general of Health Office, the king's attorney, the medical inspector of the army, the medical inspector of the navy, the director-general of agriculture and chief veterinary of the army, together with 21 active members appointed by the government, mostly physicians, professors of chemistry, professors of pharmacy, etc. Supplements are issued when needed and made effective by royal decree. Correspondent, U. S. Consul-General de Castro, Rome.

Japan.—Present issue, 1906; prepared by a committee, which was appointed by the government, and composed of 7 physicians and 10 pharmacists. Revision was begun March, 1900, and finished March, 1906. The pharmacopeia has been revised three times since 1886. The present committee is permanent and supplements are issued. Correspondent, Dr. Tokichi Takamine, New York.

Russia.—Present issue, 1902; prepared by the Medical Council of the Ministry of Interior, which is composed of 40 members, mostly physicians, but also including 3 chemists, 1 professor of pharmacy, 2 veterinary surgeons, 2 deputies of the St. Petersburg Pharmaceutical Society, 1 engineer and 3 attorneys. There are no regular periods of revision. The fourth edition was issued in 1891; the fifth edition is the present; a new edition is now being prepared. Apparently, no supplements are issued. Correspondent, Straatsrath Johannes von Martenson, St. Petersburg.

Spain.—Present issue, 1905; prepared by a commission, which was appointed by the Royal Academy of Medicine, and is composed of 3 physicians and 4 pharmacists. Revision was begun in 1903 and finished in 1905. There is no regular period of revision and there are no yearly supplements. The commission is a permanent body. Correspondent, U. S. Consul R. M. Bartleman, Madrid.

Switzerland.—Present issue, March 1, 1908; prepared by a commission, which was appointed by the Swiss Bundesrath (the highest governmental organization), and is composed of 19 consulting members (18 physicians and 1 veterinarian) and 30 working members (1 professor of chemistry, 2 professors of pharmacognosy, 2 professors of pharmaceutical chemistry, 1 representative of the chemical industry, 1 food chemist, and the rest pharmacists). Revision was begun March 17, 1902, and finished March 6, 1907. The pharmacopeia is revised irregularly. The first edition was issued in 1865; the second in 1872; the third in 1893; the fourth edition is the present one. No supplements are issued and there is no permanent commission. Correspondent, Prof. A. Tschirch, Bern.

SUMMARY

Appointment of Revisers.—In all the countries cited above, the government has direct or indirect control; this is in marked contrast to the democratic method of selecting revisers in this country.

Personnel of Revision Committee.—The number of revisers ranges from 5 in Austria to 49 in Switzerland while the ratio of physicians to pharmacists varies from a board of all physicians in Great Britain and Austria to a proportion of 10 pharmacists to 7 physicians in Japan.

Time Required for Revision.—The last German Pharmacopeia was revised in one year, while the last French Codex took over ten years. Switzerland and Japan took five years for revision, even as did the committee which revised our present Pharmacopeia.

Frequency of Revision.—The periods intervening between revisions are mostly irregular. No pharmacopeias have been revised more frequently than once decade, the period prevailing in this country.

Supplements.—These have been issued in Austria France, Great Britain, Italy and Japan. The other pharmacopeias, like that of this country, are not supplemented.

CONCLUSIONS

To draw from the foregoing data conclusions tha will be of service in revising our own Pharmacopeia i a matter of some difficulty, as the conditions existing i other countries differ so markedly from those of ou own land.

The method of selection of the revision committe that obtains in this country is completely in accor with the spirit of our democratic form of governmen and it would be unfortunate, indeed, to replace o present Pharmacopeial Convention, with its delegat from medical and pharmaceutical societies, and th Committee on Revision which said convention elects, b a commission appointed by the government, like tho which prepare the foreign pharmacopeias.

While a small number, for instance, seven membe as in Spain, would seem to give a more compac more workable body, it is significant that two of t best pharmacopeias of the world — those of German and Switzerland—were prepared by commissions larg than our last Committee on Revision. That a good proportion of the revisers should be pharmacists, sin a large amount of revision consists merely of pharm ceutical and chemical details, will be admitted even physicians; but whether the medical representati should be as scanty as prevailed in our last Committ on Revision is debatable.

As to frequency of revision, it is noticed that in th countries where the revision committee is a perman body, the work of revision, as might be expected, w accomplished in less time than in our country, wh each revision is taken up by a new organization, n necessarily containing a majority of the members of t previous committee. The fact that the last Germ Pharmacopeia was revised in one year is the best p sible argument for a permanent committee. Moreov the permanent existence of the committee would per the publication of yearly supplements, a step that, these days, is highly advisable.

In conclusion I desire to express my warm thanks the correspondents mentioned above who so generou afforded me the information necessary to prepare data from which this paper is prepared.

HE DIAGNOSIS OF INTESTINAL PERFORATION IN TYPHOID FEVER

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Without doubt the greatest bugbear to physician and rgeon alike in the management of typhoid fever is e ever-present liability of intestinal perforation.

This complication occurs in from 2.5 to 3 per cent. all cases of typhoid. Furthermore, according to ler, one-third of all the deaths in typhoid are due to testinal perforation; and when we come to consider at, from statistics collected by Taylor, in the United ates alone there are estimated to be 500,000 cases of phoid annually, with 75,000 deaths, we are confronted the astounding fact that about 25,000 persons die nually from intestinal perforation due to typhoid ver. It therefore seems that anything which may add the knowledge of this condition is acceptable.

Twenty-four years ago Leyden advocated the surgical atment of typhoid perforation and Mikulicz performed the first successful operation for the condition, d for the first time a ray of hope appeared in a con- ion which up to that time had appeared practically peless. But, in spite of the fact that the operative atment is now and has been well known for some rs, Harte and Ashurst were able to collect only 362 blished reports of operations up to January, 1903. ese cases gave a mortality of 74.3 per cent., thus wing that something had been done toward checking death rate. At the Atlantic City session of the erican Medical Association in June, 1907, J. E. aben reported 162 operations as all that he could d reported from January, 1903, to January, 1907, l these gave a mortality of 62.34 per cent., a decrease 11.69 per cent., evidently due to improved surgical hnic and earlier diagnosis. Doubtless many cases e not been reported; but when we consider that in nty-three years only 524 cases have been reported, can not deny that many cases among the thousands t have occurred must have gone unrecognized and t consequently the point in which we are lacking st is diagnosis, and more than that the early diagno- for it is an easy and simple matter to make a diag- is of the peritonitis following a perforation, but it far more difficult and by no means easy to make a gnosis of the perforation itself.

TWO NEW SIGNS OF PERFORATION IN TYPHOID

t has been my privilege to follow seven cases of ty- id perforation. While following and studying these s I observed two signs which seem to me to be impor- t in the early diagnosis of perforation and to which, ar as I know, attention has not been called.

he first sign, for want of a better description, I have gnated as the "dipping crackle" and is exemplified he following case:

ASE 1.—*History.*—A. L., female, aged 30, came under rvation on the twentieth day of her disease. The onset course of the disease had been typical but severe. for three days before coming under observation she had wild delirium, which had almost disappeared at the time st saw her. On the evening of the twenty-first day of disease she complained of a sudden severe knife-like pain he right iliac fossa which was made worse by coughing. pulse became rapid, finally reaching 130 and changed in acter, becoming smaller and showing increased tension to finger. Respirations became rapid and labored but diaphragmatic respiration was maintained. The abdomen was distended, the area of liver dulness was gradually replaced by abdominal tympany and the heart became pushed to the left. The temperature gradually rose and about four hours after the onset of the symptoms she had a chill lasting ten minutes, and following this the temperature suddenly rose to 106 F. There was no change in the leucocyte count. There was well-marked tenderness and rigidity in the lower half of the abdomen and especially in the right iliac fossa. There were no signs in the lungs except a little more dulness in the right axilla and at the right base. There was no vomiting or restlessness.

The "Dipping Crackle" Sign.—At the first examination, which took place a few minutes after the perforation, on placing the bell of the stethoscope over the right iliac fossa and dipping suddenly with it as in dipping palpation, a very fine crackle was heard which sounded much like a fine crepitant râle, or as if two sticky surfaces were being drawn apart. This sign was present in three of the seven cases and appears to me to be a rather valuable confirmatory sign, as it seems to be due to the fact that in dipping suddenly the parietal and visceral layers of the peritoneum come in contact for an instant and, apparently, the inflamed surfaces stick together for a moment and then pull apart. I have never found the sign present over an area of more than two inches in diameter and never later than four hours after the initial symptom, presumably because the accumulated gas prevents the surfaces from coming in contact.

The second sign to which I desire to call attention is shown in the following case:

Case 2.—*History.*—W. C., male, aged 17, was taken ill suddenly and had been in bed only two days when he came under observation. The initial attack lasted only thirteen days, and during this he had an enlarged spleen, rose spots, and typhoid tongue, but no Widal reaction. After being normal for twenty days the temperature rose suddenly and he entered on a relapse. The spleen again became palpable and rose spots appeared but the Widal reaction did not become positive until the eighteenth day of the relapse. In the meantime two blood cultures had been taken and were negative. On the fifteenth day of the relapse he had a small hemorrhage and following this his fever remained fairly typical of the disease but rather long drawn out, until finally on the thirty-fourth day of the relapse he suddenly complained of a sharp, excruciating pain in the end of the penis on micturition. There was no change in temperature, respiration or leucocytes.

Second Sign of Perforation.—The patient was examined immediately and a small area of tenderness found low down in the right iliac fossa. He was turned on his left side and in half an hour the area of tenderness had moved toward that side about two inches.

Operation.—He was immediately prepared for operation, but owing to the fact that permission could not be obtained until his parents could be consulted, operation was delayed for four hours. The temperature meanwhile had been taken hourly, and it was not till five hours after perforation that it showed any change and then there was an abrupt rise to 105.4 from 101 F., with a corresponding rise in pulse to 118 from 86 and in respiration to 28 from 20. There was no vomiting, no loss of liver dulness, nor was there dulness in the flanks. He was operated on, the perforation found and sutured, and he eventually recovered.

The sign to which I desire to call attention, and the one in this case which practically clinched the diagnosis, was the fact that when the patient was turned over on his left side the pain and tenderness, so to speak, followed the turn and that fairly rapidly. Since seeing this case it seems to me that on the occurrence of a sudden pain in a case of typhoid the patient should immediately be turned on the side opposite the pain, and if the pain and tenderness follow the turn in from fifteen minutes to half an hour the diagnosis may be considered confirmed.

The explanation of the sign is simple. At the time of perforation there is a greater or lesser amount of the contents of the intestine extruded into the peritoneal cavity, and this extravasation tends to flow in the direction of least resistance, that is, downward, and its extension is marked by the indications of local peritonitis, pain, tenderness and rigidity. By turning the patient over on the unaffected side that side is made the lowermost, and if there be a perforation with extravasation the signs of the extension of the local peritonitis will pass to that side which is lowermost.

THE SIGNS AND SYMPTOMS OF PERFORATION IN GENERAL

In looking over the series of seven patients whom I attended I find that all the cases were rather peculiar. Two were practically ambulatory cases, two occurred in long drawn-out relapses, one—a severe case—was complicated by tertian malaria, and one was unusually severe and complicated by mental symptoms throughout. Of the seven patients four were women and three men; usually this proportion is reversed.

Two of the patients had had hemorrhages before perforation. In only one had there been any marked distention of the abdomen.

Perforation occurs as a rule at some time between the end of the second week and the fourth week of the disease and is more apt to occur in ambulatory cases or in cases with distention or hemorrhage.

Of all the symptoms, pain is the most marked and important one. This as a rule is sudden in its onset, sharp and severe and of a cutting or boring character. At first the pain is localized and later spreads, and this method of its spreading according to the position in which the patient lies I wish to emphasize, as it seems to me to be about the most pathognomonic symptom of typhoid perforation that we possess.

Pain may be present in other conditions in typhoid, notably in thrombosis of the iliac or femoral vein, but the differentiation is not difficult, as both the character and localization of the pain are different. The pain in the right iliac fossa occurring early in the disease may be mistaken for appendicitis, but usually occurs too early in the disease to be mistaken for perforation.

Pain may be absent, but only in those cases in which the sensorium is so blunted by the disease that the patient does not complain of it. One such case occurred in my series and in this case the diagnosis was made by the restlessness of the patient. I believe thoroughly that in all other cases pain is the one early, definite and constant symptom.

Tenderness usually follows or accompanies the pain, and in somnolent and delirious patients may be present when pain is not complained of. After a movement of the bowels (as in two cases in my series) the pain and tenderness may disappear, and this must be borne in mind or it may prove misleading. Even if they disappear it will only be for a short time and then there will be a recurrence.

Rigidity, if following or accompanying a sudden pain in the abdomen during the third or fourth week of typhoid, completes the chain of symptoms and to my mind makes the diagnosis positive. That it may not always be present was shown by one case in my series in which operation was delayed because of the lack of this sign, consequently I differ from Harte, who states that rigidity is never wanting except in patients with unusually large and pendulous abdomens.

The other signs and symptoms usually cited—chil nausea, vomiting, rise of temperature and pulse, lo of liver dulness, shifting dulness and loss of abdomin respiration — are to be taken simply as confirmator symptoms which may or may not be present. The “di ping crackle,” as I have called it, seems to me to be valuable confirmatory sign if present. All these sym toms should be considered as due more to the peritonit following the perforation than to the perforation itsel and should on no account be waited for in order to e tablish the diagnosis.

I believe that the increase in leucocytes is absolute valueless except as a confirmatory sign. It is so oft absent until hours and, in some cases, days after t perforation. As Cushing states, “an individual observ tion at such a critical time may be misleading; in t first place, a condition of hypoleucocytosis is often cha acteristic of the fever, and a count apparently within t normal limits of 8,000 to 10,000 may actually repres a double increase in the number, and secondly, becau by a single count the ‘transient wave of leucocytos may entirely escape notice.” In my series of cases which the leucocyte count was followed closely throug out the disease, being taken every one or two days as routine, it proved of little or no value as a diagnos aid. Consequently I believe that, in private practi the leucocyte count, except as a matter of scienti interest, can well be dispensed with and on no accou should operation be delayed in order to wait for t result of a count.

There is one sign concerning which much has be written of late that I am sorry was not observed in the cases in my series, and that is the variation in blo pressure. It has been stated that a transitory rise from 20 to 30 mm. of mercury occurs immediately af the perforation. In my series, although the sphygn manometer was not used, there was in several patie a change in the tension of the pulse which was perc tible to the examining finger, the pulse becoming tinctly smaller and more wiry. In one case that I served the sphygmomanometer was used and showe rise from 96 mm. of mercury to 132 mm., the readi being taken with the Janeway instrument. A diagn of perforation was made and the patient operated but it proved to be a case in the pre-perforative stage

TREATMENT

There is only one treatment; that is operation, that immediate. I have reported two patients opera on in whom perforation, although suspected, was found. In neither of the cases did operation in any militate against the patient's chance of recovery; rather seemed to be beneficial, for in one case it cau the temperature to fall to normal in addition to rel ing the pain, and in the other it relieved the p After seeing these two cases I should unhesitati recommend operation even if the diagnosis were ported only by a strong suspicion.

CONCLUSION

1. Perforation occurs as a rule in the latter par the second, in the third, or in the fourth week typhoid, especially in ambulant or atypical cases.

2. The initial symptoms are sudden severe lanci ing pain in the lower part of the abdomen and gene in the right iliac fossa, and usually tenderness, t may or may not be rigidity. The other symptoms ally described are merely confirmatory if present,

the majority of them are due to the peritonitis following the perforation and not to the perforation itself.

3. Two signs, hitherto undescribed, appear to me to be valuable as confirmatory evidence, namely, the one that I have designated as the dipping crackle, and the tendency of the pain and tenderness to approach the side that is lowermost if the patient be turned on the side.

4. In the management of a case of typhoid the attending physician should uncover the abdomen at least once a day and carefully and thoroughly examine it. In the light of recent work, blood pressure should be taken daily if possible. Nurses should be impressed with the extreme importance of pain in this disease.

5. On the occurrence of a severe sharp pain in the lower part of the abdomen, and especially in the right iliac fossa, accompanied by tenderness, with or without rigidity, the abdomen should be carefully examined and the limits of the tenderness mapped out. The patient should then be turned on the unaffected side, and if in from fifteen minutes to half an hour the tenderness has moved one or two inches, or if at any time the tenderness and rigidity become marked, immediate operation is indicated.

217 N. Washington Street.

Clinical Notes

APPARATUS FOR ADMINISTERING NITROUS OXID AND OXYGEN OR ETHER VAPOR AND AIR IN ANY DEFINITE MIXTURE

THE EXACT PERCENTAGES OF THE TWO GASES BEING UNDER THE IMMEDIATE CONTROL OF THE ANESTHETIST *

J. F. BYINGTON, A.B., M.D.
BATTLE CREEK, MICH.

Hewitt, in the latest edition of his treatise on aneshetics published in 1907, says: "There is no form of anesthesia at present known which is so devoid of danger as that which results from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications." He came to this onclusion after employing this anesthesia himself 17,000 times without having cause for anxiety in more than two or three cases, "in which, owing to the perentage of oxygen having been insufficient, transient espiratory embarrassment arose, and in one case in which transient syncope, probably of reflex origin, took lace." In the same chapter he also says: "The chief objection to the use of definite mixtures of nitrous oxid nd oxygen are: (1) that they are difficult to prepare ccurately and in sufficient quantities; (2) that different subjects require different percentages, and (3) that he proportion of oxygen can not be increased or deeased to meet the special conditions arising during the dministration."

It was this statement which stimulated me to devise n apparatus which will not only provide a sufficient uantity of these gases for a reasonably long anesthesia, ut which will also deliver the gases in any desired efinite mixture, the percentages of which will at all mes be conveniently under the control of the aneshetist.

Hewitt and others have endeavored to accomplish this by employing two rubber bags as reservoirs for the two gases and securing a mixture of the gases by a regulating stop-cock at the outlets of the two bags. The objection to this method is that the two rubber bags must be kept approximately under the same tension of gas, and hence inflated to the same degree; otherwise the gases do not mix accurately.

In place of two rubber bags I employ a pair of small gasometers exactly alike in all dimensions. The gases are conducted from these two gasometers by two flexible tubes of equal dimensions, to the mask, in which there is a regulating stop-cock which delivers the two gases accurately mixed in any required proportion into the mask. The accuracy of this regulating device may be tested by noting the relative amount of fall of the two tanks during a given time. The apparatus shown in Figure 1 is adapted not only for administering nitrous oxid and oxygen in definite mixtures, but also for administering ether vapor and air in definite percentages.

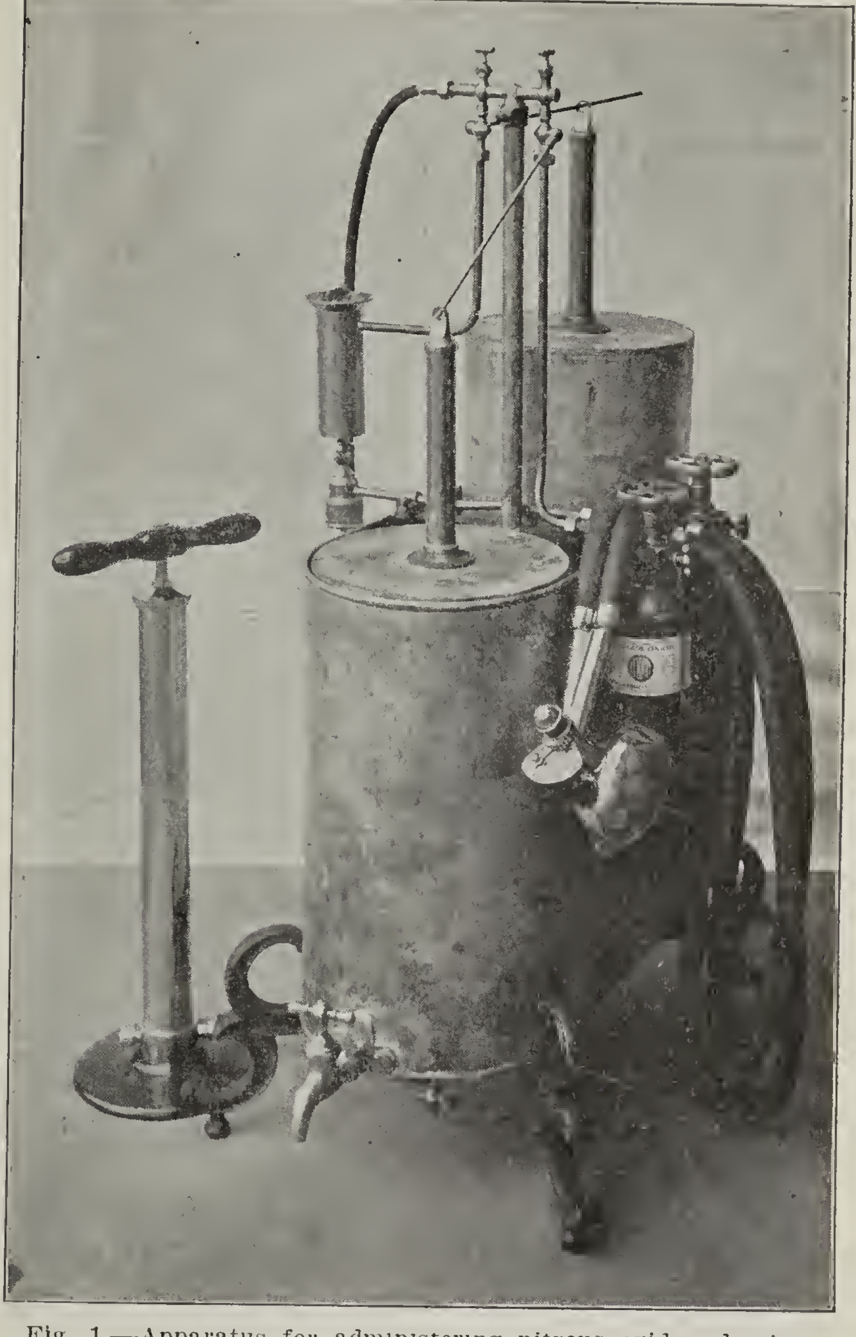

Fig. 1.—Apparatus for administering nitrous oxid and ether or ether and air in definite percentages.

The two anesthetics may at any time be conveniently changed, the one for the other, without an interruption in the anesthesia. A very convenient procedure, which is also agreeable to the patient, is to start with pure nitrous oxid under which the patient loses consciousness within thirty seconds on the average. As soon as cyanosis makes its appearance a small percentage of oxygen,

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* Read before the American Academy of Ophthalmology and Otoryngology, Cleveland, Aug. 27-29, 1908.

2 or 3 per cent., is allowed to mix with the nitrous oxid, and as the anesthesia progresses the oxygen may be increased to 6 or 8 per cent. or sufficient to prevent cyanosis or asphyxia. When the patient is profoundly under the anesthetic the nitrous oxid may be replaced by ether vapor and the oxygen by air. In all these changes the relative percentage of the two gases being used are under the immediate control of the anesthetist, who has merely to change the pointer on the face-mask which indicates the percentage of the two gases.

The water in which the two gas-tanks float is preferably made warm. This warms and moistens the anesthetic vapors prior to their inhalation, which is a great advantage in the administration of ether to prevent the bronchial catarrh and pneumonia which too often follow the administration of this agent by the drop method. The continuous evaporation of the ether has a chilling effect on the vapor, and this can be overcome only by warming the ether vapor rather than the ether fluid. I fill a gasometer with water at 130 F. and this remains sufficiently warm for some hours afterward.

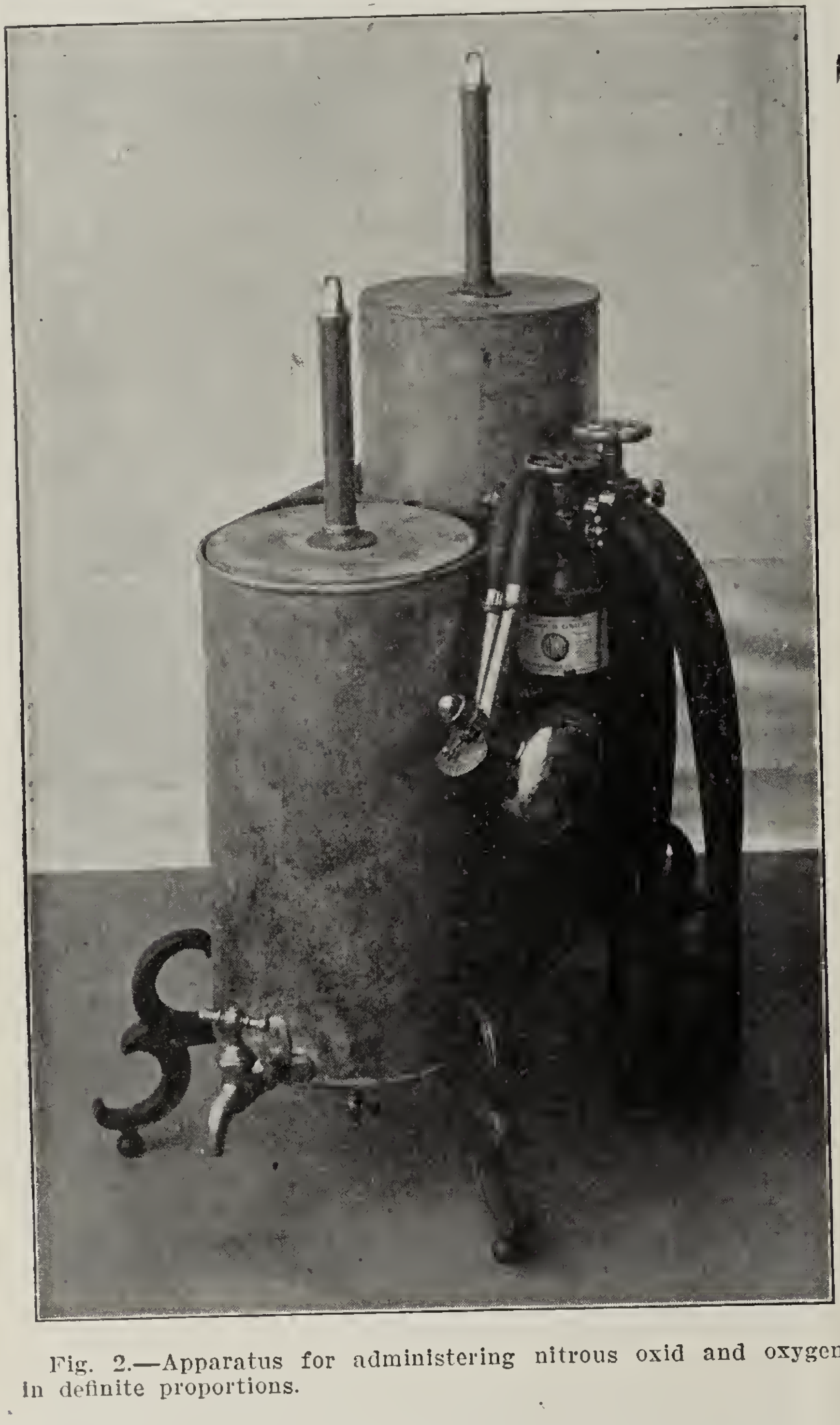

Fig. 2.—Apparatus for administering nitrous oxid and oxygen in definite proportions.

In administering ether, compressed air is used to vaporize the ether for one gasometer and to keep the other gasometer filled with air. The compressed air may be supplied from any of the usual sources. Its entrance to the gas tanks is regulated automatically and it is allowed to enter in sufficient quantities to keep both gasometers filled. The automatic check-valves are regulated by the rise and fall of the gasometers.

A simpler apparatus, Figure 2, has been made without the ether attachment which is used for administering nitrous oxid and oxygen. No compressed air is required for this.

The advantages claimed for the apparatus are the following:

1. It delivers the two gases into the mask with absolute uniformity of pressure and mixed in definite percentages. The accuracy of these percentages can be accurately tested at all times by shutting off the air supply and noting the relative fall in the two gas tanks during a given time.

2. The relative proportion of the two gases is conveniently under the control of the anesthetist, the regulating device being on the mask. The proportion of the two gases can be instantly changed to meet the requirements of the patient.

3. In administering ether, the apparatus requires no attention except the introduction of a fresh supply of ether once in an hour or so. This may be done while the anesthesia is progressing, as the ether botttle can be cut off from communication with the gas tanks by a valve. There is sufficient gas in the tanks to continue the anesthesia until the connection with the ether bottle is restored.

4. Perhaps the greatest advantage of this apparatus over all other forms of anesthetic apparatus which mix gas definitely is the use of warm water in the gasometer tanks, which warms and moistens the gases. This prepares the gases much better for reception by the bronchial tubes. Respiratory spasm is less likely to be excited and the bronchial complications which often follow ether administration are reduced to a minimum.

The new thing in this apparatus is the use of two gasometers with a mixing valve in the mask.

ACCIDENTAL LABORATORY INFECTION WITH DIPHTHERIA BACILLUS

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History.—On December 2 I received at the laboratory a ver thin homeopathic vial containing a suspected diphtheritic membrane for examination. In attempting to remove the cork th vial was broken and a piece of glass was driven into my lef index finger. The wound was allowed to bleed freely for several minutes, then carefully cleansed with a 10 per cent. solution of formalin and closed with celloidin. The wound in th finger showed no sign of infection before the morning of th second day, when a grayish yellow border was observed aroun the margin. The wound was opened and found to contain several drops of thick grayish brown fluid, which on microscopi examination was found to consist largely of polymorphonuclea leucocytes and some blood. Numerous *B. diphtheriæ* we present, all of which were found inside the leucocytes, the being from two to five such leucocytes to the field, each co taining from ten to twenty bacilli.

Treatment.—The wound was again cleansed with 10 p cent. formalin, sealed with celloidin and 1000 units of dipl theria antitoxin were injected into the forearm. Smears a cultures from the wound taken on the following day we sterile and healing occurred in the usual time without furth complications.

The membrane submitted was from the pharynx a child and had been taken on the fourth day of t disease. Smear preparations from the membra howed *B. diphtheriæ* in almost pure culture. The organisms were of the barred type, very large, with marked endency to club formation. Cultures from this memrane on Loeffler serum at 35 degrees C., examined after even hours, gave the solid type, and after twenty-four ours the usual granular organisms. The direct smears rom the infected finger showed small organisms of the olid type. Cultures from the infected finger at 35 derees C. gave the solid type after seven hours, and after wenty-four hours the usual granular organisms, exactly s did the original membrane. This illustrated beautiully the possibility of morphologic variations in the ame strain of organisms when infecting individuals nder different conditions.

NSTRUMENT FOR APPROXIMATION OF THE PALATINE PROCESSES IN CASES OF CONGENITAL CLEFT PALATE

L. J. HAMMOND, M.D.
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PHILADELPHIA

The method advocated by Brophy for bringing the alatine processes in apposition as a preliminary to perative procedure for uniting the soft parts, and so uccessfully employed by him, has not in my hands been satisfactory. Even when successful it is so at the xpense of a great amount of mutilation of the parts nd suffering of the individual. The one other method at has been more generally employed with instances satisfactory results is that of having the mother enurage the inward growth of the cheeks and, consequently, the palatine processes by firmly compressing e cheeks on either side with the two hands at the same me. This method, of course, can only be successfully nployed before ossification has caused fixation.

My repeated failures, therefore, with most of the deces heretofore employed in retaining the palatine rocesses in position have incited me to devise the comratively simple instrument shown in the illustration. is most efficient in all cases in which there is enough the palatine processes present to be brought together. his can be done at once when the subject is under 5 6 months of age. After this period it can be efficiently done by continuously increasing pressure, which ould be continued over a period of four or six weeks.

The instrument consists of two lateral plates, semial, so as to conform to the shape of the lateral halves the superior maxillary bone, fastened together in ont by a hinge in order to prevent any play of the teral half while being introduced. They are brought gether by a central right and left screw which is so ranged as to bring together or separate the two lateral ates simultaneously. Sufficient force can be employed this screw to bring together the palatine processes any case in which ossification is not a factor; and cases in which ossification has advanced so far as to event immediate approximation, an increased pressure pt up by tightening on the screw will in a short while cure the same result. The fingers alone may be used tighten the screw, or when the instrument is in posin the key which accompanies it can be best employed r this purpose. The two teeth, which are set posterrly along the inner and upper edge of each lateral ate, are of two-fold value: first, in holding the plates position by their fixedness in the bony alveolus, and, cond, in lessening the injury to the spongy alveolar tissue throughout its entire surface over which the lateral plates are applied. They therefore lessen the general pressure of the entire plate; consequently, what injury the spongy alveolar processes suffer will be mostly at the points where these teeth are fastened.

There is no reason to believe there is any great amount of suffering caused by its use, as its employment, beginning in children as young as 2 days, has not lessened either their general nutrition or development.

1222 Spruce Street.

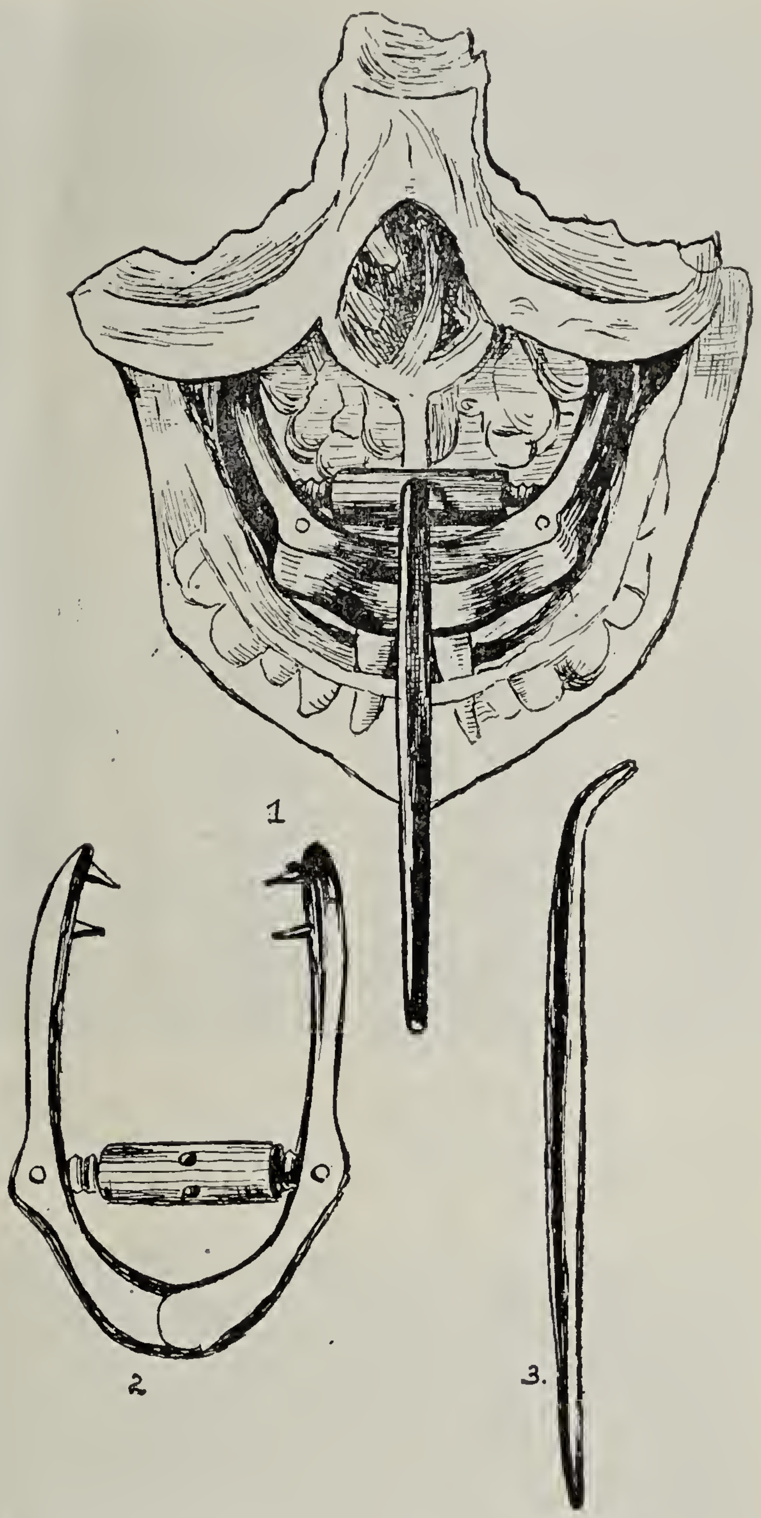

Fig. 1.—Instrument for approximation of the palatine processes in cleft palate in position. Fig. 2.—Instrument partly closed. Fig. 3.—Key.

Specific-Gravity Test for Identification of Criminals.—Debenedetti suggests that important information might be obtained from the individual displacement of water, the special specific gravity, as a means of identifying criminals. He publishes an illustrated communication on the subject in the *Semana Medica*, of Buenos Aires, Dec. 31, 1908, p. 1781. Even if the specific gravity of the arm or leg or head were tested alone, possibly sufficient information might be obtained. The water must be always at the same temperature, for which he suggests 37 C. (98 F.), adding that a little salt in the water brings the specific gravity to that of distilled water at 4 C. He calls the method "hydrostatic anthropometry;" it is not necessary for ordinary criminals, he remarks, but cases may arise in which further means of identification may be useful.

AN UNUSUAL CONGENITAL DEFORMITY

ABSENCE OF BOTH FEMORAL HEADS AND NECKS

JOHN RIDLON, M.D.
CHICAGO

An eminent general surgeon referred a child to me, Nov. 5, 1908, for operation for congenital dislocation of both hips. The patient had been referred to him by an ex-interne of Cook County Hospital practicing in a distant state.

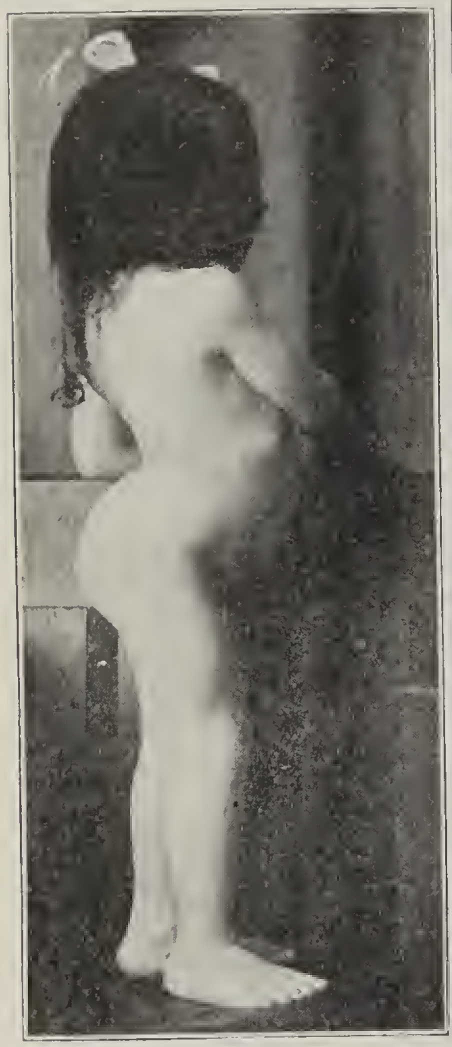

Fig. 1.—Profile view of patient in whom both femoral heads and necks were absent. This is the typical attitude of severe double congenital dislocation of the hips.

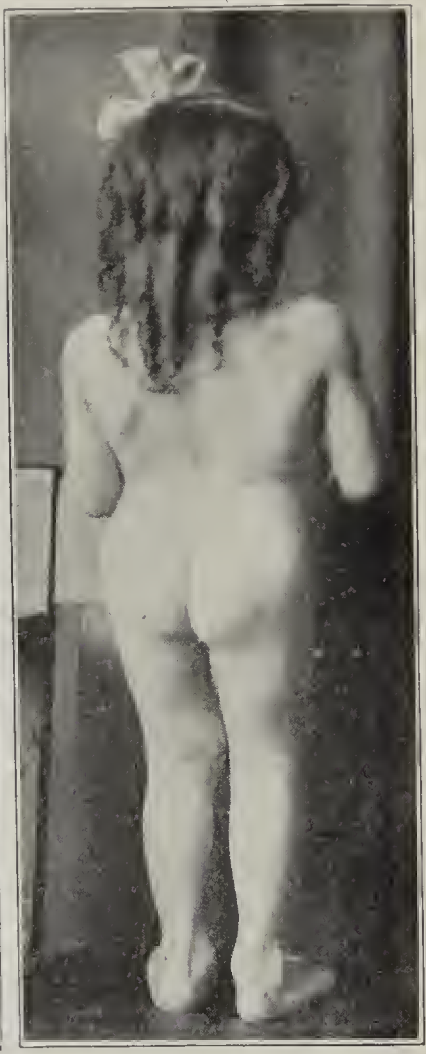

Fig. 2.—Rear view of patient, showing rachitic ankles and knees, as well as the prominent hips characteristic of double congenital dislocation hips.

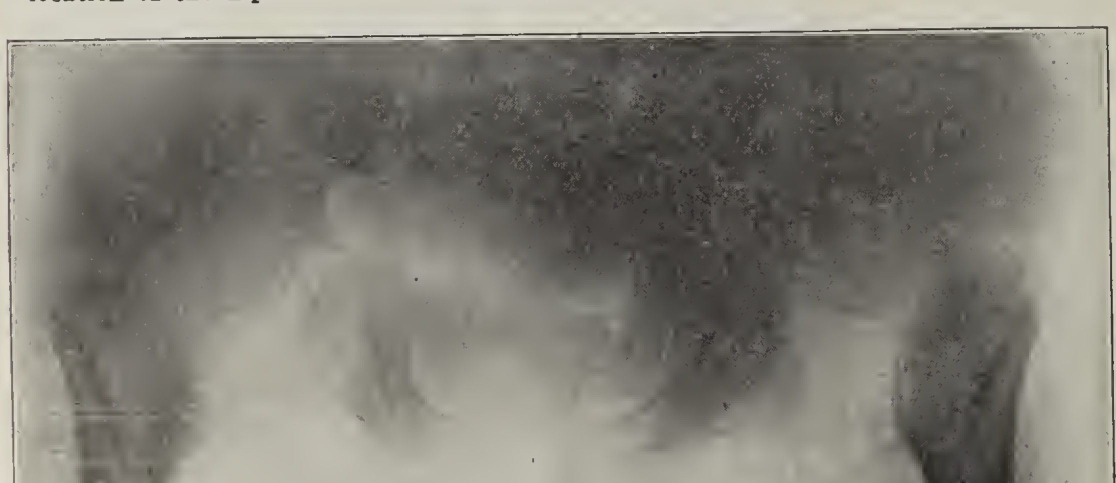

Fig. 3.—Radiograph showing congenital absence of head and neck of both femurs.

The patient was a female child, aged 7½ years. Her attitude in standing and walking was typical of bilateral congenital dislocation of the hips (Figs. 1 and 2). The hips were prominent; the greater trochanters showed with unusual distinctness; there was marked lordosis of the lumbar spine; the child waddled when she walked; the adduction of the legs was limited; the lordosis could be corrected by flexing both thighs to 50 degrees or one thigh to 90 degrees.

The child had rachitic enlargement of the bone ends at th wrists, ankles and knees, and there was a moderate degre of knock-knee. She had pigeon-breast and flaring lower ribs, and the head and face were of rachitic type.

Six weeks before this child (her sixth) was born, the mothe had had a severe attack of influenza, followed by a "sor back," and inability to stand straight. The child was nurse for the usual period, had first teeth at the usual time, an walked at fifteen months.

A careful manual examination failed to reveal a femora head on either side; and because of the rachitic evidences pres ent I believed the case to be one of extreme rachitic bilatera coxa vara. To establish this diagnosis I had an *x*-ray pictur made; this showed (Fig. 3) not a coxa vara but a complet absence of the head and neck of the femur on both sides.

GUMMA OF THE PITUITARY BODY

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WASHINGTON, D. C.

Patient.—P. M., an Irishman, aged 37, single, entered hos pital in 1908, in an unconscious condition, with a history o having had an apoplectiform attack. It was reported by hi friends that he had had syphilis.

Examination.—The patient was a well-developed man wit sandy hair and beard, apparently 50 years old. There wa ptosis of the left upper eyelid. His face was pale; his lip very pale. There were sordes on the teeth and lips; th tongue was moist, swollen and coated. The pupils reacted t light. The thorax was deep and well muscled. There were few diffuse, moist, large and small râles. The abdomen wa apparently normal. The skin was cold and moist. Th patellar reflexes, when first examined by an interne, wer reported as normal or slightly increased, but were no elicited at any subsequent examination. The pulse was 8 weak and of low tension; the respiration 22; and the temper ature 36.8 C. It was not possible to get an area of absolut dulness in the cardiac region with the patient in a recumben posture. The apex beat was not seen. The heart sound were pure and distinct, but weak. The urine showed a trac of albumin and hyaline casts.

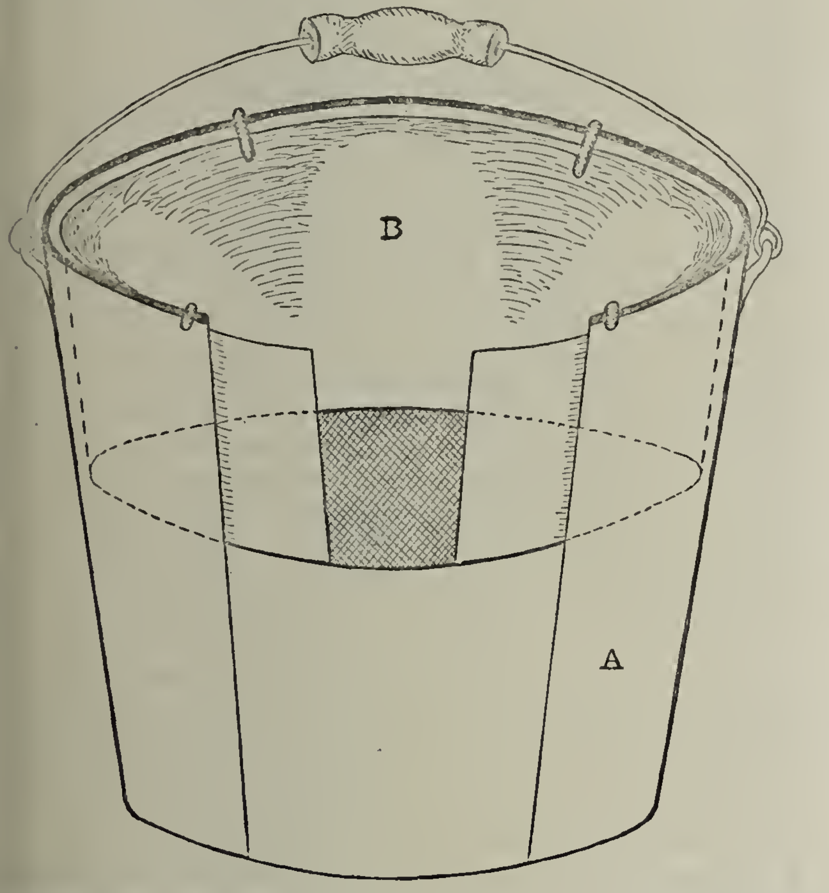
Course of Disease.—Strychnin sulphate was ordered to given hypodermically. On the second day, ophthalmoscop examination showed papillitis of the left optic nerve. It wa not possible to see the right nerve-head, a the right eye continually followed the r flection of the light; but there was a rathe pale appearance of the retina. The nurs reported involuntary evacuation of th bladder and bowels. There was a sma hyperemic area on the inner aspect of th left ankle, as of incipient decubitus. Th strychnin was continued; potassium iod was ordered, 30 grains, three times a da increasing 5 grains daily, and inunctio of mercury were instituted, to be us daily. The patient was able to swallow the forenoon, and soft diet was ordere On the third day, the patient was found be very weak; his temperature was 3 C.; his pulse could barely be felt at t wrist. There was a slight cough and r ative dulness of the right lower lo Treatment was continued as before, wi the addition of continuous irrigation the colon with hot normal salt solution. On t fourth day, the pulse was 104, the respiration 28, a the temperature 36.6 (fall by crisis). The irrigation was d continued. The patient spoke for the first time, and p truded his tongue when told to do so, leaving it out inde nitely unless told to put it back in his mouth. There seem to be an aphasia present, particularly for proper names. The patient was disoriented and had a condition of pseudoparalysis. He could apparently make any movement, but made very few. The muscles were firm and moderately well developed. There was no sign of any focal lesion, except ptosis of the right upper lid and papillitis. The patient continued in the same condition until the night of the thirteenth day, when his temperature rose to 39.4, his breathing became rapid, and there was a slight cough. The patient died at 2 a. m. on the fourteenth day after his admission.

Autopsy.—The pathologic findings confirmed the clinical diagnosis of syphilis, gumma of the brain, chronic interstitial nephritis, nutmeg liver, general arteriosclerosis and pneumonia, and also showed the existence of cirrhosis of the liver. The skull was slightly adherent to the dura; the Pacchionian depressions were marked. There was considerable subarachnoidal fluid, especially about the base of the brain. There was a gumma about the size of a horse-chestnut just posterior to the optic commissure, lying in the sella turcica. The optic tracts posterior to the commissure were involved. There was no involvement of the fourth nerve trunks.

SIEVING PAIL FOR LAVAGE WATER

ANTHONY BASSLER, M.D.
NEW YORK CITY.

The object of this pail is to strain out from washwater returning from the stomach, substances which would be of clinical value in the diagnosis and therapeutics of gastric disorders.



Sieving pail for lavage water. A, pail; B, sieve; front of both lid open.

The apparatus is simple, consisting merely of an ordiary enameled ware ten-liter pail, into which is fitted straining-can which is made to set snugly into the pper part of the inside of the pail. The can is made f sheet brass, and above are four hooks to keep it in lace. The floor of it consists of a brass wire mesh of xty wires to the inch. This screen stretches across he pail at about one-third the distance down from the m, and is of strong texture so that it will stand hanling and wear without breakage. At the end of the ashing, the straining sieve is taken out for examinaon, the clear water being left below in the pail.

Special Article

IMPRESSIONS OF PARIS *

WILLIAM OSLER, M.D.
Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University
OXFORD, ENGLAND

I. TEACHERS AND STUDENTS

THE REVERENCE OF THE FRENCH FOR GREAT MEN—TOUSSAINT—THE MEDICAL SCHOOL—THE STUDENTS—THE CLINICS

PARIS, Jan. 15, 1909.

THE REVERENCE OF THE FRENCH FOR GREAT MEN

After a stay of three and a half months, I am leaving Paris with many regrets. I am sorry not to be a member of the Faculty of Medicine; I should be glad to put after my name *Médecin des Hôpitaux;* the position of *chef de clinique* at the Hôtel-Dieu with Professor Dieulafoy would suit me admirably; I could be quite happy as an interne with Professor Raymond at the Salpêtrière, or as an externe with Professor Pierre Marie at the Bicêtre or even as a *stagiaire* at the Cochin with Dr. Chauffard! Best of all, I should like to be a P.C.N. at the Jardin des Plantes, a student who is working at physics, chemistry and natural history in the year preliminary to medicine. I should like to do the *vice versa* trick of Anstey's story, and change places with the young P.C.N. in this year's class who will go through the grades of my regrets just mentioned and who about the year 1940 will become dean of this ancient and remarkable medical school.

It would be pleasant to see the superstructure which the next two generations will build on the scientific foundations of the nineteenth century—but these are fancies, not impressions, and it is the latter which I wish to give to my brethren on the other side of the Atlantic, impressions of a long-desired medical holiday among some of the older universities of Europe. Asked the strongest single impression made on me here, I should reply: "The extraordinary reverence of the French." The streets, the squares, the churches, the public buildings, the schools, all tell the same story; the books repeat it, the newspapers echo it, and with it the lecture rooms resound—reverence for the great men of the past. The Pantheon, with its inscription, *Aux Grandes Hommes La Patrie Reconnaissante*, is but a great expression in stone of this universal sentiment. The history of science is writ large in the city; in monuments, in buildings dedicated to the illustrious dead and in streets called by their names. There are more statues to medical men in Paris than in Great Britain and the United States put together; many of the hospitals are called after the men who have shed glory on France—Bichat, Laennec, Broussais, Trousseau and Claude Bernard—and in the hospitals themselves each ward is dedicated to the memory of some distinguished man. Every Frenchman is a hero worshiper, and has a master, dead or alive, whom he adores. Among the men of this generation you can tell very quickly who have been under Claude Bernard or Trousseau or Charcot or Potain. The lecture, the clinic, the casual conversation, is almost certain to bring in a reference to "my honored master"; and this delightful feature is seen in all circles. Even in the salon-catalogues, after the name of the painter of a picture is put the name of his master.

But to realize what the sentiment means to Frenchmen, one must be in Paris on All Saints Day—Toussaint—the fête of the eternal absent, which is kept in a way that appeals with extraordinary sympathy to the heart of one who believes in the immanence of the mighty dead "who live again in minds made better by their presence." During the last week of October the streets begin to tell of the great festival. In stalls along the boulevards, in temporary markets, in the ordinary flower-shops there is a rich display of decorations—crowns, crosses, stars in fresh flowers, or leaves, with which to decorate the graves. November 1 fell on a Sunday.

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* EDITOR'S NOTE:—This is the first of a series of travel notes by Prof. Osler, who is on a year's leave of absence from his duties at Oxford.

Though a stranger within the gates, I had a little pilgrimage of my own to make on Saturday afternoon to the cemetery of Montparnasse. The main avenue leading to it was an open flower-market, and for three or four hundred yards the cemetery wall was lined with booths for the sale of every sort of emblem and of fresh and dried flowers. Through the "Gates of Grief" a steady stream of people poured, each one bearing some tribute to the memory of a loved one. I stood for several minutes just inside, watching the procession. A group of young schoolgirls passed, each one bearing a bunch of chrysanthemums to lay on the tomb of a fellow pupil or of a loved teacher: close at hand were two Sisters of Mercy arranging wreaths on a vault that looked one of the oldest in the cemetery—perhaps the annual devotion of the guild to a loved member. A little laddie of eight hurried by with a bunch of violets in his hand, running with the ease of one who knew his road. A young mother in deep mourning with a baby in her arms, an aged couple arm in arm, each with a little basket of flowers, two young students, a little old lady with her daughter followed by a footman carrying large wreaths, workmen in rough clothes, soldiers, sailors—a motley group, a touching sight, but on the whole not a sad one. Here and there we could see the stricken heart in the pale set features, but the general impression was one of a cheerful festival, and the glorious sunshine, the bright flowers and the merry voices of the children helped to dispel the gloom of the city of the dead.

Then I turned and sought the tomb of a man whom my teachers taught me to honor. In Odessa a young Frenchman met with an experience which has happened to every thoughtful physician. An epidemic of diphtheria with its awful mortality struck the terror of helplessness and hopelessness into his heart, and he decided to return to Paris, again to take up the student life and to endeavor to know more of disease before he undertook its treatment. An old friend at the Charité Hospital gave him the opportunity he sought, and for years he worked quietly at the problems of disease. With the publication of his books on typhoid fever and on tuberculosis, Louis found himself famous, and he ranks to-day among the great French physicians who laid the foundation of modern clinical medicine.

My old teacher, Palmer Howard, a man of the same type, taught me to reverence his memory, but my pilgrimage had another inspiration—gratitude to the devoted teacher and friend of the veterans whom I loved in the profession in the United States—W. W. Gerhard, Oliver Wendell Holmes, Henry I. Bowditch, George C. Shattuck and Alfred Stillé. But as I laid my wreath in front of the grille of the tomb it was not of these men I thought, but of young James Jackson whom Louis loved as a son and who was stricken at the very outset of a brilliant career, and whose memoir by his father should be in all medical libraries, as the story of his life is an inspiration to young men. And to Louis himself came a similar tragedy. Inside the tomb is a slab of marble to the memory of his only son, a medical student who died of tuberculosis in his eighteenth year. At dinner one evening Dr. Bucquoy, President of the Academy of Medicine, who was Louis' last interne told me the story of the illness—a sudden hemoptysis and then a long lingering progress to the grave!

To the famous cemetery of Père Lachaise all Paris flocks on Toussaint and the following day. Hundreds of thousands visit the tombs of the great men who lie there, and the place is literally strewn with flowers. We went on both days, as it takes time to see the tombs and to find those of interest. Here I had a special mission, to see the tomb of that rare genius, Bichat, who started a revolution in medicine before he was 30, and who died at 32, leaving a name which is reverenced throughout the world. It was good to see that his simple grave was not neglected—a wreath, fresh flowers, and several plants showed that his memory was still cherished, and I added a bunch of pansies "for thoughts."

Toussaint gives an indication of the spirit which makes France great. Present in the daily life and everywhere in evidence it breaks out into this magnificent demonstration of loyalty to the family and of reverence to the *men* who have helped the nation and the race. To the cold-blooded Anglo-Saxon this festival of the dead is a revelation, which he can not witness without profound emotion and without a regret that England and America miss in great part the moral and intellectual inspiration associated with such celebrations. France sings one song: "Glory to Man in the highest! for Man is the Master of things," with which words Swinburne (who has been of all modern Englishmen the most sympathetic interpreter of the French) ends his famous "Hymn of Man."

In the medical world of Paris at a first glance the men only are recognizable; everything else is different, and so very different! But here is the charm; and it does one good to get into an atmosphere charged with novelty, where the burning questions are for a time unintelligible. There are four factors of the first importance—the medical school, the hospitals, the medical societies and the Pasteur Institute.

THE MEDICAL SCHOOL

There are thirty-seven professors and forty-three *agrégés* or assistant professors, to which must be added scores of assistants and demonstrators in the different laboratories. The faculty chooses its dean (at present Dr. Landouzy, the distinguished physician) and its own members, with the supervision of the Superior Council and the Minister of Education. It is not often, I believe, that the choice of the faculty is overridden. A man who reaches the dignity of a professorship in the faculty is pretty certain to have earned the distinction thoroughly, and the present occupants of the chairs are men widely known in their different branches. Much of the work is done by the *agrégés*, but in nearly all cases the professors themselves are very hard-working men. At the medical school are the dissecting-rooms and the laboratories, the equipment of which appears to be excellent. For a large school one can not but feel that the separate unit—the institute—is a more satisfactory plan.

There are no professional pathologists in France—the men in charge of the laboratories of pathology and general therapeutics (Bouchard) of pathologic anatomy (Pierre Marie) and comparative and experimental pathology (Roger) are physicians to the hospitals and engaged in practice. Cornil, who died recently, one of the most distinguished pathologists in Europe, was physician to the Hôtel-Dieu and a senator. Specialists are not recognized in the wide field of internal medicine. The professors of *pathologie médicale* (internal medicine), Déjerine and Brissaud, are two of the most distinguished of living neurologists. But a more remarkable illustration of the absence of a group of professional pathologists was in the appointment of Pierre Marie to be Cornil's successor. It would be very much as if Allan Star or Dana were selected as successor to Prudden. But in practice it does not work badly—not at least in Pierre Marie's case. He has the laboratory in excellent order, a staff of first-class assistants who are fully equipped for all the modern problems; and a young Edinburgh graduate who has been attending the laboratory demonstrations in morbid anatomy tells me that it is one of the most profitable courses he has ever followed.

An attempt to break this old system of filling the scientific chairs with hospital men has led to a pretty row—one o three which I have been following with great interest. When the anatomy chair fell vacant last year, it was thought o course that the usual plan would be followed; and among the local candidates a very well-known man, an assistant of th former professor and a surgeon to the hospital, expected th position. But a new departure was made. Professor Nicolas a professional anatomist, was brought from Nancy, and h has rearranged the dissecting-room; in fact, has taken charg of it himself. The students raised a great row last yea and the dissecting-rooms had to be closed. With the openin of the course in November, the troubles began again, and i was impossible for Professor Nicolas to lecture. The amphitheater was a mob of howling students, who would no listen to him. Day after day the disturbance continue but toward the middle of December, just as matters had begun to settle, a second row began, of which I shall speak i a few moments, and this stirred up the first and second yea students, and as a result of a final riot, the Minister of Edu ation closed the school for students of these years until the first of March.

There has been a good deal of personal animus in this af-air. Naturally, Professor Nicolas and his assistants have iot been very acceptable to the many friends of the other andidates. Scarcity of material and new arrangements about he number of men dissecting on a body, have been among he grievances; but the total number of bodies handed over o the school is enormous—in 1907, 1,958 to the medical chool proper and 724 to Clamart, a separate dissecting-oom for the externes and internes. With the opening of he semester peace seems in sight, and the Minister of Educa-ion has forgiven the students and reopened the school.

The *agrégés* form a body of men analogous to the assistant r associate professors in American schools and to the privat-locents and professors extraordinary in Germany, only here hey are paid officers of the school, help the professors in eaching and in the examinations, and from this body the rofessorate is recruited. Every young doctor in Paris, at ome time of his life, hopes to become an *agrégé*. The posi-ions are given after examination (*concours*) by a jury se-ected from the faculties of medicine of France. So many acancies occur each year in all the schools. The appointment s for nine years.

This year a new regulation came into force and led to a evolt and then a riot. A preliminary examination was in-tituted to select those who were eligible to compete at the *oncours*. As a kind of certificated examination this was pposed by the Congress of Practitioners as creating a sort f special diploma. But the chief opposition came from the andidates and their friends, as the subjects of examinations ere to be of an elementary character—anatomy and physi-logy—so as to insure that all candidates kept up their nowledge of these branches. As most of the men applying r *agrégé* professorships are at least 35 years of age, and ave long been engaged in special work, they not unnaturally aised a protest against an examination on subjects with hich they had, so to speak, long since finished.

The examination was fixed for Monday, December 21. There ere 148 candidates for ten or twelve places. The jury was mposed of nine members, chosen from the different faculties f France under the presidency of Professor Bouchard, who regarded as responsible, in great measure, for the new gulations. There were rumors of a great row, so I went rly, armed with a note, which admitted me to the school. y noon the street outside was a surging crowd and only the ndidates were admitted through the gate into the quad-ngle; but a sudden rush carried the guards, and about vo hundred and fifty got inside. About fifty policemen had en stationed in the quadrangle, and they endeavored to put t the students who had come in with the candidates. There ere a good many scuffles and a few were roughly handled. roups of the candidates protested against the invasion of e school by the police.

By 1 p. m. the tumult inside and out had become so serious at Professor Bouchard asked to have the Republican Guards soldiers) called out, and they soon cleared the quadrangle. eanwhile, Prof. Pierre Marie and one or two members of e jury had got the candidates into the hall, and at 1:30 e greater part of them filed into the small amphitheater, I inging up the rear, regarded, I could see by glances of some the men, as an ancient candidate from the University of *cissnichtwo*. Inside the babel was more intense than ever; e men protested against the new arrangements as prepos-rous and declared they would have nothing to do with the *ncours*. In a few minutes the members of the jury came in d took their places, greeted by jeers and shouts. Members the guard were called in and lined the steps of the amphi-eater, and this still further aggravated the row. The men fused to inscribe their names and the jury retired. The ot excited the entire university and the whole town, as the otest was not by students, but by men of advanced stand-g, many of them well-known by their researches and pub-ations.

The next day the jury announced that the *concours* would held on the 24th at 7:30 a. m. By 6 a. m. the police had ssession of all the streets leading to the medical school, and only those were allowed to pass who had certificates. One hundred and thirty-eight candidates were present, of whom ninety-seven refused to take part. The questions, set for the written paper, were: (1) The intestinal mucosa and its functions; (2) the secretion and excretion of the bile; (3) the mammary gland and its functions. The men who abstained sent a respectful protest to the jury, saying that the questions were of a too general character for the men who had long since specialized in various directions, and that they also felt that the interference of the police and soldiers was an insult to the profession. As they remarked very properly, they were already men of experience, some of them had gray hairs, many had contributed to advance the science and art of medicine, others were physicians and surgeons to the hospitals, men with established positions in the community.

Meanwhile, outside the faculty buildings, the medical students had taken up the quarrel, and throughout the day a series of conflicts took place. A good many windows were broken, a few students were hurt, and the police had to stand a good deal of rough treatment. Fortunately, the Christmas vacation brought peace. The new regulation was again discussed by the faculty and the superior council, and as a result of the numerous protests the Minister of Education has announced its revocation.

A faculty without its troubles is always in a bad way—the waters should be stirred. Some ferment should be brewing; the young men should always be asking for improvements, to which the old men will object. It is a sign of health, and so we may regard these troubles at the Paris medical school—much good will come of them. Not that the problem of the appointment of professors will ever be solved. The *concours* seems an admirable plan for the *agrégé*, though it is much criticized, and many here are in favor of a less didactic test—of some plan whereby a man's work will tell. The difficulty would be to eliminate favoritism and to get a perfectly impartial jury. The positions are so few (only about ten this year), and the candidates so numerous.

There is growing up a feeling in favor of the German plan of privat-docents; of recognized extra-mural teachers as in Scotland, but the traditions are strongly for the *concours*, which they say, with all its defects, brings out the strong men and is an immense stimulus. Moreover, it is the continuation of a long series of *concours* through which the good men pass the various grades of externe, interne, *chef de clinique* and *chef de laboratoire*, and physician or surgeon to the hospitals. It would be difficult to give it up without wrecking the whole system which for a hundred years has been the distinctive feature of French medicine. It fosters, too, that precious quality of clear and logical expression in which our French brethren excel; for in the final examination at the *concours* the candidate in medicine has to hold a clinic and has to lecture for an hour on some subject after forty-eight hours of preparation. The man with a glib tongue has a great advantage, and yet as we all know he is not always the best man, and it would seem desirable in some way to recognize the scientific contribution of the candidates.

(*To be continued*)

Therapeutics

SPECIFIC URETHRITIS

Dr. James Pedersen, New York (*New York Medical Journal*, Jan. 23, 1909), discusses the treatment of acute gonococcic urethritis in the male. He emphasizes the well-acknowledged fact that there is no "best" treatment for this inflammation; in other words, there is no treatment that is the best for all patients.

While, theoretically, the most sensible treatment would be to place a patient with specific urethritis in bed, on a milk diet combined with bland alkaline drinks and free catharsis, it is obviously impossible, in the majority of instances, to carry out such treatment.

Consequently it should be aimed to get as near as possible to such general treatment: in other words, the patient, besides what medication he may receive, should be told to walk as little as possible, lie down as much as possible, eat a bland, non-irritating diet, which means abstaining absolutely from alcohol, tobacco, coffee, tea, fried stuffs, much meat, spiced foods or condiments. The patient should drink freely of water or alkaline water, as vichy. He should also wear a suspensory bandage, and should be instructed in the most perfect cleanliness by the physician.

The aim of medication should be, as stated by Pedersen:

1. To influence the volume and reaction of the urine.
2. To render the urine more or less antiseptic.
3. To charge the urine with a medicament in solution which shall act on the inflamed mucous membrane.

The first indication is met by the administration of alkalies to the amount of rendering the urine alkaline, or by the administration of sodium salicylate, salol (phenylis salicylas) or saccharin to render the urine acid, if that is desired.

To meet the second indication there are no better drugs than salol (phenylis salicylas) or hexamethylenamin (urotropin), although drugs that meet the third indication also have some antiseptic properties.

The drugs to meet the third indication are copaiba, santal wood and cubebs, and of the many balsams and genitourinary stimulants offered none are better than these drugs. The oil of santal is the best and fills every indication that any of the other balsams can fill, and with less irritation to the stomach or disturbance of digestion.

Whether the urine should be rendered alkaline or kept acid in gonorrhea is a subject of dispute, some authorities believing that alkalinity of the urine inhibits the growth of the gonococcus in the posterior urethra, while others contend that when the urine is acid the gonococcus will not invade the walls of the bladder. It seems certain, however, that if, in the beginning of the inflammation of acute gonorrhea, there is increased frequency of urine and burning, with marked ardor, that something must be done in the way of palliation, and, exclusive of hot sitz baths, absolute rest and a milk diet, nothing lessens this symptom so much as do the alkalies. Also, as pointed out by Pedersen, no great inhibition of the gonococcus will be caused by any medicament taken by the mouth and excreted by the urine; consequently, any germicidal treatment should be aimed at the infection in the anterior urethra before it has reached the posterior urethra or bladder. Therefore, any treatment that renders the urine alkaline during the first stage of acute urethritis, such as the reduction of the amount of meat ingested, the drinking of plenty of vichy, and the administration of an alkali, is of advantage in gonorrhea.

The best alkalies to administer are potassium acetate, potassium bicarbonate and potassium citrate. There is no special advantage of any one over the other two. The acetate is slightly more actively alkaline, the bicarbonate the most disagreeable to take and the citrate the pleasantest. This may be given as:

℞.	gm. or c.c.		
Potassii citratis	40	or	ʒix
Aquæ	200		fl.℥vi

M. et sig.: Two teaspoonfuls, in water, three times a day, after meals and at bedtime. The same dose may be administered more frequently, if deemed advisable.

As soon as the first acute symptoms are over, the alkali should be stopped, as it is not well for a healthy condition of the mucous membrane of the bladder to keep the urine alkaline for any considerable time. At this time it seems well to begin the administration of salol or urotropin (hexamethylenamin), as thought best. If there is any irritation of the kidneys, salol, on account of one of its decomposition products being phenol, should not be used, phenol being irritant to the kidneys. If it is administered, it is well given as follows:

℞.	gm.		
Phenylis salicylatis	5	or	gr.lxxv

Fac capsulas siccas, 20.
Sig.: A capsule every four hours.

As pointed out by Pedersen, as soon as posterior urethritis has developed, which occurs in the majority of cases of gonorrheal urethritis, one of the balsams is indicated, unless there is vesical irritation, as shown by great frequency of urination with small amounts of urine passed. For the reasons above stated santal oil seems to be one of the best treatments and may be administered as follows:

℞. Capsulas olei santali flexibiles, āā................m. x
No. 25.
Sig.: A capsule three times a day, after meals.

If there is no diminution in the amount of pus in the second glass of the two-glass test, and there are no symptoms of over-action of santal wood (viz., no pains referred to the ureters, or lumbar pains, and no special indigestion), two of these capsules three times a day may be taken.

It should be emphasized that no patient with gonorrhea can be well treated unless at each office visit he passes urine, that has been retained for at least three hours, into two glasses, he dividing the amount as nearly equally as his judgment permits. The washout from the urethra can thus be examined in the first glass, and the urine from the bladder and posterior urethra be examined in the second glass, and the conclusions thus arrived at will many times decide the treatment that is needed.

All balsam treatment may be stopped as soon as the posterior urethritis is cured. If, on the other hand, the posterior urethritis does not improve, the balsam may be increased in amount, or, if the posterior urethritis tends to become chronic, local posterior urethral treatment is indicated. It is also wise to demonstrate to the patient that, although the anterior urethral discharge may have ceased, he is not well until the posterior urethra is healed.

If it is preferred to use urotropin (hexamethylenamin) as a bladder and posterior urethra germicide treatment (and if the bladder becomes actually infected there probably is no better treatment), it may be given as follows.

℞.	gm.		
Hexamethylenaminæ		or	ʒiss

Fac chartulas, 20.
Sig.: A powder, in a glass of water, four times a day.

Pedersen treats the anterior urethritis, which is the starting point of the gonorrhea, with injections of organic silver compounds, and believes that if there has not been a previous infection, and if the tissues are healthy, the gonococci may be caused to disappear from the discharge within a few days, even within forty eight hours. While it may not be often possible actually to abort acute gonorrheal urethritis by thi ethod, he believes that the first stage can be greatly ortened.

The silver compounds that may be used for this purse are albargin, argonin, argyrol, novargon and prorgol. The strength of the solution used is generally, first, 1 per cent., which may be increased later, after e urethra becomes less sensitive, to 2 per cent. Pedern injects a urethral syringeful into the anterioı ethra, and has the solution retained from five to ten nutes, in the incipient stage of the disease.

The patient, of course, should be carefully instructed st how to pass the urine and then how to use the inge and how to retain the fluid. The length of ne that he should retain it depends on the length of ne that there is burning after the injection has been cuated. If the burning lasts a considerable time, injection should be retained a shorter time. Unless re is a contraindication of much pain and burning, retention of the silver solution for five minutes, and haps longer, is certainly more likely to allow the micide to penetrate more deeply into the pockets of urethral folds and kill the gonococci which are there den.

Pedersen advises the use of this injection "every ee hours for the first twenty-four hours, and every r hours thereafter." Every fourth day he exams a smear of the discharge to see if gonococci are l present. As they diminish in number the strength he fluid is reduced and the frequency of its injection liminished from four times daily to only twice ly.

After the gonococci have been absent from the disrge for from three to seven days (depending on the rity of the infection in the given patient) the injec- is reduced to once a day, and from five to ten days r (again depending on the patient) it is discontin- altogether."

his frequent injection of the urethra would seem a e strenuous for the patient, and might need to be ified if it had caused much swelling and inflamma- . Pedersen does not speak of hot sitz baths if h inflammation or irritation is present. They are ainly of great advantage.

e does not believe that irrigation is often indicated nterior urethritis, and we can but agree with him there are only "two indications that justify instrutation of an acutely inflamed urethra, viz.: reten- of urine not yielding to all the lesser means for its f, and extremely severe posterior urethritis." It is inly not justifiable to give any great pressure to delicate urethral membrane by any irrigation od. Such irrigations may not only force the gono- into deeper tissues as well as into the posterior hra and perhaps bladder, but may so injure the ous membrane as to cause long protracted chronic mmation and strictures.

soon as the gonococci have disappeared and been nt for several days a continued catarrh of the anr urethra is best treated by astringents, and there robably none better than the generally used zinc hate. Pedersen uses this salt in solution "up to two s to the ounce" (.4%), and advises injection twice , rarely three times daily, and then he gradually es the frequency. While zinc sulphate is often ined with several other ingredients for injection, as fluid hydrastis, boric acid, etc., it probably acts ll in simple solution, as follows:

℞.

	gm. or c.c.		
Zinci sulphatis	50	or	gr. x
Aquæ	100		fl.℥iv

M. et sig.: Use externally as directed.

This subacute stage of gonorrhea should cease in about two weeks, and if it persists longer it seems probable that there is some complication of a previous inflammation or a localization that should be definitely treated. If at any time during this subacute stage the secretion shows gonococci, Pedersen again uses the silver albuminoid injection. During this stage the same restricted diet should be continued, but more exercise may be allowed.

If posterior or anterior urethritis persists with gonococci absent after the period of subacute inflammation has passed, Pedersen advises the use of nitrate of silver solutions. The whole length of the anterior urethra may be treated through an endoscope by means of a cotton swab medicated with 0.5 or 1 per cent. nitrate of silver solution; or there may be instilled by means of a deep urethral syringe a syringeful of a "1 to 5,000 to 1 to 250" solution of nitrate of silver, or a few drops of a 0.25 to 0.5 per cent. solution. Such treatment should not be repeated oftener than once in five days, and Pedersen says once in seven days may be a safer average. The passing of all instruments through the urethra, even in this late stage of gonorrhea, should be done with the greatest of care, and thin, bland oils are the best lubricants.

If the morning drop persists Pedersen believes that follicular urethritis is probably present, and thinks that irrigations are then advisable, as if solutions pass from the anterior urethra back into the bladder they cleanse the mouths of the follicles which are directed forward, and the retained secretions are thus removed. He would use for this purpose a solution of 1 to 30,000 of bichlorid of mercury or a saturated solution of boric acid, or a 1 to 2,000 potassium permanganate solution. The solution selected would be given by the ordinary irrigation apparatus, viz., a short glass urethral tube and the pressure necessary to cause the solutions to flow gently into the bladder.

If there is great disturbance from the posterior urethritis, Pedersen would put the patient to bed, and believes that the excuse may be present, even in the acute stage of gonorrheal urethritis, for first washing the anterior urethra with boric acid solution and then anesthetizing the mucous membrane with a 2 per cent. solution of eucain and passing a soft rubber catheter, 14 to 16 French, into the deep urethra, and then instilling into the deep urethra two or three fluidrams (from 10 to 15 c.c.) of a silver albuminoid solution, or a solution of nitrate of silver in strength of 1 to 5,000 to 1 to 1,000. He finds one such instillation may greatly relieve the patient of his distressing symptoms. This treatment may be repeated in a day or two, if it prove to be necessary.

It should not be forgotten that these apparently severe symptoms of a posterior urethritis may really be a prostatitis, or even the beginning of a prostatic abscess.

A posterior urethritis pure and simple in the acute stage of gonorrheal arthritis will rarely need irrigation treatment. As a general rule, it will be found that hot baths, absolute rest, a milk diet and the administration of alkalies will within twenty-four hours stop the intensity of the symptoms.

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 27, 1909

THE INTRAVENTRICULAR INJECTION OF MENINGOCOCCUS SERUM

During the past year the results from the use of Flexner's serum in the United States and Great Britain have been most gratifying. The percentage mortality figures of former years now represent the recoveries. In Germany Kolle and Wassermann[1] and Jochmann[2] have been using a similar serum but without any such success, since the secret of the successes with Flexner's serum lies in the mode of application.

Flexner[3] has shown that the serum must reach the causal micro-organism in a certain degree of concentration, and this it is impossible to obtain by subcutaneous injection; it must be injected directly into the subarachnoid space. The bactericidal power of the serum in the proper strength can be demonstrated in test-tube experiments. It must be admitted, however, that clinical observers have attested an antitoxic[4] property which, it has been suggested, may be taken advantage of by the subcutaneous application. Some believe that a combination of the two methods of injection is indicated—the subcutaneous serum to neutralize the endotoxin liberated by the action of the intraspinal serum on the meningococci.

Recently attention[5] has been drawn to the fact that the lateral ventricles of the brain may serve as a habitat in which the organisms persist and develop after they have died out in the spinal subarachnoid space. Here, out of reach of the serum injected intraspinally, they may continue to exist and be a constant menace, accounting perhaps for relapses; moreover, such intraventricular bacteria may cause inflammation leading to hydrocephalus and death. Evidence of such an associated inflammatory process in the ventricles in cases of meningitis was long ago[6] demonstrated at the autopsy table in the dilated ventricles and the well-marked granulation and thickening of the ependymal lining. Indeed, the condition of pyohydrops ventriculorum wa found postmortem as early as 1805.[7]

Although the method of puncture of the lateral ventricles and withdrawal of fluid has been used in hydrocephalus, it is only recently that the introduction of foreign serum into the ventricles has been attempted The way has been pointed out to this third mode of application of the specific antimeningitis serum. In a report[8] of its use in a case in which the meningococ abounded in the ventricular fluid after the spinal flui had become sterile, the advisability of performing ventricular puncture in the acute stages of persistent an relapsing cases is emphasized. If meningococci a found in the fluid withdrawn, the administration serum, under proper precautions, directly into the ventricles is indicated. In this way it may be possible avoid hydrocephalus and still further to reduce a mo tality already remarkably lowered by the use of meningococcus serum.

THE HOUSING PROBLEM

The serious student of social conditions will undoub edly find for many moral economic and physical ills common cause—the vicious method of housing the mu titudes in our great cities. Self-respect decays whe facilities for cleanliness are denied and where a dece privacy is impossible; the instinct of thrift is nipp in the bud by surroundings in which self-improveme seems impossible; and morals, finances and health su fer together in disease-breeding dwellings. Such co clusions have been forced on students in Washington a city with few manufacturing or commercial intere and with few streets which suggest extreme poverty their exterior. There was a time when Connectic Avenue, ignorant of the existence of Willow-tree all used to boast that Washington had no slums. As matter of fact, many blocks in respectable and ev well-to-do neighborhoods of Washington are hon combed by alleys swarming with an obscure populati The conditions revealed by the Washington Civic Cen through the work of its Committee on Housing People, and recorded by Dr. George M. Kober,[1] w disgraceful.

Similar investigations elsewhere have shown the istence of equally baneful overcrowding in other cit This is an entirely logical result of the indifference the more enlightened half of the world to the privati of the other half; and when Nemesis, in the form tuberculosis, scarlet fever, and many another dread ease, issues from the tenement the careless dweller on boulevards has small right to complain of the "m terious dispensations of Providence." So long as g and shortsightedness continue business partners.

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[1] Kolle and Wassermann: Deutsch. med. Wchnschr., 1906, xxxii, 16.

[2] Jochmann: Deutsch. med. Wchnschr., 1906, xxxii, 20. Schöne: Therap. d. Gegenw., 1907, xlviii, 52.

[3] Flexner, S., and Jobling, J. W.: Jour. Exper. Med., 1908, x, 141.

[4] Ladd, L. W.: The Journal A. M. A., Oct. 17, 1908, li, 1315. Sladen, F. J.: The Journal A. M. A., Oct. 17, 1908, li, 1318; Old Dominion Jour. of Med. and Surg., 1908, No. 7, 241.

[5] Knox, J. H. M., and Sladen, F. J.: Arch. Pediat., 1908, xxv, 761.

[6] Ziemssen: Handbuch der acuten Krankheiten, 1876, p. 683. Hulsman: Inaug. Diss., Kiel, 1889. Councilman, Mallory and Wright: Epidemic Cerebrospinal Meningitis, Boston, 1898.

[7] Joslin: Am. Jour. Med. Sc., 1900, cxx, 444.

[8] Cushing, H. W., and Sladen, F. J.: Jour. Exper. Med., 1 x, 548.

[1] The History and Development of the Housing Movemen the City of Washington, D. C.

he firm is allowed to operate unchecked, so long will ongestion and disregard of sanitation continue to breed rime, immorality and disease; but to say this is either, on the one hand, to excuse the community hich tolerates such conditions, nor, on the other, to oint out a practical solution of the problem.

Everyone who has given any attention to the tene-ent-house question knows that the worst plague spots n great cities yield most exorbitant profits to the own-rs; but it is perhaps not so well known that com-ortable, sanitary dwellings, suited to the needs of city age-earners, can be built to offer at a moderate rental, hich will yet yield a reasonable profit to an in-estor. The problem, then, has two aspects: one, to rohibit—or, what amounts to the same thing, to render nprofitable — the insanitary tenement; the other, to emonstrate the practicability of the model tenement as business proposition. To meet the first phase of the uestion it has been proposed to gauge the value of ten-nent-house property in condemnation proceedings, not the rents derived from it, but by its sanitary condi-on. Various successful efforts have been made to show e desirability of sanitary tenements as an investment. r. Kober, in the work previously referred to, describes e movement for the erection of model tenements un-rtaken by the Washington Sanitary Improvement ompany under the leadership of Surgeon-General ernberg, which has proved the possibility of provid-g sanitary dwellings, at a low rental, but still yielding per cent. on the investment. This example deserves be extensively imitated. It is to be hoped that some y the competition of low-priced sanitary dwellings d the pressure of the law together may make the in-nitary tenement an utterly unprofitable investment.

PUBLIC HEALTH AND THE GOVERNMENT

It is a singularly felicitous coincidence that the last dress given by the President-elect as a private citizen ould have been delivered on Washington's birthday, the University of Pennsylvania, on the subject of he Present Relations of the Learned Professions to litical Government." No occasion could be more propriate for such an address than the birthday anni-sary of our first President, nor any place more suit-e than the seat of the first American university, or-nized in 1765, which granted, in 1768, the first med-l diploma issued in America. The recognition of obligations which members of the learned profes-ns owe to the government and the emphasis of the itical duties of the educated classes are most oppor-ie. Mr. Taft's address can be accepted as a forecast the character of his coming administration.

After emphasizing the "duty of every citizen, no mat- what his profession, business or trade, to give as ch attention as he can to the public weal and to take much interest as he can in public matters," Mr. Taft discusses the relation of the different professions to the government. While the entire address is thoroughly worthy of careful consideration, the views expressed regarding the present relations existing between the medical profession and the government are of especial interest. After discussing the minister, the teacher, and the journalist, Mr. Taft says: "The next profession for consideration in its relation to governmental matters is that of medicine. Until very recently its influence has been practically nothing in a professional way. . . . Of late years . . . the functions of government have widened and now embrace, in a real and substantial way, the preservation of the health of all the people." The advances which have been made along sanitary lines in recent years are enumerated, including the increasing importance of medical work in the tropics, the value of sanitary administration in maintaining the Army and Navy and in the construction of the Panama Canal, the prosecution of which, Mr. Taft says, has been rendered possible by the "triumph, in the name of the medical profession, in the discovery of the real cause of yellow fever and malaria and the suppression of those diseases." Mr. Taft further declares that modern sanitary engineering "confirms the governmental importance of the profession of medicine and the kindred technical professions of chemistry and engineering and all branches of physical research."

Particularly interesting are his views on the necessity and possibility of a national department of public health. "So marked has been this increase in the importance of the medical profession in governmental agencies that the doctors themselves have organized a movement for the unification of all agencies in the federal government used to promote the public health in one bureau or department, at the head of which they wish to put a man of their own or kindred branch of science. How near this movement will come in accomplishing the complete purpose of its promoters only the national legislature can tell. Certainly the economy of the union of all health agencies of the national government in one bureau or department is wise." Discussing the advisability of placing a physician at the head of such a department, Mr. Taft very truly says that it is "the capacity to organize, to coordinate and execute that is needed at the head of a department and not so much deep technical or professional skill." Far more important, however, than the discussion of the future head of such a department are Mr. Taft's views regarding the importance of governmental recognition and approval of the results of modern medical science: "It is becoming more and more clear that the extension of governmental duties into a territory covered by the profession of medicine is bringing physicians more and more into political and governmental relation and we may expect that in the next decade they will play a far greater part than they have heretofore and it is proper that they should."

Mr. Taft's admirable address shows plainly that he is in complete accord with the present movement for the conservation of the lives and health of the people and that during his administration we may anticipate some definite and tangible developments in the suppression and prevention of unnecessary and avoidable diseases. Whether the national health organization shall be a bureau or a department, whether it shall be headed by a physician with executive ability or a trained layman of scientific standing, these questions are all matters of administration and expediency and are comparatively trivial in comparison with the great object of such a movement—the saving of life and the reduction of disease and suffering.

THE COUNCIL ON PHARMACY AND CHEMISTRY; ENCOURAGING OUTLOOK

After four years of campaigning against conditions that, even to the most optimistic, seemed discouraging at first, it is now quite apparent that, with eternal vigilance and constant advance, the Council on Pharmacy and Chemistry need not fear the ultimate results of its work. The warm appreciation and support accorded to this body by an ever-increasing number of practitioners leave no room for question as to the fruitfulness of its labors. That the work has been burdensome is, of course, well known, but it is not so clearly appreciated that, while the work is done primarily for the clinician, it was at first carried on almost entirely by a group of altruistic men who had, themselves, no clinical interests and whose only reward lay in a sense of loyally serving an important cause. It has been frequently evident, however, that some of the questions to be decided have in them points that can be satisfactorily passed on only by those who, while trained to sharp appreciation of the purely scientific aspects of the questions, also possess training and experience in practical bedside work.

Recognizing this, the Board of Trustees last year appointed two clinicians to the Council; and the desirability of adding a practitioner, who should represent other fields of medical practice, has just been evidenced in the appointment of Dr. John Howland of New York. Dr. Howland is instructor in contagious diseases in the College of Physicians and Surgeons of Columbia University. His special fitness for the work is attested by the fact that he has had long training in the problems of general pathology as they relate to clinical work, as well as in chemical investigations dealing with questions of digestion and metabolism. In addition to this, he has been continuously engaged in a general medical hospital service and in teaching, his specialty being pediatrics. His training will therefore be of special value to the Council in passing on questions bearing on the treatment of infectious diseases, the use of serums, etc., as well as in connection with the details of treatment in diseases, especially of infancy and childhood.

One of the most encouraging things connected wit the advance of therapeutic reform is the spontaneit with which men, already laboring under diverse an burdensome daily work, accept as a duty the furthe tasks which membership in the Council imposes o them. This point receives further emphasis elsewher in this issue,[1] where attention is called to the numbe of scientists, not connected with the Council, whos services have been freely given in investigations whic have proved of incalculable benefit not alone to th Council, but also to the medical profession.

THE INTERNATIONAL OFFICE OF PUBLIC HYGIENE

The growth of a better understanding among nation is well shown by the recent establishment of an inte national office of public hygiene at Paris. The idea o having such an office for the purpose of collecting info mation concerning the communicable diseases, especiall cholera, plague and yellow fever, was first presented fo consideration at the International Sanitary Conferen of Paris in 1903. At that conference there was signe an international sanitary agreement, which, amon other things, contemplated the creation of an interna tional office of public hygiene, and the task of organ zation was left to the French government. Plans fo the organization and conduct of the proposed office we accordingly prepared and made the subject of a confe ence held in Rome, Dec. 3-9, 1907. As a result of th conference an arrangement and organic statutes we edited and signed by delegates from twelve countrie This instrument was ratified by the President of t United States by and with the advice of the Senat Feb. 15, 1908. Our country will therefore participa in the benefits to be derived from this international a rangement, and to the U. S. Public Health and Mari Hospital Service† much credit is due for bringing t about. The arrangement which was concluded for period of seven years definitely authorized the n office, provided for its control by an international co mittee, outlined its duties, and apportioned the expen of maintenance among the interested countries. T principal objects of the new office are to collect a bring to the knowledge of the participating countr facts bearing on the public health, especially as concer infectious diseases and their suppression. In sanita matters, early and accurate information is essential good administration. The new International Office Public Hygiene should be able to supply this inform tion more economically and promptly than can be do by an individual country, inasmuch as it is authori to communicate directly with all national health ag cies throughout the world. The information thus c lected being both scientific and practical in charac should be of great service in the quarantine and sa tary administration of the interested nations.

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[1] Pharmacology Department, page 716.

† U. S. Public Health Reports, Jan. 8, 1909.

R. STRAUS AND THE NEW YORK MILK COMMITTEE

The practical benevolence of Mr. Nathan Straus,
o for many years has maintained, single-handed,
ilk stations in New York and elsewhere for the dis-
ibution of properly modified and pasteurized milk, is
household word. New York has also another similar
ency occupying itself with the feeding of infants,
mely the New York Milk Committee, on which are
ny philanthropists of prominence, including several
New York's leading pediatricians. This latter insti-
tion, it seems, has not received the public support that
deserves, and is in some danger of extinction, in
nsequence. Mr. Straus generously came to its aid
ently not only with expressions of regret at its crit-
l condition and with a hearty commendation of the
lue of the work done by it, but also with practical
ancial aid; this, too, notwithstanding the expense
tailed in the same cause by his own personal benefac-
ns. It is to be hoped that this generosity will stim-
ite the general public of New York into more worthy
operation until such time as the municipality itself
ll realize its duty in this direction. We understand
it the committee started its depots only last year, the
ject being to supplement the efforts of the Straus
neficence by unifying public opinion by the added
perience and practices of a committee of citizens;
t now it seems that a suggestion is made looking
ard the unification of the milk philanthropies of the
y so as to effect a big economy in money and effort.
ere are points of difference in procedure which cer-
nly seem to warrant a continuance of the special
rk of the committee. For instance, while Mr. Straus'
nefaction confines itself solely to the distribution of
steurized milk, placing absolute safety before all
er considerations, the committee has instituted com-
ative observations as to the relative nutritional value
milk, pure at the outset, when served raw and when
jected to pasteurizing temperature. It has further
l stress on the importance of having mothers nurse
ir babies, and, in the event of their being unable to
so, of teaching them to modify and prepare the milk
home. It is to be hoped that some means of unifi-
on will be able to be effected which shall preserve
valuable characteristics of both organizations.

Medical News

ALABAMA

ospital Staff Election.—At the annual meeting of the staff
t. Vincent's Hospital, Birmingham, February 10, Dr. Cun-
ham Wilson was elected president; Dr. Lewis Whaley,
president, and Dr. Carl A. Fox, secretary.

rsonal.—Dr. Edward L. Marechal, Mobile, announces that
no longer connected with the *Mobile Medical and Surgical
nal.*——Dr. Herschel W. Bass has been made physician at
Bryce Hospital, Tuscaloosa.——Dr. Rhett Goode has been
ected health officer of Mobile; Dr. Charles A. Mohr,
man of the committee of public health, and Dr. Eugene
B. Bondurant, secretary of the board of censors.——Dr.
nas J. Brothers has succeeded Dr. Emmet K. Moon as
physician of Anniston.

ysicians Exonerated.—The Lauderdale County Medical So-
, by unanimous vote, has sustained the verdict of the
l of censors of the society exonerating Dr. Albert S.
nerman, Florence, county health officer, against whom a charge of incompetency is said to have been preferred by Dr. Eugene C. Lindsay in December last.——The grand jury, after thorough investigation of the charge against Dr. Thomas A. Jones, East Lake, Birmingham, due to the sudden death of J. A. Baker, supposedly by poison, has exonerated Dr. Jones.

CALIFORNIA

Tuberculosis Clinic Opened.—The first free tuberculosis clinic in San Francisco was opened informally January 18. Twenty applicants for treatment appeared on the first day.

Found Not Guilty.—Dr. Kathryn Ellis, Bakersfield, charged with the murder of Mrs. William Eardley, was found not guilty January 30, after a jury deliberation of less than ten minutes.

Lilianstein in San Francisco.—Dr. Siegfried Lilianstein, a well-known alienist of Nauheim, Germany, arrived in San Francisco from Japan, February 6, on a trip around the world. He is making special investigations on this journey of the conditions obtaining in hospitals and asylums for the insane.

Affiliates with State University.—The College of Medicine of the University of Southern California has become affiliated with the University of California, Berkeley, the application of the faculty of the former institution for transfer having been approved by the trustees of the University of Southern California January 28.

Personal.—Dr. Victor G. Vecki, San Francisco, has returned from Europe and resumed practice.——Dr. Ralph W. Avery, South Pasadena, has taken the practice of Dr. George A. Broughton, Oxnard, who after postgraduate work in the east, will locate in Los Angeles.——Dr. Frederick T. Bicknell, Los Angeles, for nearly ten years president of the California Hospital, who was recently retired at his own request, was presented with a gold watch by his colleagues at a dinner given in his honor.——Dr. Charles H. Whitman, Los Angeles, has been appointed superintendent of the county hospital, vice Dr. David C. Barber.——Dr. William R. Severson, Los Angeles, has moved to Goldfield, Nev.——The cottage of Dr. Samuel P. Reed, Mayfield, was burned with all its contents February 10.

COLORADO

Physician Fined.—Dr. Andreas Anderson, Ault, is said to have been fined $600 and costs February 10, for selling liquor without a license, and to have paid the fine.

New Buildings at Naval Tuberculosis Hospital.—The Federal Government is about to erect fifty new buildings at the Naval Hospital, New Fort Lyon, at a cost of $150,000. Each building will accommodate three patients.

Bequest to Aid Study of Tuberculosis.—By the will of the late Dr. Charles Denison, $10,000 is bequeathed for the furtherance of the study of tuberculosis. The will stipulates that a prize of $1,000 shall be given biennially for the best essay presented.

State Board Election.—The State Board of Health, at its annual meeting, February 10, elected Dr. Vivian R. Pennock, Longmont, president; Dr. Lewis E. Lemen, Denver, vice-president; Dr. Hugh L. Taylor, Denver, secretary, and Dr. Crum Epler, Pueblo, treasurer.

Students' Medical Society.—A medical society has been formed by the students of the Medical School of the University of Colorado, based on the plans of a county medical association, and known as the Students' Medical Society of the University of Colorado. Meetings are held twice a month, and in addition to papers presented by the students, men of prominence in the medical profession present papers at each meeting.

Personal.—Dr. Julius L. Mogulesko has resigned as bacteriologist of National Jewish Hospital for Consumptives, Denver, and has returned to New York City.——Dr. A. G. E. Nordlander, Boulder, has been appointed physician of Boulder county.——Dr. Benjamin L. Jefferson, Steamboat Springs, has been appointed registrar of the State Land Board.——Dr. William T. H. Baker, Pueblo, was operated on at St. Joseph's Hospital, Denver, January 20.

Physicians' Post-Graduate Clubs.—The Post-Graduate School of Latimer County Medical Society, at its meeting, February 10, adopted resolutions recommending that the law requiring a tax on all dogs be rigidly enforced, and that all dogs not taxed be impounded or killed.——At the meeting February 17, infectious diseases were discussed, and Dr. George Glover, head of the Veterinary Department of the State Agriculture College, explained the necessity for and the results arising from the investigation of milk, meats, fruits, vegetables and other food products.——The Fremont County Physicians' Post-Graduate Club was organized January 18. Dr. Royal C. Adkinson, Florence, was elected director, and Dr. Wilbur T. Little, Canon City, reporter. The club will take up the course of study prescribed by the American Medical Association.

CONNECTICUT

Tuberculosis Dispensary Opened.—On February 9, the Fairfield County Antituberculosis Association opened its dispensary at Bridgeport. A number of physicians of the city have volunteered their services as staff and the dispensary will be open from 12 to 1, 5 to 6, and from 7 to 9 p. m. The work of the association is not only for the relief and cure of the suffering, but is also intended to be educational and prophylactic.

January Deaths.—During January there were 1,359 deaths, 80 more than for the previous month, 198 less than for January, 1908, and 130 less than the average for the month for the five years preceding. The death rate for the entire state was equivalent to an annual rate of 15.8 per 1,000. The deaths from infectious diseases were 226, or 16.6 per cent. of the total mortality. Pneumonia, nervous diseases, tuberculosis and heart diseases, in the order named, were the chief causes of death.

Personal.—Dr. Winford H. Smith, superintendent of Hartford Hospital, has been selected as chief medical superintendent of Bellevue and Allied Hospitals, New York City. An informal dinner was given by the medical and surgical staff of the Hartford Hospital to Dr. Smith, February 1.——Dr. George E. Ober has been re-elected president of the Bridgeport board of health.——Dr. Kenneth E. Kellogg, New Britain, has suffered the loss of his wife, February 6, from peritonitis, following an operation for appendicitis.

FLORIDA

Personal.—Dr. James H. Randolph, Chattahoochee, has been appointed assistant physician at the Florida Hospital for the Insane, Chattahoochee, vice Dr. Robert L. Goodbred, resigned.

State Health Day.—On February 12, which was designated by the Superintendent of Public Instruction as "State Health Day," programs were carried out in the various schools, including quotations regarding health, care of the body, fresh air, and alternating readings of sections from the health catechism.

Tuberculosis Exhibit.—The traveling exhibit of the National Association for the Study and Prevention of Tuberculosis, which is located during January, February and March in Florida, opened in Jacksonville, January 23. The exhibit then was moved to Pensacola, from there will be taken down the East Coast and afterward to Tallahassee.

Improvement in State Hospital.—The Board of Commissioners of State Institutions has made provision for two clinical assistants, graduates of reputable medical schools, at a salary of $30 per month and board. After April 1 a visiting staff will be appointed, consisting of not more than seven physicians of the state, each of whom shall be a specialist in the particular field in which he is appointed; the visiting staff to serve without compensation, but their expenses on official business to be defrayed by the state.

State Board of Health Report.—At the annual meeting of the State Board of Health, February 10, Dr. Joseph Y. Porter, Key West, state health officer, reported that during the year 59 cases of smallpox, 114 cases of malarial fever, 247 cases of diphtheria, 396 cases of typhoid fever and 393 cases of tuberculosis had been reported. Special subjects relating to sanitation and individual hygiene were discussed from time to time in the monthly sanitary publication of the board. He made the following recommendations: That the measures for promoting and protecting health, recommended in 1907, be presented to the legislature again this year, emphasizing the necessity of, and asking for, such remedial assistance as this enactment would give; that the board be vested by the legislature with such authority to make and enforce rules as is conferred on the Railroad Commission; that it be empowered to make rules and regulations with authority to enforce the same; that a bureau of vital statistics be made a feature of the state government with prompt reports of all births and deaths; that the station-houses, waiting-rooms and sleeping cars be kept clean, well ventilated and sanitary; that authority be given the board to assist within reasonable limits the indigent tuberculous of the state; that it be given permission to accept gifts from philanthropic persons, either of money or lands, and apply the same as they think best, an that it may be empowered to equip a laboratory for the investigation of disease agencies.

GEORGIA

Tuberculosis Sanatorium in Atlanta.—A tract of thirty-si acres on Peachtree Road has been purchased for $10,000 fo the establishment of a sanatorium for the treatment and cur of tuberculosis. Dr. William S. Kendrick has been selecte as medical director of the sanatorium, and Dr. Lewis M Gaines as assistant medical director.

Personal.—Dr. Herbert Rushin, Dublin, has succeeded Dr Charles Hicks as local surgeon of the Wrightsville and Tennille Railroad.——Dr. Thomas D. Longino has succeede Hubert L. Culberson, resigned, as trustee of the Grady Hospital, and Dr. Joseph H. Bradfield has succeeded Dr. Willia B. Armstrong, deceased, as a member of the board of healt of Atlanta from the second ward.

Grady Hospital Board.—At the meeting of the Grady Hospital Medical Board, Atlanta, Dr. Rufus T. Dorsey wa elected chairman; Dr. William S. Goldsmith, vice-chairma and Dr. Cyrus W. Strickler, secretary. Dr. Dorsey has appointed the following committees: Medical matters, Dr George H. Noble, Charles G. Giddings and John C. Olmstead examination, Drs. James N. Ellis, Alexander W. Sterling an Luther P. Stephens; conference, Drs. John G. Earnest, Luthe C. Fischer and Willis B. Jones; and record, Dr. L. Benjami Clarke.

ILLINOIS

To Honor Dr. Guthrie.—A special committee, of which D William Cuthbertson is chairman, has been appointed by t Chicago Medical Society to investigate the claim of Dr. Samuel Guthrie as the discoverer of chloroform.

Personal.—Dr. John B. Legnard, Waukegan, sailed for Europe February 16.——Dr. Overton Brooks, Chicago, has returned from abroad.——Dr. Henry M. Drury, Altamont, wh was adjudged insane, has been committed to the State Ho pital, Anna.

Expectorators Arrested.—As a result of the crusade start again in Chicago by the health commissioner and the chi of police against men who spit on sidewalks, in street ca and elevated trains, five violators of the ordinance were ea fined $1 and $1 costs, February 17.

Plan to Prevent Blindness.—The Illinois commission to i quire into the condition of the blind will report to the legi lature the following bills: To prevent ophthalmia neonat rum; to enlarge the State School for the Blind, Jacksonvill to rejuvenate the Illinois Industrial Home for the Blind, Ch cago; to care for the aged blind; to create a state commissi for the blind, and to appropriate $1,000 for a state census the blind.

Millions Asked for Charity.—The State Board of Chariti ask appropriations of more than nine and one-half million d lars for state charitable institutions for the coming bienniu In this budget provision is made for the establishment of o colony for the insane epileptics at Kankakee, and one Anna; for a colony for improvable epileptics; for the pu chase of a site for a new state hospital for the insane; for creased accommodation for the charges of the state, and taking over the Cook County Hospital for the Insane, Du ning.

IOWA

Quarantine Power Vested in Local Boards.—With only th dissenting votes, the house of representatives is said to ha passed the quarantine bill offered by the committee on pub health, which takes the power of quarantine from the St Board of Health and vests it in local health boards.

Personal.—Dr. Thomas U. McManus, Waterloo, has b appointed a member of Iowa State Board of Health and M ical Examiners, vice Dr. Joseph H. Sams, Clarion, resign ——Dr. George B. Maxwell, Long Grove, who has been s ously ill with typhoid fever, is reported convalescent.—— Phineas J. Montgomery has been elected president; Dr. Fra W. Dean, vice-president, and Dr. Mary L. Tinley, secretary the staff of the Jennie Edmundson Memorial Hospital, Cou Bluffs.

Actions of the State Board.—The State Board of Med Examiners at Fort Dodge is said recently to have revoked license of Dr. Peter K. Dahl, Fort Dodge.——Dr. H. H. Pew, Des Moines, formerly a hernia specialist of Chicago said successfully to have defended himself against charges illegal practice, brought before the State Board of Medical Examiners, which failed to confirm the charges by a vote of 3 to 3. In order to revoke a certificate, the vote of five of the seven members of the board is required.

MASSACHUSETTS

Bequest for Harvard.—By the will of Dr. John C. Cutler, Varren, Harvard College is made prinicpal beneficiary to an state valued at about $50,000.

Alumni Meeting.—Major General Leonard Wood, U. S. Army, was the guest of honor at the twentieth annual meet- ng and dinner of the Boston City Hospital Alumni Associa- ion. The following are the officers of the association: Dr. Morton Prince, president; Dr. Henry W. Broughton, vice-presi- lent: Dr. William H. Robey, Jr., secretary; and Dr. William I. Prescott, treasurer.

Health Officers.—Dr. Michael J. Shea has been elected chair- nan of the Chicopee Falls board of health.——Dr. Frederick . Ripley has been nominated as a member of the Brockton oard of health to succeed Dr. Joseph H. Lawrence.——Dr. rvin L. Farr has succeeded Dr. Patrick E. Hurley as city hysician of Holyoke.——Dr. Edward F. Johnson has been lected a member of the board of health of Chelsea.

MISSISSIPPI

Society Meetings.—At the annual meeting of Washington ounty Medical Society, held in Greenville, January 8, Dr. . Frank Turner, Leland, was elected president; Dr. Andrew . Payne, Greenville, vice-president; Dr. Marcus O. Shivers, reenville, secretary; Dr. James S. Jackson, Belzona, dele- ate to the state association, and Dr. Owen W. Stone, Green- ille, alternate.

Sanitarium to be Remodeled.—Dr. Julius Crisler has pur- ased the Jackson Sanitarium and announces that he will ect a modern hospital building to cost $15,000 on the orig- al site, using the old structure as a training school for urses and a ward for charity patients. He and his associ- tes are preparing to form an organization to be known as e Jackson Charity Hospital Association, and he promises donate to this organization the free use of eight wards r the indigent who are in need of hospital treatment.

Faculty Named.—The following are announced as the med- al faculty of the medical department of the University of ississippi, which is to begin work in Vicksburg in Septem- r of this year: Dr. Hugh H. Haralson, professor of theory d practice of surgery; Dr. Benson B. Martin, professor of eory and practice of surgery; Dr. Sylvan Meyers, professor therapeutics and clinical medicine; Dr. Sidney W. Johnston, ofessor of clinical and operative surgery; Dr. Ewing F. oward, professor of obstetrics and pediatrics; Dr. John S. wing, assistant in theory and practice of medicine; Dr. mes H. Fox, instructor in dermatology; Dr. Henry F. roles, Jr., assistant in gynecology; Dr. Mace H. Bell, assist- t in diseases of the eye, ear, nose and throat; Dr. John K. Birchett, assistant in obstetrics and pediatrics; Dr. ncent Bonnelli, assistant in therapeutics and clinical medi- ne; and Dr. J. A. Austin, assistant in clinical and operative rgery.

NEW YORK

Hospital Managers Appointed.—The following appointments managers of state hospitals have been made: Dr. Edwin Wolcott, Rochester, Gowanda State Hospital; Joseph meron, Hornell, Willard State Hospital; Alice Larken, New rk, Middletown State Hospital; Dr. John Robinson, ranac, St. Lawrence State Hospital, and Lillie Bowles Wer- r, Rochester, Rochester State Hospital.

State Tuberculosis Hospital.—Senator Schultz has intro- ced a bill for the establishment of a state hospital for the atment of pulmonary tuberculosis, which carries with it appropriation of $150,000 for the purchase of a site, the ction of buildings, etc. The governor is to appoint five stees, two of whom are to be physicians. Preference in commodation is to be given to indigent patients.

Vital Statistics for 1908.—There were 138,448 deaths re- ded in New York during 1908, and, based on the United tes census of an estimated population of 8,546,356, the th rate for the year was 16.2 per 1,000. In 1907 the th rate was 17.5 per 1,000, with 9,449 more deaths. The rage death rate for the last five years was 17.2 per 1,000. e death rate in Greater New York was reduced from 18.5 16.8 per 1,000. Rochester shows a death rate of 14; Buf- o of 15.5; Schenectady of 13.3; Yonkers of 15.3; Troy of 20.1; Rome of 19.4, and Utica of 19 per 1,000. The number of deaths from pulmonary tuberculosis was 14,316, showing an increase. Pneumonia caused 8,602 deaths. The number of deaths from cancer is steadily increasing. The total number of births was 203,159. In New York City the birth rate was 29. There were 20,000 fewer marriages during 1908 than in 1907.

State School of Sanitary Science and Public Health.—Dr. Eugene H. Porter, State Health Commissioner, in his annual report, urges the establishment of a School of Sanitary Science and Public Health at Cornell University for the purpose of training men to serve the state in public office in the protection of public health. Only $10,000 a year has been allowed him for his work against tuberculosis. He states: "The state has spent far more money for the protection of the health of cattle than it has for its citizens. Hundreds of thousands of dollars are spent annually for purposes the importance of which fade into insignificance when compared with such subjects as the prevention of tuberculosis, typhoid fever and blindness." Dr. Porter has mapped out a campaign of education to prevent ophthalmia neonatorum, and his report gives startling figures as to the dangers of ophthalmia neonatorum and the amount of preventable blindness in the state. He believes that universal pasteurization of milk should not be required, unless it can be shown that the method is not only practicable, but harmless in its results. There should be a scientific study of the pasteurization of milk and a better supervision of dairies and the bottling and distribution of milk.

New York City.

Personal.—Dr. Harry W. Lincoln has been appointed gastroenterologist of the Eastern District Hospital and the Samaritan Hospital, Brooklyn.

Public Policy Justifies Sea Burial.—The suit instituted by Dr. Chalmer Prentice against the North German Lloyd Steamship Company, for $250,000, on account of the burial of the body of his wife at sea, has been decided in favor of the steamship company.

Brooklyn Physicians Protest.—The Kings County Medical Society and the Kings County Homeopathic Medical Society have joined in a protest against the action of Commissioner Darlington in removing the assistant sanitary superintendent from the borough of Brooklyn and transferring the records of the local office to Manhattan. They threaten to take court action unless the records are returned.

Alumni Reunion.—The alumni of the College of Physicians and Surgeons in the City of New York will celebrate the fiftieth anniversary of the founding of their association by a dinner at Sherry's March 2. Dr. Samuel W. Lambert will preside. Among the speakers will be President Nicholas Murray Butler, Mr. Seth Low, Dr. Henry A. Christian, Boston, Rev. Dr. Richards, New York City, and Dr. John G. Curtis.

Gas Rebates for Tuberculosis War.—The people of New York have been asked by the Committee for the Prevention of Tuberculosis of the Charity Organization Society to assign their claim to gas rebates to this committee. It is stated that if the $12,000,000 which is to be distributed to the gas consumers were given to the work against tuberculosis the disease could be practically stamped out of the United States.

Mechanicotherapy at Vanderbilt Clinic.—A new department of mechanicotherapy was opened at the Vanderbilt Clinic, of the College of Physicians and Surgeons, February 18. The equipment, consisting of thirty steel machines, was the gift of Mrs. Ray Matshak. Dr. Charles H. Jaeger, chief of the orthopedic division and instructor in orthopedic surgery in the College of Physicians and Surgeons, will have charge of the department.

Blames School System for Deaths.—Dr. Thomas Darlington, Commissioner of Health, states that heart disease among school children is greatly on the increase. Of the defective children in the schools that have been examined, 3,500 had heart disease in some form. During the past two years 1,234 children have died from heart disease and only 131 of these were under 5 years of age. With the beginning of school life the rate increased from 28 at the age of 4 years to 286 at the age of 15.

Money for Charity.—The will of the late Mrs. Margaret Dows leases to the Daisy Fields Home and Hospital for Crippled Children and to the Presbyterian Hospital $5,000 each.——The will of the late Mrs. Franklin B. Lord leaves $5,000 to the Presbyterian Hospital.——The German charity ball, on January 28, netted $11,000. Of this sum the committee has given to the German Hospital and Dispensary $2,000; to

St. Mark's Hospital, $1,300; to St. Francis Hospital, $1,300; to the German Polyclinic, $1,300, and to the West Side German Dispensary, $4,900.

Ambulance Service Discontinued.—Charles B. Grimshaw, superintendent of Roosevelt Hospital, in his annual report, agreed with the trustees with regard to the discontinuance of the public ambulance service. He is of the opinion that the ambulance service of the city, to be efficient, must be conducted as a unit. Roosevelt Hospital will care for patients brought there in other ambulances if there are vacant beds, but ordinarily the free beds are all taken by those who apply in person. The discontinuance of the ambulance service means an annual saving of $3,000 to the hospital.

Library of the Academy of Medicine.—In a letter to its members the New York Academy of Medicine states that the last year has witnessed a marked increase in the use of the library. The reading room was used at all times, and in a few years will be quite inadequate. There has been an increase of 2,532 pamphlets during the year, most of which were donated. There have been 3,212 volumes added to the library, a slight increase over the previous year. The collection of old and rare books contains 15 volumes published before 1500. During the year the Paris theses for the school years 1902-03 and 1907-08 have been added to the library, and it is regretted that there are not also complete sets of the German theses.

PENNSYLVANIA

Officers Elected.—At the February meeting of the Southwark Medical Society, the following officers were elected: President, Dr. Max Staller; vice-president, Dr. Aaron Bray; secretary, Dr. M. B. Cooperman; and treasurer, Dr. M. Blumberg.——At a recent meeting of the West Philadelphia Medical Association the following officers were elected: President, Dr. F. Mortimer Cleaveland; vice-president, Dr. Sherman F. Gilpin; secretary, Dr. George M. Boyd; financial secretary, Dr. Walter M. Miller; and treasurer, Dr. Edmund L. Graf.

Philadelphia

Organization of Psychiatric Society.—The following is the corrected list of the officers elected by the newly-organized Philadelphia Psychiatric Society: President, Dr. Charles W. Burr; vice-presidents, Drs. Albert R. Moulton, and William W. Richardson; secretary and treasurer, Dr. Wilfred W. Hawke; councilors, Drs. William H. Hancker, John K. Mitchell and Francis X. Dercum.

Tuberculosis Exhibit Opened.—The International Tuberculosis Exposition was formally opened in this city on February 15, and has been very largely attended. The exhibition is open from 10 a. m. to 10 p. m., and public lectures are delivered by prominent men at each morning and evening session. The total attendance for the week aggregated 69,124 and the largest attendance was on February 20, when 17,957 persons were in attendance.

Personal.—Dr. Joseph Price is confined to his home suffering with an infected hand.——Dr. S. Lewis Ziegler is seriously ill with facial erysipelas.——Dr. Charles K. Mills, who has been suffering with a severe attack of influenza, is convalescent.——Dr. John V. Shoemaker, who has been criticaly ill at his home as a result of a cerebral hemorrhage, is convalescing.——Dr. S. Weir Mitchell celebrated his seventy-ninth birthday anniversary February 15.——Dr. G. B. Gordon sailed for Europe February 18.——Drs. Joseph M. and Austin O'Malley have resigned as visiting physicians to St. Agnes' Hospital.

To Aid Matriculates.—In view of the fact that many applicants for admission to the Medical Department of the University of Pennsylvania this year will be unable to meet the new requirements, especially in physics, chemistry and zoology, provision has been made to ensure the entrance of those otherwise prepared. Applicants may enter, conditioned in the subjects above named with the understanding that these conditions be worked off. The University Summer School has provided courses, the successful completion of which will ensure admission without condition. The summer school will be in session daily except Saturdays for six weeks, beginning July 6 and ending August 17.

Sanatorium for Consumptive Jews.—Feeling the need for a separate institution for the treatment of indigent Jews suffering from tuberculosis, the Hebrews of the southern section of the city have raised funds and purchased a farm in Delaware county on which it is purposed to erect a sanatorium. The institution is to be known as the Philadelphia Jewish Sanatorium for Consumptives, and will be open for the reception of patients on May 1. The officers are: President, S. C. Krause; vice-presidents, Isaac Leopold and M. J. Speiser treasurer, B. F. Miller; secretary, Dr. Abraham J. Cohen financial secretary, Charles Lipschultz, and directors, S. K Louchheim, Dr. Lazio S. Rubenson, Dr. Max Staller, Milto Merold, Benjamin Finberg and Rabbi Levintahl.

Filtered Water for Whole City.—Philadelphia's oldest wate works at Fairmont, which has been supplying the city wit water for 100 years, was put out of commission, February 1 This great turbine system supplied the city annually wit 8,000,000,000 gallons of water. At the same time the grea main containing filtered water was turned on and all but small section of the city is now supplied with filtered wate By March 1, with the possible exception of two small districts, the whole city will be receiving filtered water. Of th 300,000,000 gallons required for the city's daily consumptio Torresdale will furnish 240,000,000 gallons, Roxborough 22 000,000 and Belmont 40,000,000. For the next three weeks however, the health authorities warn consumers to continu to boil all water used for drinking purposes, as that length time will be required to cleanse the service pipes of the a cumulations of dirt deposited by the raw water.

SOUTH CAROLINA

Antituberculosis League Organized.—Anderson County Antituberculosis League was organized at Anderson January 1 Dr. Wallace H. Nardin was elected president, and Dr. J. Bennett Townsend assistant secretary and treasurer.

Societies.—At the annual meeting of the Fourth Distri Medical Society, held in Seneca, January 25, Dr. Edgar Hines, Seneca, was elected president; Dr. William A. Tripp Easley, vice-president, and Dr. Ernest W. Carpenter, Gree ville, secretary-treasurer. Easley was selected as next pla of meeting.——At the January meeting of Lexington Count Medical Society, held in Lexington, Dr. Drayton M. Crosso Leesville, was elected delegate to the state medical associ tion, and Drs. Luther B. Ethredge, Leesville, John R. Lan ford, Swansea, and Joseph W. Earle, Spring Hill, were a pointed members of the executive committee. A resolutio was adopted requesting the Lexington delegation in the ge eral assembly to use its best efforts to have a law passed pr hibiting indiscriminate expectoration on the floors and wal of railway passenger cars, public halls and sidewalks.—— Chester County Medical Society, at its annual meeting he in Chester, January 4, elected Dr. James G. Johnson, Chest president; Dr. David A. Coleman, Blackstock, vice-presiden Dr. William B. Cox, Chester, secretary-treasurer, and Dr Calvin B. McKeown, Fort Lawn, Harvey E. McConnell, Che ter, and Robert L. Douglass, Rodman, censors.——Spartan burg County Medical Society, at its annual meeting held Spartanburg, elected the following officers: Dr. S. T. D. La caster, Pauline, president; Dr. Albernon R. Fike, Spartanbur vice-president; Dr. L. Rosa Gantt, Spartanburg, secretar Dr. William J. Chapman, Inman, treasurer, and Drs. Julian Allen, Spartanburg, G. F. Williams and Fred L. Potts, Sparta burg, delegates to the state society.——Florence County Me ical Society has elected the following officers: President, Frank H. McLeod, Florence; vice-president, Dr. Lawrence King, Florence; secretary-treasurer, Dr. John H. Peele, Ca tersville; censors, Drs. Lawrence Y. King, Dudley H. Smi and N. W. Hicks, all of Florence, and delegate to the sta society, Dr. John G. McMaster, Florence.——At the annu meeting of Orangeburg-Calhoun Counties Medical Associati Dr. W. L. Pou, St. Matthew's, was elected president; Manly J. D. Dantzler, Elloree, vice-president; Dr. Donald Salley, Orangeburg, secretary; Dr. William B. Lowma Orangeburg, treasurer, and Dr. Michael G. Salley, Orangebu censor.——Horry County Medical Society, at its annual me ing, elected Dr. Allard D. Lewis, Green Sea, president; John K. Stalvey, Buckford, vice-president, and Dr. Joseph Dusenbury, Conway, secretary.——At the annual meeting Columbia Medical Society, the following officers were elect Dr. Lewis A. Griffith, president; Dr. Francis A. Coward, vi president; Dr. Mary R. Baker, secretary-treasurer; Drs. W iam Weston and William A. Boyd, delegates to the state m ical association, and Dr. Samuel E. Harmon, censor.

VIRGINIA

Society Meeting.—The Richmond Medical Society, compo of colored practitioners, has elected the following office President, Dr. J. Alexander Lewis; vice-president, Dr. J. Carper; secretary, Dr. Oswald B. H. Bowser; and treasu Dr. Robert E. Jones.

Epileptic Colony.—The General Board of Directors of St Hospitals has appointed a committee of three to exami select and report a suitable location for the proposed state epileptic colony, and to take options on any suitable lands in Amherst county, and to do other acts which may tend to urther the immediate establishment of the colony.

WISCONSIN

Opposes Free Advertising.—The Manitowoc County Medcal Society has adopted resolutions declaring the advertising of physicians through the mention of names in newspaper accounts of illnesses, accidents, etc., obnoxious and unprofesional.

Appropriations Asked for Charities.—The board of control as reported to Governor Davidson that $691,700 would be reuired to put the charitable and penal institutions of the tate in the best condition. Among the appropriations asked or are $36,000 for the State Hospital at Mendota, $111,500 or the Northern Hospital, Oshkosh, $62,000 for the Tuberulosis Sanatorium, Wales, and $50,000 for buildings for segegation at the sanatorium. Of the amount requested by he Oshkosh State Hospital, $60,000 is to be devoted to the onstruction of a building for the criminal insane.

Deaths in Wisconsin.—During 1908, 26,778 deaths were reorted to the state health department, equivalent to a death ate of 11.5 per 1,000 of population. The most important ause of death in point of actual numbers was pulmonary uberculosis, which caused 2,411 deaths, practically all of which ere in individuals from 18 to 45 years of age. Other imortant death causes were pneumonia, 2,333; violence, 1,438; ancer, 1,221; enteritis of infants, 974; meningitis, 625; inuenza, 392; diphtheria, 386; typhoid fever, 332; scarlet ever, 126; whooping cough, 124; and measles, 70. Of the eaths from violence, 263 were due to suicide, and 21 to omicide.

Society Meetings.—At the annual meeting of the Fox River alley Medical Society, held in Green Bay, January 19, the ollowing officers were elected: Dr. Bernard C. Gudden, Oshosh, president; Drs. Norman P. Mills, Appleton, and Sheran E. Wright, Marinette, vice-presidents; Dr. Robert A. alker, Menominee, Mich., secretary-treasurer (re-elected), nd Dr. William G. Nickolson, Green Bay, censor.——At the nnual meeting of the Milwaukee Physicians' Association, anuary 19, the following officers were elected: President, Dr. rthur R. F. Grob; vice-president, Dr. E. Wells Kellogg; easurer, Dr. Henry J. Gramling; secretary, Dr. A. A. Cooper; nd censors, Drs. Peter Langland, Henry C. Werner and Fred . Biehl.

WYOMING

Personal.—Dr. James J. Monahan, Encampment, has gone Europe for graduate study.——Dr. Gaten A. Fox, Cheyenne, as been appointed local surgeon of the Union Pacific system.

Society Meetings.—At the annual meeting of Fremont ounty Medical Society, held in Lander, January 1, the folwing officers were re-elected: President, Dr. Thomas G. aghee, Lander; vice-president, Dr. Albert B. Tonkin, Rivton; and secretary-treasurer, Dr. Neil D. Nelson, Shoshone, rs. Arthur H. Cooper and T. W. Martin, Lander, and Fredick H. Sparrenberger, Fort Washakie, were elected censors. —At the meeting of the Albany County Medical Society, ld in Laramie February 5, the new constitution and by-laws ere adopted and the society by resolution condemned the ention in the lay press of the names of attending physians in connection with news items regarding injuries, accints, etc.——At the annual meeting of the Crook County edical Society, held in Sun Dance, Dr. Robert C. Knode, n Dance, was elected president; Dr. Paul W. Newcomer, llette, vice-president; Dr. Elizabeth Newcomer, secretary; d Dr. John L. Bostwick, Hulett, treasurer.

CANADA

Personal.—Dr. C. H. Godin, Ottawa, superintendent of the arine-Hospital service of Canada, is making his annual inection tour of Vancouver and Victoria, B. C.——Dr. Charles Page, formerly of Kingsville, Ont., has returned from Edburgh, and commenced practice in Toronto.——Dr. Frank emer, Hamilton, for twenty years a member of the staff the Ontario Hospital for the Insane, has resigned.——Dr. ilbert McIntyre, M.P., Strathcona, Alberta, is to be deputyeaker of the House of Commons, Ottawa.—Dr. William A. ung, managing editor of the *Canadian Journal of Medicine d Surgery*, has returned to Toronto completely recovered m his recent severe illness.

Hospital News.—The eleventh annual meeting of the Board Trustees of the National Sanitarium Association, was held Toronto January 10. Dr. W. B. Kendall, physician-in-chief of the two sanatoria in Muskoka, reported that in the Muskoka Cottage Sanatorium 220 patients had been cared for in the past hospital year, and 1,696 had been cared for in the institution since it was first opened eleven years ago. In the Free Hospital at Muskoka, 258 patients had been cared for. In the two institutions nearly 3,000 patients had been cared for during the last decade. Dr. Alfred H. Caulfield, the new director of the pathologic department, told of the complete arrangements made for research work at these institutions within the past three months, the expenses in connection with which were to be borne by a Toronto citizen. An ex-patient has donated $1,500 for the equipment of the laboratory; and another has agreed to donate $1,500 toward the annual salary of the pathologist. The Toronto Free Hospital for Consumptives has appointed a special visiting nurse to work among the tubercular poor of Toronto. The annual report of the Protestant Hospital for the Insane, Verdun, Que., shows that on Jan. 1, 1908, there were 535 patients, inclusive of 2 out on trial, in the institution; and that during the year 197 were admitted, making a total under treatment of 732. The patients discharged during the year numbered 109, 36 died and one escaped, leaving in residence at the close of the year 582 patients, exclusive of 4 out on trial. This is the largest number under treatment since the institution was opened. The most important contributing cause was the inferior class of immigrants brought to Canada. Seven per cent. of the patients in residence never should have been admitted. Nearly 39 per cent. of the inmates are of foreign birth. Of the patients admitted during the year, 79 were private and 118 public cases. No less than 12½ per cent. of the patients were epileptics; and it was to be deplored that the Province of Quebec had no separate institution for these patients. Of the 109 who left the institution, 63 were discharged as recovered, 32 improved and 14 unimproved. The percentage of discharges based on admissions was 55.3, and the recoveries 33.2. The mortality rate was only 4.91 based on the total number treated, the lowest except in 1892 and 1906.

GENERAL

College Association Meeting.—The nineteenth annual meeting of the Association of American Medical Colleges will be held in the Academy of Medicine, New York City, March 15 and 16, under the presidency of Dr. Eli H. Long, Buffalo, N. Y. The Manhattan Hotel has been chosen for headquarters, and the chairman of the local committee on arrangements is Dr. Egbert LeFevre, 52 W. Fifty-sixth street.

Alleged Automobile Insurance.—A short, stout individual, about forty-eight years of age, a good talker, who gives the name of Ed. S. Raynor, and claims to be manager and treasurer of the Automobile Underwriters, with headquarters in Massillon, Ohio, is reported to be selling policies providing against accidents to automobiles and automobilists and thefts of automobiles. In conjunction with this, he is said to appoint one physician in each town as surgeon of the company to take care of any policy holder who may become injured, the company paying for such care at the rate of $2.50 per visit, and also paying such appointee an annual retaining fee of $200. The policy is said to cost from $25 up, according to the value of the car. Inquiry made by Dr. Henry M. Osborne, Youngstown, through the First National Bank of Massillon, brought the reply that no such company was known in that city, and that the chief of police had received inquiries about the company, but could find no such firm nor any person named Ed. S. Raynor.

FOREIGN

Danish Medical Association Asks Adequate Accommodations for Insane.—The two houses of parliament in Denmark recently had a communication read to each by a medical member setting forth the utter inadequacy of the present accommodations for the insane in Denmark and the urgent need for enlargement of existing institutions or erection of new. The petition is signed by all the members of the national medical association, each with his official titles. Copies of the petition were also presented at the same time to the minister of justice and the executive authorities at Copenhagen. The petition states among other things that it is as inhuman to deprive an insane person of the treatment and care on which his recovery and life may depend as it would be to turn away from the hospital a person requiring an emergency operation.

London X-Ray Convention.—This convention, with an exhibition of Roentgen and electro-medical apparatus, will be held in London, England, July 6-9, 1909. All branches of medical electricity will be represented. The inaugural meetings, the general meetings, the demonstrations and the exhibition will be held at the University of London, University College, Gower street, W. C. The exhibition will include all classes of electrical and physical apparatus for medical treatment. Delegates will be present from America and Europe, and representatives of the various foreign governments will be invited to take part in a discussion as to the best means of providing apparatus and training for the army and navy. The papers and debates will be in English. Papers in French and German will be accepted, provided summaries of such papers are sent in English. All papers will be reported either "in extenso" or in abstract in the Archives of the Roentgen Ray. All communications should be addressed to Ernest Schofield, Organizing Secretary of the X-Ray Convention, 11, Chandos Street, Cavendish Square, London, W.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 13, 1909.

Another Victim of the X-Rays

The sad case of Mr. Hall Edwards, the pioneer worker with the *x*-rays in medicine in Great Britain, who has lost both his hands, has been previously described in The Journal. A similar misfortune has befallen Mr. Cox, one of the leading manufacturers of *x*-ray apparatus in London. The greater part of his right hand, including three fingers, has had to be removed, but the thumb and little finger have been saved. Some years ago he lost one of the fingers of the left hand and another operation is to be performed on it. He also has some dermatitis on the chin. As in the case of Mr. Hall Edwards, these results are due to the lack of knowledge of the dangers of the *x*-ray work which existed in the earlier years of their application to medicine.

Third Interim Report of the Royal Commission on Tuberculosis

The Royal Commission, appointed in 1901 to inquire into the relation between human and bovine tuberculosis, after the startling pronouncement of Koch at the International Congress on Tuberculosis held in London in the previous year that these diseases are distinct, still continues its labors. The commission originally consisted of Sir Michael Foster and Professors Sims Woodhead, Martin, McFadyean and Boyce. Sir Michael Foster died while the work was in progress. The earlier reports of the commission published in 1904 and in 1907 have been noticed in previous letters to The Journal. They were in direct contradiction to Koch's views. It was found that bovine tuberculosis is communicable to man and that a considerable amount of tuberculosis, especially in children, is due to milk containing the tubercle bacilli. The present report brings some new and important facts to light. The danger of milk yielded by tuberculous udders is well recognized, but the report shows that the milk of cows suffering from visceral tuberculosis in a large proportion of cases contains virulent tubercle bacilli, although the udders may be perfectly healthy. The report deals with 6 cows, of which 3 showed obvious signs of tuberculosis, such as cough and emaciation, while the other three were apparently healthy and tuberculosis was revealed only by the tuberculin test. The milk of the three cows which were obviously diseased caused, though not invariably, tuberculosis in guinea-pigs which were inoculated with small doses. The milk of those in which the disease was revealed only by the tuberculin test did not produce tuberculosis in guinea-pigs. Swine fed with the milk of these cows became tuberculous. This is important, because it is a common practice to feed pigs with the milk of sickly cows, which is not considered good enough for human consumption. The danger of this practice is obvious, as the pigs are eventually used as food for man. The feces of 5 out of 6 of these cows were found to contain virulent tubercle bacilli. This is another source of infection, for in practically all but the best-regulated model farms the cleaning of the udders and quarters of milch cows is confined, if attempted at all, to a perfunctory scrub with a wisp of dry hay. The amount of fecal matter that habitually finds its way into milk would surprise and sicken most persons. The result of these experiments will be an impetus to the movement which has been in progress some time for obtaining a better milk supply and for greater cleanliness. The commissioners again repeat their previous statement, in contradiction to Koch, that milk of tuberculous cows is dangerous to man.

Sir Patrick Manson: The Steps of a Great Discovery

Though Sir Patrick Manson's discovery of the mosquito origin of filariasis and his extension of this fact as a hypothesis to the origin of malaria are famous, the steps by which he was led to these epoch-making discoveries are not generally known. Speaking at a dinner at which he was entertained by the Society of Authors, he told the story of these discoveries which proved some of the most beautiful examples of deduction ever made in medicine. An earlier worker on tropical diseases, Timothy Lewis, discovered the *Filaria sanguinis hominis* in the blood in elephantiasis. As it wriggles about in a loose sheath and shows no evidence of growth nor power of reproduction, Manson concluded that it must be the young of some other animal. This he found to be the adult filaria which lies in the lymphatics. Between the mature animal and its progeny no intermediate forms could be discovered. The question then arose, how does the young parasite contrive to pass from man to man? Although it actively moves about in its sac, it cannot escape from this, and it has never been found in any of the normal excretions. As it could not escape spontaneously from the body, it occurred to Manson that there must intervene some agent capable of piercing the skin, and that this agent must absorb the blood of the human body, and with it the parasite. The agent which satisfied these conditions was the mosquito. Then Manson made his striking discovery as to the habits of the parasite which tended to confirm his hypothesis. He determined to examine the blood of 1,000 Chinese in order to find the frequency with which the parasite occurred in human blood. The task was so great that he trained two Chinese medical students to help him. They were occupied in hospital duties, one during the day and the other during the night. The one who had leisure to work during the night brought a large number of positive results, but the one who worked during the day seldom brought any. This fact led Manson to investigate the habits of the filaria and he found that in ordinary conditions of health filariæ came into the blood about sunset, increased in numbers toward midnight, and gradually disappeared toward morning. This periodicity seemed to be an adaptation to the nocturnal habit of the mosquito. Then Manson persuaded a Chinaman to sleep in a bed surrounded with a mosquito netting with a door which was closed after plenty of mosquitoes had entered. Next morning he found dozens of mosquitoes gorged with blood clinging to the walls of the tent. In their stomachs he found filariæ, which, instead of being killed, seemed to be stimulated to fresh activity and had broken through their sacs. The problem then arose, how does the filaria reach the human body? Manson traced it through the stomach wall of the mosquito, into the abdominal cavity, and then into the thoracic muscles, and ascertained that during its passage it increased enormously from the one-hundredth to the one-sixteenth of an inch. He conjectured, but wrongly, that it might escape into water and by that road reach the human body. Later, in England, with better appliances he traced it to the proboscis of the mosquito, where he saw it outstretched, evidently waiting for an opportunity to escape. By analogous reasoning Manson was led to the mosquito hypothesis of malaria.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 9, 1909.

Miller's "Consumption Cure" in Paris

The Journal has sent me[1] a clipping from the *Chicago E aminer* of January 24 regarding O. E. Miller and his "co sumption cure." In the Chicago newspaper I read:

> "For the last week the sensation of medical Paris has been new cure for tuberculosis which is being demonstrated at one the municipal hospitals, where five deathbed cases of paupers an advanced stage of consumption were selected by physician After permission had been given by the municipal board of chari they were turned over to the experimenter, a man who is neith a doctor nor a scientist, and he came to Paris only a few wee ago virtually unknown. While his cure is a secret which he fuses to disclose, in spite of all these handicaps, he has convin leading physicians that he has a marvelous cure for consumpti and that after only three weeks' treatment the five paupers are the way to health."

The famous "cure" of O. E. Miller is the one referred (See The Journal, Dec. 12, 1908, p. 2071; Jan. 16, 1909, 226). So far from having made any sensation in Paris or a impression on the medical world here, it was only with gre effort and by the employment of the energy and ingenuity a newspaper reporter that I finally succeeded in discovering t hospital where experiments with the "treatment" had be made. I was informed that the authorization to try this trea ment had been granted, not to Miller, but to Dr. Hirtz, physician at Necker hospital. The administration of the Public Charities merely conformed to the rule of the hygienic service of the hospitals forbidding the heads of the said service, without express authorization from the administration, to allow any treatment to be experimentally tried on their patients, either by an outside physician or by the possessor of a secret remedy. My official informant declared skeptically that a week never passed in which the administration did not receive a request for permission to try some new "treatment" for tuberculosis, and that usually there was some "institute" behind the request.

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[1] Editor's Note:—We asked our Paris correspondent to investigate this sensational newspaper report.

Dr. Hirtz told me that Miller had been recommended to him by a surgeon of the hospitals, who personally guaranteed Miller's honorable character. He (Dr. Hirtz) was much surprised to learn from me of Miller's checkered career and of THE JOURNAL'S investigation. As for the five poor patients said by the correspondent of the *Chicago Examiner* to be on he road to recovery, the fact is that two of them are dead nd the other three have left the Necker hospital and are herefore no longer under the control of Dr. Hirtz.

The correspondent of the *Chicago Examiner* writes that "it s probable that Miller's discovery will be taken before the French Academy of Medicine." I can affirm that this dream ill never be realized. The Academy of Medicine has received warning, apropos of recent communications on the subject f alleged cures of cancer, from the *Journal des praticiens*, dited by Dr. Huchard. Its last number declares that, in ielding attention to such unsubstantiated assertions, the Academy of Medicine would soon become a medium for the adver- sing of blatant fraud. The Academy is not an adjunct to he advertising pages of the newspapers or to the billboards.

dmissibility to the Agrégation and the Provincial Schools of Medicine

Besides the seven *facultés* or medical colleges there are in rance a number of medical schools, called "preparatory hools" or *de plein exercise.* A delegation of the professors these schools recently complained to the minister of public struction and to the premier in regard to the new regula- ons concerning the candidates for the teaching positions. hey presented, in the name of a large number of their col- agues, a resolution for the re-establishment of the former ethod of recruiting the teaching force of the schools, independ- t of the *concours de l'agrégation.* The minister of public struction received the protest with the greatest attention, d the premier, M. Clemenceau, who, as a former pupil of e of the medical schools, takes an especial interest in them, clared himself ready to support the demands of the pro- ssors of the schools.

Accident to Professor Estor

Dr. Estor, clinical professor of surgery and orthopedics for ildren at Montpellier, was performing an operation recently en he pricked himself on the forearm with a bistoury. He ached no importance to the accident, but a few hours later felt a sharp pain, and, shortly afterward, a phlegmon de- oped. Since then Dr. Estor's condition has caused grave xiety.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 5, 1909.

Orth on the Origin of Cancer

At the last meeting of the Prussian Academy of Sciences, leading scientific association, Professor Orth delivered an dress on this subject, in which he stated that nothing to e sustains the assumption of a parasitic origin for cancer, hough such may yet be proved. At present there is no logy for such a kind of parasitism. These conclusions of great pathologist will not be agreeable to those who have lished discoveries of cancer parasites and have clung to ir discovery with such tenacity. At the same time, it st not be forgotten that chance may yet reveal what sys- atic research has overlooked, like the discovery of the e spirochete of syphilis by Schaudinn.

flict Between the Physicians and the Sick Benefit Societies at Cologne

he contract between the organized physicians and the *nkenkassen* at Cologne having expired February 1, the so- ies refused to renew it on the same conditions, and the sicians have decided to refrain from attending the policy- ders, even individually and for pay, except in emergency cases, until the matter is satisfactorily settled. The companies have secured seventy-two physicians, who have accepted their terms. Most of these physicians have a record as "strike breakers," and some are already under the ban of the medical tribunals of honor.

Consumptive Colony in German Southwest Africa

Some time ago a Berlin physician without any personal experience in the matter suggested the German possessions in Southwest Africa as offering peculiarly favorable climatic conditions for consumptives and zealously advocated the plan of sending out a colony. An influential committee was organized and funds collected, but the project has finally been abandoned, as the committee was unable to obtain testimony as to the climate being adapted for patients with pulmonary tuberculosis, while the expense is a great obstacle. The money collected is to be applied for the benefit of resident consumptives in this part of Africa. This experience ought to warn others not to launch enterprises for the public welfare without due consideration and information. It should also teach the lesson that physicians should not allow themselves to be taken in tow by every well-meant suggestion that comes along and waste their efforts in the service of Utopian schemes.

The Chair of Physiology

By the decision of the minister of finance the hygienic institute is to be transformed into an institute of physiology, and Rubner confirmed as professor of physiology. It is now certainly to be expected that Flügge of Breslau will be selected as the successor of Rubner.

Carnegie's Honorary Membership in the Robert Koch Foundation

The directors of the Robert Koch Foundation against Tuberculosis have unanimously elected Andrew Carnegie to membership in recognition of his generous subscription of half a million marks. It is to be hoped that his permanent interest in the undertaking may be thus assured.

A Judicial Decision Respecting Eddyism

Christian Science, imported from your country, has secured a considerable extension among us, although in late years it has receded somewhat. Our age is rich in contrasts. In spite of the greatest enlightenment in the field of religion, mysticism flourishes to-day more than ever, and to this latter circumstance is owing the introduction and spread of Eddyism in Germany. In spite of repeated exposures by the press, the representatives of this form of quackery still find believers who seek the help of God for the removal of disease in return for money payments to his unworthy representatives. Lately a Berlin court has expressed itself in no ambiguous terms regarding Eddyism, and the decision which shows an unusually accurate conception of the matter, even for a judge, should be widely known. A laborer of this city whose wife and child had been treated unsuccessfully by a prayer healer sued for the repayment of 60 marks which he had paid for the treatment. Although the lower court dismissed the suit, the higher decided that the prayer healer must repay the 60 marks with interest. In the decision it was emphasized that the contract which the complainant had made with the prayer healer was against good morals. It would be completely incompatible with healthy social conditions if judicial recognition should be given to contracts by which one party, for a stipulated sum, should make use of his pretended intimate relations with the deity in order to induce a pretended intervention of supernatural power in the life of other persons. The belief that there is some power of special divine grace for healing the sick may exist in certain circles. But laying claim to such a healing power in connection with the exercise of a trade for making money based on such healing power is contrary to the general moral sentiment and can not demand the protection of the courts. Moreover, the public interest in a regular system for the care of health is endangered if, by the influence of Eddyism, patients are deprived of suitable and timely treatment by physicians who should be the chosen guardians of the public health. Aside from the fact that by this decision the attention of the public is called in a highly satisfactory manner to the physician as the true helper in case of sickness, many Eddyite adherents may find themselves obliged to give up their business. For if their patients can demand their money back and enforce the demand by law, they will hesitate to spend their time and apply the power of their prayers at such risks. In the interests of the public health it would be very gratifying if the decision quoted should have so favorable a result.

Pharmacology

COUNCIL ON PHARMACY AND CHEMISTRY

Announcement of Election of Members and Acknowledgment of Cooperation

New Member.—At the recent meeting of the Board of Trustees of the American Medical Association, Dr. L. F. Kebler, chief of the Drug Laboratory, Department of Agriculture, and Dr. C. S. N. Hallberg, professor of pharmacy in the University of Illinois School of Pharmacy, were re-elected members of the Council on Pharmacy and Chemistry. Dr. John Howland, instructor in contagious diseases, College of Physicians and Surgeons of Columbia University, was elected to take the place of Prof. J. O. Schlotterbeck of the University of Michigan, who declined renomination.

Acknowledgment of Cooperation.—The Council on Pharmacy and Chemistry and the Board of Trustees have adopted a vote of thanks to the following for their cooperation and assistance in investigating products, and for special research work done at the request of the Council:

DANIEL BASE, PH.D., professor of chemistry and vegetable histology, Department of Pharmacy, University of Maryland.

WILLIAM B. DAY, PH.G., professor of pharmacognosy, University of Illinois School of Pharmacy.

G. B. FRANKFORTER, PH.D., M.A., dean of the school of chemistry, professor of chemistry, University of Minnesota.

N. McL. HARRIS, M.B., assistant professor of bacteriology, University of Chicago.

P. G. HEINEMANN, PH.D., assistant in bacteriology, University of Chicago.

WILLIAM A. JOHNSON, PH.C., instructor in chemistry, Northwestern University Medical School.

E. O. JORDAN, PH.D., professor of bacteriology, University of Chicago.

EDWARD KREMERS, PH.G., PH.D., professor of pharmaceutical chemistry, director of the course in pharmacy, University of Wisconsin.

HENRY KRAEMER, PH.B., PH.D., professor of botany and pharmacognosy, Philadelphia College of Pharmacy.

CHARLES H. LAWALL, PH.M., associate professor of theory and practice of pharmacy, Philadelphia College of Pharmacy.

S. A. MATTHEWS, M.D., assistant professor of experimental therapeutics, University of Chicago.

HERBERT N. MCCOY, PH.D., associate professor of physical chemistry, University of Chicago.

W. J. MACNEAL, assistant professor of bacteriology; assistant chief in Research Laboratory of Physiological Chemistry, University of Illinois.

CHARLES H. MILLER, PH.G., M.D., assistant professor of pharmacology, Northwestern University Medical School.

ATHERTON SEIDELL, M.D., Hygienic Laboratory, Public Health and Marine-Hospital Service, Washington, D. C.

A. L. WINTON, M.D., chief of Chicago Laboratory, U. S. Department of Agriculture, Bureau of Chemistry, Chicago.

"MITCHELLA COMPOUND"

A Nostrum for "Women Who Dread Motherhood"

In the pages of those publications whose advertising ethics permits them to give publicity to fake cancer cures, to deaf-cure quacks or any other of the unsavory brood which Mr. Adams exposed in the "Great American Fraud" series, the advertisement of "Dr." J. H. Dye's "Medical Institute" may be found. Dye is one of the tribe that makes capital out of the fears of the expectant mother. After drawing lurid pictures of the "untold pains" to which the young mother may be a martyr, relief is promised if the sufferer will but use Dye's "Mitchella Compound." The value of "Dr." Dye's nostrum is testified to by a hypothetical Mrs. Dare, who relates how after losing her first child she had a vision. A "white-robed angel" appeared, who delivered a flowery speech, concluding with the following peroration:

> "Go, sister, and seek freedom and peace in the use of *Mitchella Compound* and in following the teachings of that book."

The book referred to by the "white-robed angel" is a brochure put out by "Dr." Dye and sold for the nominal price of $2. The title is "Painless Childbirth," and needless to say, the author does not neglect to extol the use of Mitchella Compound.

"Dr." Dye's Mitchella Compound "speedily cures all derangements and irregularities of the menstrual function, congestion, inflammation, ulceration and displacement of the womb . . ." and other things too numerous to mention. This "heartease for weary women," we are told, "is composed of the purest and most carefully selected herbs whic can be obtained." Possibly! But if after a period of drough one went to the woods and raked up a double handful o dried leaves, pieces of bark and any other débris that happened to be handy, the average man would find it difficul to distinguish between such rakings and "Dr." Dye's Mitchell Compound at $1 a package.

A sample of Mitchella Compound was examined botanicall for us by Prof. William Baker Day of the University of Illinois. Professor Day reports as follows:

BOTANIC EXAMINATION

"I have examined botanically a sample of 'Mitchella Compound.' The sample consists apparently of a mixture o vegetable material, chiefly fragments of leaves, roots an bark, among which I have been able to identify the following

"*Mitchella repens*—herb—commonly known as Partridge berry or Squaw-vine.

"*Chamælirium luteum*—rhizome and roots—(*Helonia dioica*), commonly known as Starwort or False Unicorn Roo

"*Cornus Florida*—bark of the root—commonly known a Flowering Dogwood.

"*Cypripedium pubescens* or *Cypripedium parviflorum*, commonly known as Ladies' Slipper."

None of these drugs is new; all have been used at one tim or another as medicinal agents, but, with the exception o ladies' slipper, have long been practically discarded as useless. Ladies' slipper, while officially recognized, is so littl esteemed as a remedy that few text-books even mention i Mitchella Compound is, in short, but one more of the innumerable cure-alls on the market in which discarded, unrecognized or useless drugs are pressed into service and investe with miraculous virtues. What shall be said of men wh prey on pregnant women? Who create in the mind of th expectant mother the fear of untold agonies and then off immunity to these suppositious tortures at the price of the worthless nostrums? Who, with the help of such publications as will accept their lying advertisements, do more t encourage abortion than even the professional abortionis themselves. There seems to be but one remedy: Speed th time when in their acceptance of advertising those publishe who fail to recognize decency as a moral obligation may b forced by public opinion to recognize its value as a busine proposition.

Correspondence

The Optometrist and the School Child

To the Editor:—In THE JOURNAL, Jan. 30, 1909, page 4 comment is made on the Vermont optometry bill, in whi optometry is defined as "the employment of any means oth than the use of drugs for the treatment of the powers vision and the adaptation of lenses for the aid thereof." notes Vermont as the eleventh state recognizing and licensi optometry.

This involves a vital question and one phase of it is n yet grasped by the profession. Medical inspection of scho with examination of individual pupils is developing at a ra rate and soon most school children will be examined w more or less regularly each year. All ophthalmologists rec nize that it is impossible to make a satisfactory and sci tific test of the refraction of a child without using a m driatic, usually atropin. This, of course, ought to prevent t optometrists and opticians from prescribing lenses for c dren, but in actual practice this is not the case. As Gul and Ayres show in their new book, "Medical Inspection Schools," the physicians doing the work of school inspect are meagerly paid; hence usually young men with little perience are doing this most important work. Naturally a class, not being especially trained in eye work, these m do not understand the necessity for the use of atropin in fraction and the importance of having this necessity sta on the notice which is sent to parents. The section on O thalmology of the American Medical Association ought take this matter in hand. In the above-mentioned book use of atropin is not touched on.

The practice of school inspection in most cities is that the child is referred to the family physician for advice as to the defects found, which includes eye conditions. From 30 to 40 per cent. of all children have errors of refraction. The result is that often the parents take the child directly to an optician or possibly do so with the approval of the family physician, for many of the profession as yet do not realize the need of atropin. I know of one optician who advertises that he is especially well prepared to care for children's eyes. Only one city that I know of has attempted to combat this evil; this is Philadelphia, where the reference notice advises that the child be taken for examination to a "competent oculist (not ptician)."

Would it not be a good plan for the Section on Ophthalmology to adopt resolutions covering this matter, to be transmitted to all county medical societies, and by them brought o the attention of educational and health authorities who have this matter in hand? School inspection as usually practiced at present is playing directly into the hands of the ptometrist and the child suffers. As to expense, the use of tropin in the original examination would lessen much the ecessity for frequent re-examinations and expensive changes f lenses. The notice sent to parents as to eye troubles hould state positively that a proper examination can only e made with the use of drops, *i. e.*, atropin, and that this an be done only by a physician as distinguished from an eye doctor." This latter term is used in some notices sent o parents. The average refracting optician loves to have he public consider him as an "eye doctor," and, in fact, he ften is.

Medical literature to-day is full of articles on glaucoma, ns extraction, etc.; but of the much more common everyay work of refraction and especially of the necessity for the se of atropin in childhood, practically nothing is said. When e surgeons a few years ago found that operation was the roper treatment for appendicitis they talked and wrote us eaf, dumb and blind on the subject, but they accomplished eir object. Both the profession and the public to-day ecognize surgery as the proper treatment for appendicitis. it not time that the ophthalmologist begin a similar camign of education as to the absolute necessity for the use of ropin in determining the refraction of the eyes of school ildren? Is it not our own fault that so many people beve in the work of opticians and have enabled them to secure ws by which they practically are given the legal right to actice one branch of medicine?

In the work of school inspection, reports as to efficiency or tardation of pupils should be arranged to divide those pupils ving eye defects into two classes. One group would be ose who have had the refraction measured with the help atropin and are wearing the lenses prescribed after such amination, and the other group those who have had the raction tested without a mydriatic. Such comparisons uld probably be most interesting.

I should like to hear the opinions of others, and especially ophthalmologists who either through school work or otherse, are coming into contact with this question.

Frederick J. Mann, M.D., Poughkeepsie, N. Y.
sistant Surgeon, Manhattan Eye and Ear Hospital, New York City.

Prophylactic Effect of Antitoxin on the Child in Utero

To the Editor:—The case of "Prophylactic Effect of Antiin on the Child *in Utero*," reported by Dr. David R. Rann in The Journal, Feb. 13, 1909, page 556, does not prove t the child received its immunity *in utero*, inasmuch as the ld was nursed by its mother while she yet suffered from diphtheria. My meaning is illustrated by the following es:

Mrs. A. and Mrs. B. were both nursing young babes. Both nen became infected with diphtheria, having fairly severe es. I administered antitoxin to both mothers, and allowed babies to nurse as usual, taking no precautions, except to tion the mothers not to kiss the babies or to cough near m, etc. In neither case did the infant become infected. My conclusions were, that the babies received immunity through the mothers' milk, probably partly by means of antitoxin administered to the mothers and partly through the antibodies, which without doubt could find their way into the lacteal secretion. I have had no opportunity to study the matter beyond the two cases cited, but I have no doubt others have had similar experiences.

Irvin Hardy, M.D., F.S.Sc.Lond.
180 Alfred Street, Kingston, Ont.

To the Editor:—In connection with the report by Dr. Ransom, the following may be of interest:

J. C., male, colored, contracted smallpox, the characteristic eruption appearing Dec. 31, 1908, three days after the onset of the usual initial symptoms. His family consisted of a 3-year-old son and the wife, who was pregnant at term. The wife and child were at once successfully vaccinated and did not contract smallpox. The woman was delivered Jan. 11, 1909, eleven days after the appearance of the eruption in the husband, who, at this time still had a few crusts. The parents refused to have the baby vaccinated, but it did not contract the disease, although no precautions were taken to prevent contact with the father; the entire family lived principally in one room.

There can be no doubt about the identity of the disease, as the symptoms and eruption were typical, and other cases have developed here, which, though mild, are unquestionably smallpox.

It seems possible that the child may have been protected by the vaccination of the mother, *i. e.*, it may have acquired vaccinia *in utero* in the way that variola is sometimes thus acquired.
C. S. Neer, M.D., Vinita, Okla.

Immunity Against Tuberculosis in General Paresis

To the Editor:—In The Journal, Feb. 13, 1909, Dr. A. J. Rosanoff, in his article on "Immunity Against Tuberculosis in General Paresis," endeavors to establish the fact that syphilis, the great causative factor in general paresis, establishes an immunity against tuberculosis.

I do not think that this can be substantiated by the facts; the immunity apparent from his statistics is in my opinion undoubtedly due to the antisyphilitic treatment to which, in the past, these patients have been subjected.

Many good authorities now think that general paresis is more directly due to the use of overdoses of mercury rather than to syphilis itself, which is a further argument for the drug origin of the immunity which Dr. Rosanoff would ascribe to syphilis. He asks: "How would the course of a case of tuberculosis be affected by a superadded syphilitic infection?"

From my own experience I answer: most disastrously, unless the patient be given antisyphilitic treatment (mercury) in which cases many cures have been reported in this country and abroad.
B. L. Wright, Surgeon U. S. Navy.

Book Notices

A Study of the Ocular Manifestations of Systemic Gonorrhea, with Reports of Cases of this Nature. By W. Gordon M. Byers, M.D., Assistant Oculist, Royal Victoria Hospital. (Studies from the Royal Victoria Hospital, Montreal.) Vol. II. No. 2. (Ophthalmology 2) February, 1908. Paper. Pp. 131. Montreal: The Herald Press.

The advanced conception of systemic gonorrhea is related to the eye in two ways: 1. While the urethra is commonly the port of entry for the gonococci, it has been shown that the conjunctiva may also serve as a point at which these organisms enter the system. 2. By metastasis the eye may be the seat of gonorrheal affections. Byers has searched the literature to gather all that has been written on the subject of gonorrheal ocular metastases and to sift the good from this material. He has added a number of cases of his own. He confesses to a certain element of disappointment at not being able to reconcile completely the conflicting opinions. He has, however, pointed out some errors and has reached conclusions which, he believes will eventually prove to be correct. The chief of these are as follows: Systemic gonorrhea most commonly follows infection of the posterior urethra in males, through a peculiar susceptibility, the causal factors of which are not known. The evidence shows that the gonococci and not toxins or other organisms are responsible for local manifestations.

Gonorrheal metastatic ocular inflammations are irregular in time, extent and severity, and are closely associated with metastases in other parts of the body. They show a marked tendency to relapse and to recur with fresh gonorrheas. They are frequently the first, and sometimes the only, expression of systemic gonorrhea. Patients with systemic gonorrhea should be treated as those suffering from an infectious disease, and excessive use of the eyes should be avoided as favoring local manifestations.

Metastatic gonorrheal conjunctivitis is frequently initial, usually bilateral, complicated by deep-seated disease in one-third of the cases. It resembles the acute catarrhal affection, with slight, mucoid discharge. Keratitis is usually multiple, superficial, symmetrical and central. Deep-seated congestion shows interior inflammation. Pure scleroconjunctivitis should be classed by itself. In iritis the inflammation extends to the adjacent uveal tract, so that the term "iridocyclitis" would express the condition better. Although especially affecting the vascular structure, the frequency of affection of the various structures of the globe is undetermined. Gonorrheal affections of the uveal tract tend to be bilateral in first attacks, and to recur unilaterally with fresh gonorrheas. They are marked by no special features. Swellings in the iris are never observed. An associate metastatic conjunctivitis is suggestive. Purulent forms show an extraordinary tendency to recovery. Metastatic affections of the optic nerve and retina form a diffuse neuroretinitis, bilateral when uncomplicated, but unilateral if combined with uveal disease. The blood vessels are probably the route of infection. The prognosis, though guarded, is generally good. Dacryoadenitis from direct extension is unilateral and suppurates; that due to metastasis is bilateral and ends in resolution. The number of cases reported (92) and the extent of the literature referred to, impress one with the importance of a little-regarded pnase of this important subject.

SYPHILIS UND NERVENSYSTEM. NEUNZEHN VORLESUNGEN FÜR PRAKTISCHE AERZTE, NEUROLOGEN UND SYPHILIDOLOGEN. Von Max Nonne, Oberarzt am allgemeinen Krankenhaus Hamburg-Eppendorf. Second Edition. Paper. Pp. 699, with illustrations. Price, $4.80. Berlin: Verlag von S. Karger, 1909.

The first edition of this work, published in 1901, was based on lectures given by Dr. Nonne for the previous three years. The second edition is greatly enlarged and extended and brought well up to date. The form of lectures is retained. The attempt is made to base the clinical symptomatology on pathologic anatomy, but the conception of the work is a practical one, and the various subjects are illustrated largely from Nonne's own experience. Much attention is given to differential diagnosis, and the last chapter contains a review of the present status of the Wassermann reaction and other new methods of diagnosis. Considerable conservatism is shown in estimating the value of the Wassermann reaction, and the opinion is expressed that it is not pathognomonic, but must take its place among other symptoms as having diagnostic value, but as leading to reliable conclusions only when considered in connection with the entire clinical picture. All in all, the book must be regarded as a fitting exposition of the extensive relations between syphilis and diseases of the nervous system, which modern investigation has shown to exist.

HUMAN FOODS AND THEIR NUTRITIVE VALUE. By Harry Snyder, B.S., Professor of Agricultural Chemistry, University of Minnesota. Cloth. Pp. 362, with illustrations. Price, $1.25. New York: The Macmillan Co., 1908.

This book was written as a text-book for students in agricultural colleges; it is admirably fitted to their needs and the needs of laymen generally. Medical men and students will also find it interesting and instructive. It discusses neither the physiology of digestion nor diet in disease—subjects usually dealt with by physicians who write about foods and their values. In the first fourteen chapters the various kinds of foods and condiments and their composition are dealt with. The digestibility of foods, their comparative cost and value, rational feeding, water and food as affected by household sanitation and storage are in turn subjects of discussion. At the end of the book is a useful chapter describing various laboratory tests by which the composition of food and impurities or adulterations may be ascertained. The laboratory work here detailed is a valuable part of the course which this text-book covers.

THE NATIONAL STANDARD DISPENSATORY. Containing the National History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized in the Pharmacopeias of the United States, Great Britain and Germany, with many references to other foreign pharmacopeias. In Accordance with the Eighth Decennial Revision of the U. S. Pharmacopeia, by authorization of the Convention. By Hobart Amory Hare, B.Sc., M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, Philadelphia; Charles Caspari, Jr., Ph.G., Pharm.D., Professor of Theoretical and Applied Pharmacy in the Maryland College of Pharmacy, Baltimore; and Henry H. Rushby, M.D., Professor of Botany and Materia Medica in the College of Pharmacy of the City of New York; with valuable assistance from Edward Kremers Ph.D., Daniel Base, Ph.D., and Joseph F. Geisler, Ph.C., 2nd Revised Edition. Cloth. Pp. 2050, with illustrations. Price, $6.00. Philadelphia: Lea & Febiger, 1909.

The esteem in which the National Dispensatory has been held for many years will be even increased by an examination of the second edition. Everything possible seems to hav been done to produce a one-volume encyclopedia of materia medica and therapeutics, suitable for the use of the medica practitioner. The volume embraces a description of the drug and preparations of the Pharmacopeia and National Formulary and the principal non-official remedies, including th synthetics. The text of the Food and Drugs Act is given, together with the principal regulations and decisions under it The formulas of the National Formulary in an abstracte form are introduced in the appendix. Minor drugs of local importance are described. In connection with antitoxin a goo account of Ehrlich's side-chain theory is given.

THE BABY. By Daniel Rollins Brown, A.B., M.D. Cloth. P 200. Price, $1. Boston: Whitcomb & Barrows.

It is stated in the preface that as many disorders of infancy are directly due to mismanagement, this little book i written for the guidance of the mother or nurse. The province of the physician is not encroached on, as Dr. Brow believes that in medicine especially a "little knowledge is dangerous thing." The feeding of infants is given speci attention, and considerable space is devoted to home modification of milk. At the same time attention is directed the fact that even absolutely normal infants can not be f by rule, and that special formulas are needed in many case Simple home remedies are given for bruises, falls, earach etc.

ATLAS UND GRUNDRISS DER TOPOGRAPHISCHEN UND ANGEWANDT ANATOMIE. (Lehmann's Medizinische Atlanten, I.) Von Osk Schultze, Professor der Anatomie in Würzburg. Cloth. Pp. 2 with illustrations. Price, 16 marks. München: J. F. Lehmann Verlag, 1909.

An atlas must be judged by its illustrations, and from th point of view the "Atlas of Topographical Anatomy" Schultze leaves little to be desired. The pictures are sing larly clear, and in addition to the twenty-two colored plat a large part of the illustrations incorporated in the t are also colored. The names of the various structures a given in Latin and are printed at the sides of the plat with dotted lines leading to the part designated. The scriptive text, which is in German, is clear and concise, and each section is appended the applications to medicine a surgery. The volume covers the anatomy of the entire b from a topographic point of view.

TUBERKULOSE-ARBEITEN AUS DEM KAISERLICHEN GESUNDH SAMTE, 8 Heft. Deutsche Heilstätten für Lungenkranke. Geschic liche und statistiche Mitteilungen. IV. Mit. 8 Tafeln. Bericht statter: Dr. Hamel, unter Mitwirkung von Dr. Friedr. Pet Berlin: Verlag von Julius Springer, 1908.

This volume of the reports on tuberculosis put out by German Imperial Health Office, continues the statistical view of the sanatoria of Germany and sums up the resu in the concluding chapter This summary covers the mate available to the Health Office from 1896 to 1901, and inclu data from over 21,000 patients.

Miscellany

The Physiology of Digestion a Century Ago.—Although some experimental work had been done on the stomach previous to the beginning of the nineteenth century, not much had been learned about the subject before the work of Dr. W. Beaumont on Alexis St. Martin in 1833. It is interesting to learn, however, that another American investigator had studied the subject of digestion experimentally thirty years before. LaFayette B. Mendel, in the *Popular Science Monthly*, February, 1909, gives an account of the thesis of Dr. John R. Young of Maryland (submitted June 8, 1803, o the medical faculty of the University of Pennsylvania), entitled "An Experimental Inquiry into the Principles of Nutrition and the Digestive Process." The example of Lavoisier incited Young to the use of the experimental method. He used frogs for the study of digestion, introducing small animals and other articles of food into the frog's stomach and removing them from time to time to observe the process. He also removed the digestive fluid from the stomach by means of a teaspoon, and made various experiments *in vitro* with it. Young was able to overthrow the theoretical assumptions of Cullen as to the nutrient principles of vegetables, which Cullen asserted to be derived from their acid, sugar nd oil. Discarding the theory that acetous fermentation ook place in the human stomach in a healthy state, he concluded that acescent vegetables afforded nourishment, not ecause of their acid, but by their sugar and oil. He found hat the tissues of small animals when swallowed by the rog were softened and dissolved, even to the bones and the eeth. Vegetables were also submitted to experiments. He ound that when peas, beans, wheat and bread, enclosed in nen bags, were introduced into the stomach, all these foods xcept the bread were still entire at the end of thirty hours; ut that when the peas and beans were well bruised before ntroduction they were dissolved. He concluded that the living principle in the seeds resisted digestion. In harmony ith this view he found that seeds would germinate when etained in the stomach. He cited an entertaining story om Morgagni of a young woman who, after a spell of violent omiting, threw up a small plant, with perfect leaves and ots. He thought it probable "that the young lady had wallowed the seed of some small plant, without destroying s texture by mastication; which being retained in the omach and exposed to heat and moisture, vegetation processed." Previous teachers had assumed the occurrence of rmentation in the stomach. Young subjected this idea to perimentation. His friend, Mr. Mitchell, was made to ke twelve ounces of sugar on an empty stomach, and ter five hours this friend, having the power to ruminate, rew up the mass, which was sweet; "on being put to rest intestine motion or disengagement of air was to be perceived." No vinous spirit could be obtained from it by distillation, and the subject of the experiment eructated no gas nile the sugar was in the stomach, though the conditions re favorable to fermentation. Young therefore concluded ainst the occurrence of such a process during digestion. By er experiments he convinced himself of the non-occurrence acetous fermentation and putrefaction in the stomach; and o of the acid character of the gastric fluid, though, his mical tests being inadequate, he was led to conclude that acid was phosphoric instead of hydrochloric. Our American experimenter attempted to apply to therapeutic purposes the knowledge gained, and having demonstrated that gastric juice of the frog would dissolve urinary calculi, proposed to employ it for that purpose by injecting it into bladder. He says: "The fluid is easily procured and hout the necessity, as in other animals, of sacrificing a every time we wish to obtain it: by means of a teaspoon is readily brought up from their stomachs" (where were nostrum-makers of that day?) While leaving much of process of digestion still obscure, the experiments of ung must be regarded as exhibiting decided progress in siology. Notwithstanding his experimental demonstration uncertainty regarding the acidity of the gastric juice l prevailed twenty years after Young's paper was published. Even as late as 1812 Montegre insisted that what was supposed to be gastric juice was nothing but swallowed saliva.

The Significance of Phagocytosis.—The theory of phagocytosis has played so prominent a part in recent discussions of the methods of immunity, that it seems unfortunate that it should be rendered improbable by some recent investigations. Baumgarten, in the *Münchener medizinische Wochenschrift*, July 14, 1908, expressed a regret that the interesting experimental results regarding the opsonins or bacteriotropic serum should turn the investigation of immunity into the channels of Metchnikoff's phagocytosis theory, which he regards as erroneous. While he does not deny that phagocytosis serves an important purpose in the organism by freeing it of bacteria, he concludes that the activity of the phagocytes is directed not against living bacteria capable of multiplication, but only against those which are dead or dying. The phagocytes are compared to the hyenas of the battlefield and not to the heroes of the fight. Even their power of digesting and detoxicating the dead bacteria should not, in Baumgarten's opinion, be overestimated. The organism possesses other means of accomplishing this purpose; and according to Baumgarten, investigations have shown that only a part of the bacteria are ingested by the phagocytes, while a greater part are destroyed and dissolved by the bacteriolytic powers of the serum. Hektoen, *Transactions of the Chicago Pathological Society*, Dec. 1, 1908, calls attention to the results obtained in his laboratory, which show the bactericidal effects of leucocytes *in vitro*, which appear to him to indicate that phagocytosis may be exerted against living bacteria. He calls attention to the work of G. F. Ruediger on the streptococcidal action of human leucocytes and human serum in which the presence of the leucocytes was shown to be necessary for the destruction of the bacteria. The work of E. C. Rosenow also shows that non-virulent pneumococci are destroyed by leucocytes in cooperation with serum, but not by leucocytes alone nor by serum alone. Hektoen's own experiments showed that defibrinated dog's blood destroyed virulent anthrax bacilli, which grew freely in normal dog serum and in suspensions of dog blood corpuscles freed from serum. It is to be noted, however, that the results obtained by Ruediger and by Rosenow are applicable only to non-virulent or mildly virulent streptococci and pneumococci. There is no evidence, according to Hektoen, that streptococci and pneumococci are seriously injured by human serum, in which they multiply freely; and the same is true of anthrax bacilli with regard to dog serum. Baumgarten's objections to the phagocytosis theory should be carefully considered; but it is evident from the work of Hektoen and his assistants that they are not universally applicable.

The Weighting Treatment (Belastungslagerung) in Gynecology.—The technic of the Pincus "weighting" (*Belastungslagerung*) method of treatment of gynecologic disorders, to which numerous references have been made in recent literature, as described by its originator, Pincus, in his monograph published in 1905, is substantially as follows: The essential features are the use of the inclined plane with moderate elevation of the pelvis and lower extremities and the use of compression in its various forms, abdominal, intravaginal, intermittent, continuous, direct (by application of weight or pressure in various ways) and indirect (through the tension of the internal pelvic and abdominal organs). The inclination of the plane is never as great as in the so-called "Trendelenburg position," and differs from it, moreover, in the extended position of the lower extremities. The slope can be easily arranged in private practice by raising the foot of the couch by blocks or bricks, beginning with an elevation of 8 to 16 centimeters and more according to the need. The head must be raised, best by a horsehair or air pillow, and this must also slightly raise the shoulders so as to avoid bending the neck in such a way as to hinder free circulation of blood. It is also important to remember that many nervous patients can rest easily only when the elbows and upper arm are supported in a comfortable position. Usually 20 to 35 centimeters' elevation is sufficient; the higher elevation may be useful for brief periods, but is generally needless and may cause headache, cramps, etc. During the night hours the foot of the couch should not be raised more than 25 centimeters. When the patients suffer from varicose veins and cramps in the legs, bandages (changed daily) may be used, but only after the blood has been emptied by raising the limbs. It is absolutely necessary to give careful attention to the condition of the skin of the thigh and avoid irritation. The second essential factor is the compression. Here we must distinguish two forms: the abdominal and the intravaginal, either of which may be continuous or intermittent. Abdominal compression may be made with shot bags (weighing from 1 to 5 kilos) or with moist clay poultices (2 to 5 kilos). Many patients prefer the latter, which covers easily a larger surface and offers the additional advantage of the effects of the moisture and some possible chemical irritation of the skin. Sand bags and other appliances have also been employed. For intravaginal compression he has made extensive use of iodoform gauze bags, somewhat larger than the lumen of the vagina, which are introduced with the patient on the inclined plane, the bowels and bladder having been previously emptied. Then 500 to 800 grams of shot are introduced, while the speculum is slowly withdrawn; the bag is then tied and pushed in, only the string being left outside. It is important in the treatment that the compression be applied gradually and also removed gradually; and this Pincus accomplishes with his quicksilver air colpeurynter, connected with a graduated glass bulb, by means of which mercury, in amount from 500 grams to 1,200 grams, can be gradually introduced while the patient is on the inclined plane, the bladder and rectum being empty, and so gradually withdrawn, while the colpeurynter bag can then be dilated with air (care being taken to avoid dangerous overdistention) and detached from the bulb when used in the ambulant treatment. The colpeurynter bag may be made cup-shaped or heart-shaped to fit the os uteri and prevent its misplacement by the latter when hypertrophied. Full details of the treatment are given in the monograph, which is profusely illustrated. The application of the vaginal tampon (*Staffeltamponade*), which in some cases is more satisfactory than the colpeurynter, is also described. The compression, abdominal and intravaginal, should be continuous in chronic conditions, if the patient is free from pain or fever. If these occur it should be intermittent. There is no fixed rule for the treatment of all cases, aside from the use of the inclined plane and the compression in its various forms. Various other gynecologic adjuvants, massage, hot irrigations, baths of various kinds, etc., may prove useful. While compression alone without the use of the inclined plane may be in many cases ineffective, the latter is by itself a valuable therapeutic measure. It quickens the circulation, both in the blood vessels and the lymphatics of the affected regions, and reduces the venous pressure in the most efficient way. It also produces a passive autotransfusion which, distinguished from the more active process induced by simultaneous compression, is often of benefit. It is from the direct intravaginal compression, however, that the greatest therapeutic effects are obtained, and the mercury colpeurynter is more effective than the other methods. As complementary measures, Pincus mentions at some length systematic respiratory exercises and carefully regulated nutrition, with due attention to the excretions, etc. The weighting treatment is more especially of value when the organs have fixed adhesions to the bony structures or other fixed points, while gynecologic massage is more especially useful when movable organs are adherent to each other. The weighting treatment loosens up bandlike adhesions and softens indurated edemas, making subsequent massage more effective, and it is further facilitated by the inclined plane position.

Noma in a Wild Animal.—Noma is of interest on account of its comparative rarity and uncertain etiology. It is now generally regarded as being infectious, the most probable infective agent being the spirillum and fusiform bacillus of Vincent, which are regarded by several investigators as different forms of the same organism. It has been noted clinically that the disease begins as an ulcerative stomatitis. C. Y. White and J. D. Blackwood (Proceedings of the Pathological Society of Philadelphia, November, 1908) have had opportunity to observe the course of a case occurring in a monkey. They found fusiform bacilli and spiral micro-organisms resembling Vincent's spirillum in the exudate and scrapings of the diseased area, there being a larger number of spiral micro-organisms than are found in the normal monkey's mouth. The histologic examination showed the presence of rod-like and thread-like organisms similar to those described by Perthes, Bruning, and others in the diseased area, being especially located in the area of advancing disease. A spiral organism resembling Vincent's spirillum in conjunction with a fusiform bacillus is found in the normal monkey's mouth. Fusiform bacilli are frequently present in small numbers in the mouths of normal monkeys. Because of their failure to isolate and cultivate the organisms, White and Blackwood refrain from asserting that the bacteria present are the cause of noma, but merely call attention to the fact that their findings are similar to those reported in a corresponding condition in human beings by others who have advanced the theory that these micro-organisms are the cause of noma or other gangrenous processes of the mouth.

Chicks from Transplanted Ovaries.—C. C. Guthrie has removed ovaries from fowls, replacing them by transplanting ovaries from other fowls (THE JOURNAL A. M. A., Oct. 17, 1908, li, 1314) and found that fowls on which this operation had been performed at first lost weight, but that during the second year their weight approached the normal. He has since reported (*Quarterly Bulletin Medical Department of Washington University*, December, 1908) that the ovaries which have been transplanted seem to function in a normal manner. The color-markings of the resulting offspring appear to be influenced by the foster-mother.

Inoculation of Street Sweepers with Plague Prophylactic.—It is stated in the *British Medical Journal* that the health officer of Kurachi has induced all the street sweepers of that sea port to allow themselves to be inoculated with Haffkine's plague prophylactic. The greater number, 1,114 out of a total of 1,206, were inoculated at the beginning of last season, and at the end of the season it was found that the mortality from plague among the uninoculated was eleven, and among the inoculated three.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries fo this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or addres will be faithfully observed.

HIGH TEMPERATURE WITH RECOVERY

To the Editor:—Please state in THE JOURNAL the highest temperature on record with recovery of the patient. W. S. W.

ANSWER.—The highest temperature on record followed by recovery is probably the case reported by John W. Teale, in the Transactions of the Clinical Society, London (VIII, page 98), in whic a temperature of 122 F. was reached more than once. The cas was one of severe internal injury; the patient recovered. Temperatures of 112 and 114 F. with recovery have been observed severa times. Cases presenting such remarkable temperatures should observed critically, as some patients are able to deceive an unsu pecting observer by various tricks. Our correspondent will fi of interest the article on fever in Quain's Dictionary of Medicin

DESCENDANTS OF DR. JOHN C. NOTT

To the Editor:—Can any of your readers inform me of the whe abouts of any descendants of Dr. John C. Nott, who lived in Ne Orleans about 1861? He was professor of anatomy in the U versity of Louisiana, and author of "Types of Mankind."

1319 Locust St., Philadelphia. JOSEPH LEIDY.

ECHINACEA

To the Editor:—Kindly inform me as to the real properties echinacea. J. C. ROBINSON, Cedar, Utah.

ANSWER.—Echinacea has been claimed to have anesthetic, sia gogue, antiseptic, diaphoretic, alterative and several other prop ties. Like many other discarded drugs, it has failed to sustain t reputation given it by enthusiasts years ago; it is now seldom p scribed under its own name. In common with numerous other little-used drugs, it is finding a place in proprietary mixtures, whose manufacturers make use of the early enthusiastic and unverified reports to endow their nostrums with remarkable therapeutic properties.

TRANSMISSION OF DISEASE BY COMMUNION CUPS

To the Editor:—Some time ago, when making a plea for the use of individual cups at communion services, I was challenged to cite specific instances in which disease was known to have been transmitted by the use of the single cup at this service. I was not able o do so. Can you or your readers furnish data?

F. E. Ross, M.D.

2012 Peach street, Erie, Pa.

SOLUTION TO DECOLORIZE TUBERCLE BACILLI

To the Editor:—Please publish the formula for Pappenheim's olution for decolorizing the tubercle bacillus. J. P. L.

ANSWER.—Pappenheim's solution consists of rosolic acid, 1 part, issolved in absolute alcohol, 100 parts; methylene blue is added o the point of saturation, and to this is added glycerin 20 parts.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, . S. army, week ending Feb. 20, 1909:

Truby, W. F., maj., order for duty at Army General Hospital, ort Bayard, N. M., amended; will proceed to Fort Worden, Wash., r duty upon return from Cuba.

Reynolds, C. R., capt., relieved from duty as commanding officer, o. C, H. C., to take effect upon the departure of that company r Fort Niagara, N. Y., about Mar. 15, and assigned to duty at e Army General Hospital, Washington, D. C.

Church, J. R., major, granted an extension of 14 days to his ave of absence.

Stedman, C. J., capt., honorably discharged from the army.

Manly, C. J., major, granted leave of absence for 10 days.

Pillsbury, H. C., lieut., relieved from duty on the transport *Bu- rd* and assigned to duty on the transport *Logan*.

Schreiner, E. R., major, relieved from duty at the Army General ospital, San Francisco, and ordered to Fort Walla Walla, Wash., r duty.

Vedder, E. B., capt., relieved from duty at Fort Walla Walla, ash., and ordered to Fort Stevens, Oregon, for duty.

Love, A. G., lieut., arrived at San Francisco on the *Buford* and dered to Columbus Barracks, Ohio, for duty.

Owen, L. J., capt., when relieved from duty at Columbus Bar- cks, Ohio, ordered to Fort Benjamin Harrison, Ind., for duty.

Cole, C. L., capt., when relieved from duty at Fort Benjamin rrison, Ind., ordered to return to proper station, Fort Thomas, Ky.

Johnson, C. W., M. R. C., granted leave of absence for two nths.

Stallman, G. P., M. R. C., relieved from duty in the P. D.; or- red to sail April 15 for San Francisco for orders.

Bayley, E. W., Ballard J. C., and Dade, W. H., M. R. C., relieved m duty at their present stations and ordered to duty in the P. D., iling March 5, from San Francisco.

Hadra, Frederick, M. R. C., arrived at San Francisco on the *ford* and ordered home to await further orders.

Bowman, M. H., M. R. C., arrived at San Francisco on the *Bu- d* and ordered to duty at the Depot of Recruits and Casuals, gel Island, Cal.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending b. 20, 1909:

Balch, A. W., P. A. surgeon, resignation accepted to take effect . 20, 1909.

Stokes, C. F., surgeon, detached from the bureau of medicine and gery, Navy Department, and ordered to the Naval Academy, napolis, Md.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague e been reported to the Surgeon-General, Public Health and rine-Hospital Service, during the week ended Feb. 19, 1909:

SMALLPOX—UNITED STATES

California: Sacramento, Nov. 1-Dec. 31, 24 cases; Los Angeles, . 23-30, 1 case.
Illinois: Cairo, Jan. 30-Feb. 6, 57 cases; Chicago, 2 cases; Pal- ra, Dec. 25-Jan. 20, 4 cases; West Frankfort, Dec. 12-Feb. 13, cases.
Indiana: Elkhart, Jan. 30-Feb. 6, 1 case; Evansville, 1 case; t Wayne, Jan. 23-Feb. 6, 3 cases; Indianapolis, Jan. 31-Feb. 7, ase; Marion, 5 cases.
Iowa: Burlington, Jan. 1-31, 1 case, imported.
Kentucky: Covington, Jan. 30-Feb. 6, 3 cases; Lexington, 5 cases.
Louisiana: New Orleans, Jan. 30-Feb. 6, 3 cases.
Maryland: Baltimore, Jan. 30-Feb. 6, 1 case.
Massachusetts: New Bedford, Jan. 30-Feb. 6, 1 case.
Missouri: Kansas City, Jan. 30-Feb. 6, 2 cases; St. Louis, Jan. Feb. 2, 3 cases.
ew York: Rome, Jan. 1-31, 1 case.
hio: Cincinnati, Jan. 29-Feb. 5, 15 cases; Dayton, Jan. 30- . 6, 1 case.
South Dakota: Aberdeen, Dec. 14-Feb. 12, 40 cases.
Tennessee: Knoxville, Jan. 30-Feb. 6, 1 case; Nashville, 2 cases.
Texas: Denton county, Jan. 1-Feb. 8, 5 cases; San Antonio, Jan. 30-Feb. 6, 8 cases.
Vermont: White River Junction, Jan. 2-Feb. 10, 3 cases.
Virginia: Port Royal, Dec. 27-Jan. 14, 3 cases.
Washington: Spokane, Jan. 16-30, 4 cases, 2 imported.
West Virginia: Weston, Feb. 1, 1 case, imported.
Wisconsin: LaCrosse, Jan. 30-Feb. 6, 6 cases; Milwaukee, 7 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, Jan. 2-9, 5 cases, 3 deaths.

SMALLPOX—FOREIGN

Brazil: Bahia, Dec. 5-26, 121 cases, 10 deaths; Pernambuco, Dec. 1-31, 24 deaths.
Canada: Halifax, Jan. 23-30, 4 cases; Yarmouth and vicinity, Jan. 1-Feb. 13, 28 cases.
China: Shanghai, Dec. 19-26, present.
Egypt, Alexandria, Dec. 24-31, 2 deaths; Cairo, Dec. 31-Jan. 7, 16 cases, 9 deaths.
Formosa: Dec. 12-26, 3 cases.
Great Britain: Bristol, Jan. 16-23, 2 cases, 1 death.
India: Bombay, Jan. 5-12, 7 deaths; Calcutta, Dec. 19-Jan. 2, 61 deaths; Rangoon, Dec. 26-Jan. 2, 1 death.
Indo-China: Saigon, Dec. 19-26, 1 case, 1 death.
Italy: General, Jan. 18-24, 47 cases; Calabria, Jan. 21, 15 cases; Genoa, Jan. 1-15, 2 cases; Naples, Jan. 18-24, 20 cases.
Java: Batavia, Dec. 26-Jan. 2, 2 cases.
Mexico: Mexico City, Dec. 12-26, 10 deaths; Monterey, Jan. 24-31, 3 deaths.
New Foundland: St. John's, Jan. 31-Feb. 6, 1 case; South Coast, Feb. 6, epidemic.
Peru: Lima, Dec. 31, 6 cases.
Portugal: Lisbon, Jan. 23-30, 5 cases, 1 imported.
Russia: Moscow, Jan. 2-16, 22 cases, 15 deaths; Odessa, Jan. 1-16, 6 cases, 2 deaths; St. Petersburg, Dec. 28-Jan. 9, 13 cases, 7 deaths; Warsaw, Dec. 5-19, 6 deaths.
South Africa: Capetown, Dec. 23-Jan. 2, 4 cases.
Spain: Barcelona, Dec. 19-Jan. 9, 4 deaths; Jan. 16-23, 1 death; Valencia, Jan. 19-23, 10 cases; Viga, Jan. 9-16, 1 death.
Turkey: Constantinople, Jan. 10-24, 8 cases; Smyrna, Oct. 5-Dec. 31, 53 deaths.

YELLOW FEVER

Brazil: Bahia, Dec. 5-Jan. 2, 18 cases, 8 deaths; Para, Jan. 9-16, 4 cases, 4 deaths.
Columbia: Cartagena, Jan. 7-14, 1 case, 1 death.
Ecuador: Guayaquil, Jan. 9-16, 1 death.
Mexico: Maxcanu, vicinity, Jan. 23-30, 1 case; Merida, 1 case; Veracruz, Jan. 23-2, 1 case, 1 death.
Trinidad: Jan. 16-23, 1 case, 1 death.

CHOLERA—INSULAR

Philippine Islands: Manila, Dec. 19-Jan. 2, 4 cases, 1 death; Provinces, Dec. 19-Jan. 9, 864 cases, 556 deaths.
Russia: General, Dec. 31-Jan. 7, 111 cases, 47 deaths; Jan. 12-24, 342 cases, 125 deaths; Helsingfors, vicinity, Jan. 10, 1 case; St. Petersburg, Dec. 31-Jan. 7, 96 cases, 40 deaths.
Straits Settlements: Singapore, Dec. 5-12, 11 deaths.

PLAGUE

Brazil: Bahia, Dec. 5-Jan. 2, 9 cases, 5 deaths; Pernambuco, Dec. 1-31, 4 deaths.
Egypt: General, Jan. 14-21, 3 cases, 2 deaths.
Formosa: Jan. 1-9, 1 case, 1 death.
India: General, Dec. 26-Jan. 2, 1,793 cases, 1,431 deaths; Bombay, Jan. 5-12, 9 deaths; Calcutta, Dec. 19-Jan. 2, 13 deaths; Rangoon, Dec. 26-Jan. 2, 1 death.
Indo-China: Saigon, Dec. 19-26, 4 cases, 3 deaths.
Turkey: Bagdad, Jan. 2, 3 cases.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the fourteen days ended Feb. 17, 1909:

von Ezdorf, R. H., P. A. surgeon, granted 28 days' leave of absence from Feb. 26, 1909.

Ramus, Carl, P. A. surgeon, granted 1 day's leave of absence, Jan. 21, 1909, under paragraph 191, Service Regulations.

Ramus, Carl, P. A. surgeon, granted 3 days' leave of absence from Feb. 5, 1909, on account of sickness.

Bahrenburg, L. P. H., P. A. surgeon, granted 2 days' leave of absence from Jan. 29, 1909, under paragraph 191, Service Regulations.

Robertson, H. M., P. A. surgeon, granted 4 days' leave of absence from Feb. 23, 1909.

Collins, G. L., P. A. surgeon, granted 1 day's leave of absence, Feb. 4, 1909, under paragraph 189, Service Regulations.

Herring, R. A., asst. surgeon, granted 6 days' leave of absence from Feb. 11, 1909, under paragraph 191, Service Regulations.

Stiles, Ch. W., chief division zoology, Hygienic Laboratory, granted 1 day's leave of absence, March 16, 1909, and 6 days' leave of absence from April 5, 1909.

Branham, Henry G., acting asst. surgeon, granted 3 days' leave of absence from Feb. 9, 1909, without pay.

Dynan, Nicholas J., acting asst. surgeon, granted 29 days' extension of annual leave on account of sickness from Dec. 3, 1908, and a further extension of leave on account of sickness for 30 days from Jan. 1, 1909.

Goldsborough, B. W., acting asst. surgeon, granted 30 days' leave of absence from Jan. 1, 1909, with pay, and 2 days' leave of absence from Feb. 1, 1909, without pay.

Gustetter, A. L., acting asst. surgeon, granted 15 days' leave of absence from Feb. 6, 1909.

MacCaffey, W. B., acting asst. surgeon, granted 2 days' leave of absence under paragraph 191, Service Regulations.

Markoe, W. W., acting asst. surgeon, granted 30 days' leave of absence from Jan. 1, 1909.

Torres, Julio F., acting asst. surgeon, granted 15 days' leave of absence from Feb. 14, 1909.

Association News

An Appeal for Contributions to Aid Mrs. Carroll

At the Conference on Medical Legislation held in Washington, D. C., Jan. 18-20, 1909, resolutions were adopted providing for a committee composed of one member each from the medical departments of the Army and the Navy, one from the United States Public Health and Marine-Hospital Service, one member from the District of Columbia and one member from the Council on Medical Legislation, to present to the medical profession the conditions under which the widow of Major James Carroll is now placed, and to devise such plans as might seem advisable for her relief. The following committee was appointed: Major M. W. Ireland, U. S. A., Surgeon W. H. Bell, U. S. N., Dr. John F. Anderson, U. S. Public Health and Marine-Hospital Service, Dr. John D. Thomas, Washington, D. C., and Dr. A. S. von Mansfelde of Ashland, Neb.

Mrs. Carroll has been granted a pension of $125 a month on which to support herself, seven young children and the aged mother of her husband. The house which Major Carroll had partly paid for is mortgaged for $5,000. Since the conference adjourned, the medical officers of the Army have raised enough to pay the taxes on the house, one monthly note of $50 and the overdue interest on the first mortgage, amounting to $125. Believing that the members of the medical profession will wish to contribute toward a fund for the purpose of paying the balance due on the house, the committee requests contributions of any amount: they may be sent to Major M. W. Ireland, United States Army, Washington, D. C.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

CONFERENCE ON LEGISLATION

Annual Conference of the Committee on Medical Legislation and the National Legislative Council

The annual conference on medical legislation of the American Medical Association was held at the New Willard Hotel, Washington, D. C., January 18-20, 1909. The Monday session was called to order at 10 a. m., with Dr. Charles A. L. Reed, Cincinnati, in the chair.

Organization was effected by electing Dr. Charles A. L. Reed, Cincinnati, chairman, and Dr. C. S. Bacon, Chicago, vice-chairman. Roll-call showed twenty members present. As an appointment had been made to meet the House Committee on Interstate and Foreign Commerce at 3 p. m., the Public Health and Marine-Hospital Service bills were first taken up. After discussion the conference endorsed S. B. 6102, provided it should be amended by reinserting the provision contained in the original Senate bill creating a bureau of water-supplies and sewage: by the insertion of a clause empowering the Surgeon-General of the Public Health and Marine-Hospital Service to enforce necessary measures for the protection of streams and water-ways from contamination and by the addition of a section authorizing the President to issue an executive order transferring and reassembling into a single department the various existing national public health agencies. S. B. 6101, the Public Health and Marine-Hospital Service Personnel Bill, was also endorsed.

The reports from the various states and services were then taken up, each representative reporting the present condition of medical legislation in his state. The conference then adjourned until 9 o'clock Tuesday morning.

NATIONAL LEGISLATION

On Tuesday, Dr. Reed, in his chairman's report, emphasized the importance of a naval medical reserve corps and the necessity of national regulation of public health. The secretary's report covered the work of the committee and the Bureau of Medical Legislation for the past year, especially the accumulation of data relating to the uniform regulation of the practice of medicine; the work on vital statistics legislation in conjunction with the United States Census Bureau and the American Public Health Association and the prospects for uniform pure food legislation.

The Committee on Navy Medical Reorganization reported, approving the bills establishing a corps of dental surgeons, authorizing a naval medical reserve corps similar to that provided for the U. S. Army and providing for the purchase and construction of hospital ships. The Committee on Special National Legislation reported the passage of the Carroll-Lazear Pension Bill.

STATE LEGISLATION

Following adjournment at 12, the conference reassembled at 2 p. m. in joint conference with the Committee on Uniform State Legislation of the Association of State and National Food and Dairy Departments. Mr. R. M. Allen of the Department of Justice delivered an address on uniform state legislation, followed by Dr. W. D. Bigelow of the Bureau of Chemistry of the Department of Agriculture. After a general discussion on the subject, the report of the Committee on Uniform State Legislation on Food and Drugs was adopted, recommending the endorsement of the model bill drafted by the committee of the Association of State and National Food and Dairy Departments.

The discussion of the report of the Committee on Uniform State Laws on Vital Statistics was opened by Dr. Cressy L. Wilbur of the Bureau of the Census, followed by a general discussion and a report of the efforts being made to secure the adoption of the model bill in the non-registration states. Following the report of the Special Committee on Revision of the Tariff, the Conference adjourned until Wednesday morning.

On Wednesday, following a general discussion of the national Food and Drugs Act and its enforcement, reports were made by the Committee on Uniform Regulation of the Practice of Medicine, the special committee for the relief of Dr. Carroll's widow, the special committee on expert medical testimony and the Committee on Federal and State Regulation of Public Health. Dr. George W. Gay of Boston presented resolutions regarding optometry which were unanimously adopted. After further discussion of the report of the Committee on Revision of the Tariff, the Conference adjourned until 1 o'clock, at which time the report of the Committee on Conclusions and Plans of Action was presented.

REPORT OF THE COMMITTEE ON CONCLUSIONS AND PLANS OF ACTION

This report endorsed S. B. 6101 and S. B. 6102, enlarging the power and authority of the Public Health and Marine-Hospital Service and providing for its personnel; endorsed the three bills relating to naval medical reorganization; recommended that the Bureau of Medical Legislation through the columns of The Journal and the *Bulletin* inform the medical profession that the United States Public Health and Marine-Hospital Service tests all vaccine matter used in interstate commerce; endorsed H. R. 24613, for the relief of the widow of Dr. William R. Miller; endorsed the work of the Bureau of Medical Legislation in securing data on which to base a uniform medical practice act; instructed the Bureau of Medical Legislation to continue its work for the adoption of a uniform vital statistic bill and expressed the thanks of the Conference to Dr. Wilbur for his constant aid and cooperation; endorsed the report of the Committee on Uniform State Laws on Food and Drugs and extended the thanks of the Conference to Mr. Allen and Dr. Bigelow; endorsed the work of Dr. H. W. Wiley of the Bureau of Chemistry; endorsed the report of the Special Committee on Expert Medical Testimony, providing for the appointment of a special committee to draft a suitable law on this subject for presentation at the next session of the conference, and endorsed the following resolutions presented by Dr. Gay regarding optometry:

Whereas, a class of opticians whose proper function consists i making and adjusting glasses as directed by an oculist, is activel seeking legislation in several states on a subject known as "optometry," legislation which will in effect give them the sanctio of the state to examine eyes and to prescribe for the same, and

Whereas, the qualifications usually required in these petitions for such legislation are entirely inadequate to justify the state in conferring such important privileges upon any class of people, and

Whereas, the bills presented to the various legislatures for enactment will not prevent the so-called "optometrist" from practicing ophthalmology, one of the most important branches of medical work, and

Whereas, such action on the part of the state will tend to elevate a trade, devoid of the essential qualifications, to the dignity and importance of a profession in the minds of the public, and

Whereas, the result of such license will doubtless be to establish a class of uneducated and poorly qualified oculists, to the great detriment of the public health, now, therefore, be it

Resolved, that in the opinion of the Committee on Medical Legislation, and of the National Legislative Council of the Ameri-an Medical Association in conference assembled, the granting of such a license to opticians will do great harm to the public by eason of the fact that it gives to persons, who are ignorant of the undamental principles of diagnosis, ignorant of the profound relaion that may exist between ocular fatigue and serious neurologic listurbances, as well as of the many deep-seated, intraocular affecions of the eye, the sanction of the state in their attempts to do he work, which should only be done by properly educated and luly qualified physicians.

Resolved, that in the opinion of the American Medical Associaion, as represented by this conference, the efforts of the self-styled ptometrists to obtain such legislation should be discouraged and pposed in every legitimate manner and on all proper occasions.

After the adoption of this report the conference adjourned. (A full report of the Conference with minutes of the session vill appear in the March number of the *Bulletin of the Amercan Medical Association.*)

r. McCormack Addresses Missouri and Kansas Legislatures

Dr. J. N. McCormack addressed the Missouri state legislaure at Jefferson City February 18 by special invitation and he Kansas legislature February 23. Arrangements for other oint sessions are being made and similar addresses will probbly be given before the legislatures of South Dakota and owa. In the first two weeks of February Dr. McCormack lso spoke before joint sessions of the legislatures of North arolina and Indiana. The fact that a joint resolution was dopted by the Missouri legislature asking for an address bere a joint session is particularly interesting as showing the creasing attention given to public health measures by our ate legislatures.

Proposed Medical Legislation

Illinois

S. B. 67 is to provide "humane and scientific treatment and re for the dependent wards of the state; to provide delinents and prisoners with such training as will restore the rgest possible portion of them to useful citizenship; to study e causes of dependence and delinquence with a view to ultiate prevention, and to secure the highest attainable degree economy in the business administration of state instituons." This bill, one of the most important introduced in e legislature for years, provides for centralized administraon, inspection, criticism and recommendation. The adminration of the twenty state charitable, correction and penal stitutions is to be placed in the hands of a paid board of ree men, while the inspection and criticism of the institun is to be done by a non-salaried board of seven persons. e administrative board is to be appointed by the governor serve during good behavior, each member to receive a saly of $7,500. One member must be experienced regarding the re and treatment of insane, feeble-minded and epileptic, one mber regarding charities and children and one member rerding the care and correction of delinquents and criminals. c board is to be authorized to employ a fiscal supervisor at a ary of $10,000 and expenses. All existing boards of truss, managers and commissioners of the various institutions, present numbering 72 persons, are abolished. The business nagement of all state institutions is to be centralized in office with one purchasing agent for all. The fiscal superor and the managing officers of all the state institutions to be constituted a board of joint estimate, to meet at least nally. This board is to elect a standing purchasing commit-, of which the fiscal supervisor is to be a permanent member. e purchase of all supplies is to be by competitive bidding, managing officer of each institution making monthly requiions on the fiscal supervisor for all supplies, material, aries, etc. The funds appropriated for state institutions are to be placed in the hands of the state treasurer, local treasurers being abolished. The board of administration, therefore, is not to handle a single dollar of actual money, all bills being paid by warrants on the state treasurer. The names of all state asylums are to be changed to "state hospital." Civil service reform rules are to be extended to all employés of all state institutions, including superintendents and wardens, and to all employés of the board of administration and the board of charities and correction, the fiscal supervisor being the only employé of the board of administration exempt. The present Board of Charities Act, the Complete State Care Act and the Prison Industries Act are to be repealed, being covered by the proposed arrangement.

This bill has been carefully drafted after the collection of expert opinions from authoritative sources in this country and Europe. It represents an earnest effort to take the management of state institutions of all kinds out of the hands of the professional politician and ringster, to substitute business management and economy for slipshod and irresponsible methods and to manage state business affairs as they would be managed by a private corporation, made up of capable and farsighted business men. The only possible objections to the bill are those raised by ward politicians of the old school, who will doubtless object to having their patronage taken out of their hands.

Indiana

H. B. 258 is to empower cities to pass ordinances regulating sewage systems. H. B. 308 is a most comprehensive bill, similar to the Nebraska bill, providing for the regulation of all places in which foods are prepared, manufactured, packed, stored, sold or distributed. H. B. 44 is to give the state board of health authority over all water-supplies, water-systems, sewage-systems, purification plans, etc., in the state.

Michigan

The report of the Committee on Legislation of the Michigan State Medical Society shows that the bill providing for a board of examiners for nurses, introduced into the last legislature, will also be presented at the present session. The committee endorses the principles of the bill, but insists that the registration of nurses should be in the hands of the state board of medical registration rather than in the hands of a separate and independent board. An optometry bill has been introduced, but its passage is not anticipated.

Minnesota

H. F. 169, a bill to prohibit certain classes of medical advertising, which was referred to the Committee on Public Health, has been reported on favorably and passed by the house.

New Hampshire

H. B. 395 provides for the registration of all cases of tuberculosis and for the prevention of the spread of the disease. H. B. 425 is to regulate the manufacture and sale of cigarettes. H. B. 432 is to add to the existing definition of the practice of medicine "the public assumption or advertising of any title showing or tending to show that the person is a practitioner of medicine in one or more branches. Christian Scientists or other practitioners who claim to cure disease by prayer or mental treatment alone without the use of medicine and without performing any physical act whatever are exempt providing they do not ask or receive any money or other kind of value as compensation." H. B. 433 is to authorize physicians not regularly in attendance on patients to issue death certificates.

H. B. 446 is to amend the public health laws regarding sewage. H. B. 481 is to regulate the licensing and registration of physicians and H. B. 520 is to amend the food and drugs act of 1907.

North Carolina

A bill has been introduced to amend the medical practice act by providing for "limited license," authorizing the holders thereof to practice medicine and surgery within the limits of a specific district, this being considered advisable on account of the sparsely settled condition of parts of the state. A bill has also been introduced providing for the registration of deaths in towns of over 1,000 population. Other bills provide for the distribution of diphtheria antitoxin to indigent persons, for the appropriation of $30,000 for a state sanatorium for tuberculosis and for the amendment and modification of existing laws regarding the state board of health, state board of medical examiners and the state laboratory of hygiene.

North Dakota

S. B. 131 is to create a state board of osteopathic examiners and is similar in general to the bills for this purpose introduced into other state legislatures.

South Dakota

S. B. 190 is to prohibit the advertising of the treatment of venereal diseases in any newspaper, pamphlet or circular. H. B. 217 is to establish a board of examiners in optometry and is similar to the bills along this line introduced into other states. H. B. 189 is a pure food bill. H. B. 282 is to amend the existing laws regarding county boards of health.

Tennessee

S. B. 177 is to regulate the practice of medicine and surgery and is a practically new medical practice act for the state. It provides for a state board of medical examiners of 6, 2 from each grand division of the state, 4 representatives from the "regular" school of medicine and 1 each from the eclectic and homeopathic. No member of the board shall be connected with any medical college or with the state board of health. Members of the board are to be appointed by the governor. Licenses issued by the board must be registered in the office of the county clerk. The board is given the power to revoke licenses for fraud or unprofessional or dishonorable conduct which is explicitly defined under seven heads. An amendment provides that nominations shall be made by the three state medical associations, each of which shall name twice as many names as are to be appointed, from which list the governor shall select his appointees.

Texas

S. B. 50 is to provide for the erection and maintenance of a state sanatorium for tuberoulicsis. This bill has been reported on favorably by the committee on public health and has been advanced to third reading in the senate. An optometry bill introduced into the house is still in committee. A bill to exempt graduates of the medical department of the state university from examination has been reported favorably in the senate and unfavorably in the house; it probably will not pass. The bill creating a state board of health has been reported favorably in the senate.

Wisconsin

S. B. 74 is an optometry bill. S. B. 139 is to amend the housing act of the state. S. B. 85 is to provide for sanitary conditions in hotels. H. B. 56 is to amend the existing statutes regarding tuberculosis. H. B. 139 is to amend the existing law regarding vital statistics.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR

Bowling Green, Ky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Fourth Weekly Meeting

DYSTOCIA (Continued)

Due to Accidents and Diseases

Premature Separation of Normally Implanted Placenta—Etiology, pathology, indications in treatment.

Placenta Prævia—Frequency, varieties, diagnosis, differentiation.

Postpartum Hemorrhage.—Etiology: (1) Traumatic, lacerations of cervix, vagina, vulva. (2) Non-traumatic, (a) partial separation of placenta, and inefficient pains, before its expulsion; (b) hemophilic dyscrasia; (c) atony of uterus, (1) exhaustion from long labor, (2) diseased muscle (metritis, fibroids, etc.), (3) excessive distentio (twins, hydramnios). (4) anesthetic, (5) paralysis o placental site. Etiologic diagnosis, "concealed hemorrhage." Treatment: Physiologic and therapeutic actio of ergot. Local treatment: Posture, stimulants, saline solution.

Inversion of Uterus.—Rarity, etiology, spontaneous an from violence. Treatment.

Adherent Placenta.

INJURIES TO BIRTH CANAL

Vulvar and Perineal Lacerations.—Prevention. Treatment; primary and secondary operations, results.

Lacerations of Cervix.—Frequency, extent, shape, locatio dangers.

Rupture of Uterus.—(a) During pregnancy. (b) During labor; etiology and pathology; contraction ring, lowe uterine segment; spontaneous, obstructed labor, malpresentations, hydrocephalus, malformation of uterus; artificial or violent, version, forceps; complete and incomplete rupture. · Diagnosis. Prognosis, mother, child.

OBSTETRIC OPERATIONS

Technic Preparation for all operations.

Accouchement Forcé.—Indications. Methods: (1) Manua dilatation. (2) de Ribes' balloon. (3) Instrumenta dilatation. (4) Deep cervical incisions. (5) Vagin Cesarean section.

Forceps.—History of forceps. Indications and application occipito-posterior positions.

Extraction.—Indications. Technic, manual method. Use forceps, fillet, blunt hook.

Version.—1. Cephalic; indications, methods, technic. 2. P dalic; indications, conditions, technic of internal, of co bined.

Monthly Meeting

Causes and Treatment of Postpartum Hemorrhage.

The Abuse of Forceps.

Indications for Cesarean Section.

Medical Education and State Boards Registration

COMING EXAMINATIONS

Connecticut Homeopathic: New Haven, Mar. 9. Sec., Dr. Edv C. M. Hall, 82 Grand Ave.

Connecticut Eclectic: New Haven, Mar. 9. Sec., Dr. T. Hodge, Torrington.

Connecticut Regular: New Haven, Mar. 9-10. Sec., Dr. Char A. Tuttle, 196 York St.

Maine: Portland, Mar. 9-10. Dr. W. J. Maybury, Saco.

Massachusetts: Boston, Mar. 9-11. Sec., Dr. Edwin B. Harv Room 159, State House.

Higher Entrance Requirements at Western Reserve

Since October, 1901, Western Reserve University has quired the completion of the junior year in a recognized lege of liberal arts for entrance to the medical departm It is now announced that, beginning in October, 1910, for conditional entrance, a degree of A.B., B.S., Ph.B., Litt.B., equivalent will be required, and that the work for the obtain of such degree must have included inorganic chemistry, p ics, biology and Latin, such as would be obtained by satis tory completion of the following courses:

A. Inorganic chemistry, including qualitative analysis, as re sented by a course containing at least five actual hours per through one collegiate year, of which at least one-third shal laboratory work.

B. Physics, as represented by a course of at least three ac hours per week for one-half collegiate year, of which at least third shall be laboratory work.

C. Biology (botany or zoology or a combination of these) represented by a course of at least three actual hours per for one-half collegiate year, of which at least one-third shal laboratory work.

D. Latin of at least one year's work, as represented by I grammar and the reading of four books of Cæsar, or equivalent

Conditional entrance will be granted on the completio the junior year in an approved college or scientific school.

cluding the subject requirements above mentioned, on condition that the student obtain his baccalaureate degree before he enters the third year of the medical course.

Maryland December Report

Dr. J. M. Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore December 8-11, 1908. The number of subjects examined in was); percentage required to pass, 75. Of the 53 applicants who ere examined 15 participated in the examination for the first ime, and of these 12 were successful. Twenty-seven applied or re-examination in branches in which they had previously ailed; of these 12 were successful, working off all branches. rimary examinations require a general average of 75 per ent. Those re-examined are required to make 75 per cent. n each branch. Nine reciprocal licenses were granted at this neeting and two candidates were licensed under the exemption lause. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
eorgetown University	(1908)	75, 86, 87
altimore Medical College..(1905)* (1907)* (2, 1908)*	(1908)	84
ollege of Physicians and Surgeons, Baltimore, (1906) 86; (1907)* (1908)*	(1908)	94.
aryland Medical College	(2, 1907)*	
niversity of Maryland...(3, 1908)*	(1908)	78, 85
ohns Hopkins University	(1908)	85
efferson Medical College....(1907)* (1907) 93;	(1908)	75
niversity of the South	(1908)	76

FAILED

College	Year Grad.	Per Cent.
oward University, Washington	(1908)	70
niversity of Maryland, (2, 1904)* (2,1907)* (1908)*	(1908)	67
aryland Medical College...(1906)*	(2, 1908)*	
altimore University	(1907)*	
ollege of Physicians and Surgeons, Baltimore	(1904)*	
altimore Medical College...(1905)* (2, 1906)*	(1908)*	
ong Island College Hospital	(1905)*	
niversity of the South	(1908)	66

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
oward University	(1903)	W. Virginia
eorgetown University, (1891) Dist. Columbia;	(1897)	Iowa
ush Medical College	(1883)	Wisconsin
ollege of Physicians and Surgeons, Chicago	(1905)	Illinois
niversity of Maryland, (1904) West Virginia;	(1907)	Georgia
ollege of Physicians and Surgeons, Baltimore	(1908)	W. Virginia
niversity of Virginia	(1902)	W. Virginia

LICENSED UNDER EXEMPTION CLAUSE

College	Year Grad.
niversity of Maryland	(1880)
niversity of Pennsylvania	(1890)

* Re-examined. No percentage assigned.

Ohio December Report

Dr. George H. Matson, secretary of the Ohio State Board of edical Registration and Examination, reports the written amination held at Columbus, Dec. 8-10, 1908. The number subjects examined in was 10; total number of questions ked, 100; percentage required to pass, 75. The total numr of candidates examined was 34, of whom 32 passed and failed. Eleven reciprocal licenses were issued. The followg colleges were represented:

PASSED

College	Year Grad.	Per Cent.
orgetown University	(1908)	91
ish Medical College	(1908)*	
nerican Medical Missionary College	(1902)	82
ntucky School of Medicine	(1908)	83
iversity of Louisville	(1908)	81
llege of Phys. and Surgs., Baltimore. (1907) 76;	(1908)	85
ltimore Medical College	(1907)	88
fts College Medical School	(1908)	79
iversity of Michigan	(1908)	90
sworth-Central Medical College	(1899)	81
iversity and Bellevue Hospital Med. Coll	(1903)	89
ng Island College Hospital	(1908)	85
lo Medical University	(1898)	88
veland Homeopathic Medical College	(1908)	75
lte Medical College	(1892)	77
ledo Medical College	(1908)	79
lumbus Medical College	(1880)	79
ami Medical College	(1908)	85
lectic Med. Institute, Cincinnati..(1906) 78;	(1908)	82, 88, 88
stern Reserve University	(1908)	77
veland College of Physicians and Surgeons	(1908)	77, 82
man's Medical College of Pennsylvania	(1908)	85
ferson Medical College	(1908)	84
iversity of Virginia	(1904)	90
iversity of Toronto, Canada	(1907)	91
iversity of Prague, Austria	(1904)	89
tional University, Athens, Greece	(1899)	81

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1906)	72
Meharry Medical College	(1908)	69

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College....(1906)	(1908)	Illinois
Indiana Medical College	(1906)	Indiana
College of Physicians and Surgeons, Baltimore	(1905)	Maryland
Johns Hopkins Medical School	(1907)	Maryland
Baltimore Medical College	(1908)	Maryland
Detroit College of Medicine	(1908)	Michigan
University of Michigan, Homeopathic Dept	(1908)	Michigan
Syracuse University	(1907)	New York
University and Bellevue Hospital Med. Coll	(1908)	New York
Long Island College Hospital	(1908)	New York

* No grade given.

Marriages

FORREST GABBERT, M.D., to Miss Virginia Wood, both of Louisville, Ky., February 3.

HOWARD FORCE, M.D., Ludington, Mich., to Miss Francis M Penton of Detroit, February 2.

EUGENE L. PESSAGNO, M.D., Baltimore, to Miss Mary L. Eyerly, at Baltimore, February 11.

SCOTT GOODPASTER, M.D., Cincinnati, Ohio, to Miss Katherine Rice of Owingsville, Ky., February 24.

JOHN T. POWERS, M.D., Osceola, Wis., to Miss Bessie Erema Rosenquist of Ladysmith, Wis., recently.

JOHN RAYMOND BARBER, U. S. Army, to Miss Faith Constance Woodward, at Washington, D. C., February 5.

Deaths

William Tillinghast Bull, M.D., the famous surgeon of New York, died at Wymberly, Isle of Hope, near Savannah, Ga., from cancer of the neck, February 22, aged 59. He was born in Newport, R. I., May 18, 1849; was graduated from Harvard with the degree of A.B. in 1869, received his degree of medicine from the College of Physicians and Surgeons in the City of New York, 1872; and after an interneship in Bellevue Hospital and two years' study in Europe, settled for practice in New York City. He was in charge of the New York Dispensary from 1875 to 1877; of the Chambers Street Hospital in 1877 and 1878; had been visiting surgeon of the New York Hospital since 1883; visiting surgeon of St. Luke's Hospital from 1880 to 1883, and since that time consulting surgeon of the institution; consulting surgeon to the Hospital for the Ruptured and Crippled, Roosevelt, Womans' hospitals, and to the State Emigrants' Hospital. He began his teaching work in his alma mater in 1879 as demonstrator of anatomy, and was made professor of practice of surgery and clinical surgery in 1889. He was a member of the American Medical Association, a fellow of the American Surgical Association and of the New York Academy of Medicine, and a member of many other scientific societies. He was highly esteemed by the medical profession of his state and the United States, not only because of his skill as a surgeon, but because of his sound judgment and the zealous application which he gave to his cases. Dr. Bull was a frequent contributor to the medical literature. For several months he had been ill with cancer of the neck and made a brave fight for life, using all the methods of treatment known to science, but without avail. On January 29 he started for Georgia in the hope of being benefited by the milder climate, but improvement was only temporary and he gradually failed and died, the immediate cause of his death being edema of the lungs.

George Osborn Morgridge, M.D. College of Physicians and Surgeons, Keokuk, 1870; State University of Iowa, Iowa City, 1875; a veteran of the Civil War; for fifteen years a member of the board of education; and for several terms its president; formerly a member of the faculty of the Kansas Medical College, Topeka, and local surgeon of the Santa Fe system; a member of the Muscatine County Medical Society; died at his home in Muscatine, from heart disease, February 11, aged 69.

John W. Ramsay, M.D. Jefferson Medical College, Philadelphia, 1863; regimental and division surgeon in the Confederate service during the Civil War; sometime president of the West Virginia State Medical Association, and Harrison

County Medical Society; local surgeon for the Baltimore and Ohio Railroad; and a director for the West Virginia Hospital for the Insane, Weston; died in his apartment in Clarksburg, February 4, from senile debility, aged 76.

Morgan L. Woodruff, M.D. Long Island College Hospital, Brooklyn, 1878; a member of the Massachusetts Medical Society; formerly president of the Berkshire District Medical Society; from 1884-1897 a member of the Pittsfield board of health and for several years town physician; visiting surgeon to the House of Mercy Hospital, Pittsfield; was killed February 11, by the derailment of an electric car in Pittsfield, Mass., aged 56.

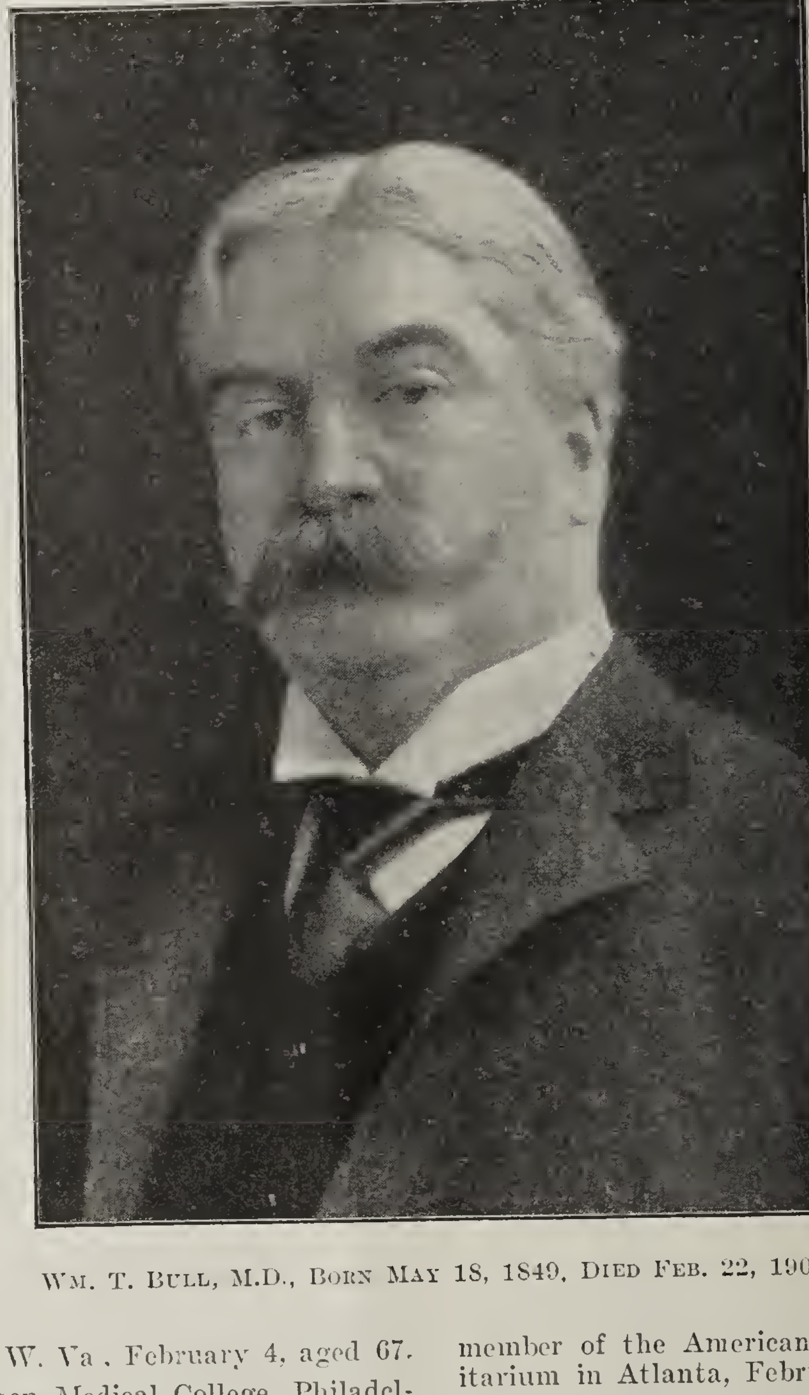
Elmo Allen Hall, M.D. Denver (Colo.) College of Medicine, 1901; a member of the American Medical Association, and Wyoming State Medical Society; for two years medical director of the State Hospital for the Insane, Evanston, Wyo.; surgeon for the Treadwell Mining Company, and local surgeon for the Santa Fe System at Mayer, Ariz.; died in that place, February 1, aged 30.

John Thomas Fritts, M.D. Bellevue Hospital Medical College, New York City, 1866; formerly a member of the American Medical Association; for more than thirty years local surgeon at Plainfield, N. J., to the New Jersey Central R. R., and for several years surgeon to the Public Service Corporation; died at his home February 8, from edema of the lungs, aged 63.

John Campbell, a veteran of the Civil War; for more than half a century a practitioner of medicine; from 1885-1889 medical referee in the Pension Bureau, Washington, D. C.; and thereafter district inspector in Philadelphia, of the Equitable Life Assurance Company of New York; died at his home in Philadelphia, February 4, from pneumonia, aged 80.

Eleanor Galt Simmons, M.D. Womans' Medical College of Pennsylvania, Philadelphia, 1879; a member of the American Medical Association; died at her home in Cocoanut Grove, Fla., February 2, from tuberculosis of the brain, aged 55. At a special meeting of the Dade County Medical Society, resolutions of regret and sympathy were unanimously adopted.

George Luther Nye, M.D. Medical College of Virginia, Richmond, 1869; formerly vice-president of the West Virginia State Medical Association; acting assistant surgeon of the Forty-fifth Virginia Infantry, Confederate States of America, during the Civil War; owner of the Nye Lithia Springs near Wytheville, Va., died at his home near Hurricane, W. Va., February 4, aged 67.


Wm. T. Bull, M.D., Born May 18, 1849, Died Feb. 22, 1909

Joshua M. Cooper, M.D. Jefferson Medical College, Philadelphia, 1868; one of those whose homes were destroyed in the Johnstown flood; a member of the Medical Society of the State of Pennsylvania; censor of the Medico-Chirurgical College of Philadelphia; consulting physician to the Meadville City Hospital; died at his home February 11, aged 64.

William J. Sullivan, M.D. Starling Medical College, Columbus, Ohio, 1853; assistant surgeon of the Ninety-sixth and the One Hundred and Thirty-second Ohio Volunteer Infantry and later division surgeon during the Civil War; an honorary member of the Champaign County Medical Society; died at his home in Urbana, Ohio, February 13, aged 84.

William A. Whayne, M.D. University of Louisville (Ky.), 1890; of Pueblo, Colo.; a specialist on diseases of the eye, ear, nose and throat; chief ophthalmic surgeon of the Tex S. S. and S. Railroad; and formerly ophthalmic surgeon the Nashville, Chattanooga and St. Louis R. R. at Paduca died in Pueblo, from pneumonia, February 9, aged 44.

William S. Cannon, M.D. Medical College of Georgi Augusta, 1860; surgeon in the Confederate service during t Civil War; local surgeon of the Carolina and Western R. R member of the American Association of Life Insurance Exa ining Surgeons; died at his home in Ellenton, S. C., Februa 3, aged 73.

John Bailey Mullins, M.D. University of Maryland, Balt more, 1887; a member of the American Medical Associati and the American Society of Laryngology and Otology; fo merly of Norfolk, Va.; died at his home in Washington, D. from cerebral hemorrhage, February 11, aged 42.

Alexander F. Wills, M.D. Jefferson Medical College, Phil delphia, 1856; a member of the Medical Society of Virgini physician to the Amherst county almshouse; for a time member of the board of supervisors of the county; died at home in Clifford, February 4, aged 75.

Abner G. McGrew, M.D. State University of Iowa, Io City, 1876; a member of Nebraska State Medical As ciation; and of the Natio Association of Railway S geons; died at his home Geneva, February 10, fr pneumonia, aged 71.

James H. McCaleb, M.D. T lane University, New Orlea 1888; of Gonzales, Texas; member of the State Medi Association of Texas; died a sanitarium in San Anton February 3, two days after operation for appendici aged 46.

James Alvin Van Wink M.D. Starling Medical Colle Columbus, Ohio, 1893; a me ber of the American Medi Association and a promin practitioner of Greene coun Ohio; died at his home Spring Valley, February aged 44.

John Jay Piper, M.D. diana Medical College, porte, 1849; for three term member of the board of cou commissioners of Spok county, Wash.; died at home in Spokane, June 1908, from organic heart ease, aged 77.

Anthony H. Bryan, M University of Louisville (K 1857; an honorary member the Indiana State Med Association; died at the h of his son in Evansville, ruary 8, from senile debil aged 76.

Richard J. Trippe, M.D. lanta (Ga.) Medical Coll 1882; of Cartersville, Ga. member of the American Medical Association; died in a itarium in Atlanta, February 9, from erysipelas, aged 47.

Harry Clifford Secrist, M.D. Miami Medical College, Cin nati, 1881; died in his apartment in Moline, Ill., Februar from the effects of formaldehyd, said to have been taken suicidal intent, aged 58.

Hjalmar Nyvall, M.D. Cleveland Homeopathic Medical lege, 1896; died at his home in Cleveland, February 3, laryngeal tuberculosis, aged 51.

Alden Woodbridge Brown, M.D. Eclectic Medical Colleg Maine, Lewiston, 1885; died at his home in Salem, February 9, aged about 70.

John Frank Thornton, M.D. Chattanooga (Tenn.) M College, 1894; of Witting, Texas; died at Hallettsville, T Dec. 1, 1908, from gastritis, aged 36.

Albert Franklin Sherman, M.D. Chattanooga (Tenn.) Medical College, 1898; died at his home in Avondale, Chattanooga, February 5, aged 54.

Christopher P. Gerrish, M.D. Medical School of Maine, Brunswick, 1855; died at his home in South Berwick, Maine, February 2, aged 79.

John Clarence Cutter, M.D. Harvard Medical School, Boston, 1877; died at his home in Worcester, Mass., February 2, from paralysis, aged 57.

Richard R. Sigler, M.D. University of Louisville, Ky., 1882; died at his home in Ramsey, Ind., February 7, from pneumonia, aged 70.

Frank Hoxie, M.D. Long Island College Hospital, Brooklyn, 1877; died at his home in Union Springs, N. Y., February 5, aged 55.

George Fox, M.D. Geneva (N. Y.) Medical College, 1852; of Caledonia, Mich.; died January 27, from senile debility, aged 87.

Julian A. Buell (license, Mich., 1900); since 1866 a practitioner of Franklin, Mich.; died at his home, February 3, aged 69.

Society Proceedings

COMING MEETING

Medical Society of the Missouri Valley, St. Joseph, Mar. 18-19.

PHILADELPHIA NEUROLOGICAL SOCIETY

Regular Meeting, held Jan. 22, 1909

The President, DR. J. W. MCCONNELL, in the Chair

Morbid Sleepiness

DR. T. H. WEISENBURG: The patient, a woman aged 32, with an excellent family and past history, was raised on a farm and all her life had been accustomed to rising at 4:30 in the morning and going to bed about 7 at night. At the age of 16 it was first noticed that she had a tendency to sleep at all hours of the day. For instance, she would rise in the morning and directly after breakfast would put her head down on the table and go to sleep, this continuing until some one woke her. This condition has persisted ever since, or for sixteen years. At one time for a period of about three years she would even go to sleep while on her feet; she would hang her head to one side and then would sink into a chair and sleep until some one would waken her. The sleep would last indefinitely unless she was awakened. Within the last three years she has grown somewhat better. Examination showed a young woman, well built, with rather large features, skin of normal tension and nutrition There was some mild refractive error which has been corrected by glasses. Examination did not demonstrate any so-called neurasthenic or hysterical stigmata. The reflexes were normal and no discoverable neurologic symptoms were found. The thyroid was not enlarged and there was no suggestion of myxedema or acromegaly. Urine and blood examinations were negative. The patient was placed on static electricity and suggestive treatment, the course of her daily routine was changed and she has improved very much and now bids fair to become cured of her disease. While a morbid sleepiness in neurasthenic and hysterical persons and in some forms of brain tumor is not uncommon, it is rather unusual for a condition to have persisted for sixteen years and then yield to treatment in the short period of two weeks. Another rather interesting feature of this case has been that for many years the patient was not able to laugh audibly. She is of a cheerful optimistic disposition, and while she would smile she could not laugh. She is now able to laugh like any other person.

DISCUSSION

DR. H. CARNCROSS: Recently, I saw at the Polyclinic a woman who would go to sleep at any time during the day. She went to bed at 6 o'clock in the evening and did not arise unusually early in the morning. She was extremely melancholy and had no desire to do anything.

DR. F. X. DERCUM: Probably all physicians have seen patients with sleep disturbances approximating those in Dr. Weisenburg's case, but I do not recall having seen a patient who slept as much as this one. I had a young mulatto woman under my care who fell asleep under all sorts of conditions and circumstances and who proved to be suffering from myxedema. She improved greatly under thyroid extract. However, in cases which are purely psychic, as Dr. Weisenburg's appears to be, thyroid extract might answer the purpose. It might be given in doses large enough to keep the patient awake, beginning with small doses and gradually increasing until some effect was achieved.

DR. T. H. WEISENBURG: Dr. Dercum's suggestion is a good one, and I shall act on it. The case is probably psychic, because with only two weeks' treatment I have been able to keep the patient awake nearly all day. I am giving her small doses of caffein and using suggestive therapeutics almost entirely. Instead of getting up at 4:30 she gets up at 6 or 7 o'clock and goes to bed at a decent hour.

A Brain with Extensive Unilateral Softening

DR. A. C. BUCKLEY read the notes of this case: The brain was that of a woman, aged 47, who had suffered from valvular heart disease for about two years. About four months before her death she suddenly lost the use of the right arm and became aphasic. Her spontaneous speech was limited to a few simple expressions as "good morning," "I can't see" (meaning "speak"), "yes," "no"; she named key, pencil, table, chair. To pronounce words was often an effort. Spoken language was apparently well understood, and she could read to herself and could promptly detect mistakes when words shown to her were read wrongly aloud by others. She could recognize objects and could indicate their use, though unable to name them. She could copy printed words, and was able to arrange cardboard letters to form words, both being done with the left hand; there was inability to write the name of object dictated. The case appeared to be one of the motor type of aphasia. Pathologically, there was a rather extensive softening, chiefly confined to the lower part of the central convolution, anterior to the central fissures, Broca's convolution appeared to have escaped. Posterior to the central fissure there was no softening of the ascending gyrus, but the inferior parietal was largely included in the process. The anterior end of the temporal lobe was also softened. The absence of auditory symptoms was doubtless to be explained by the fact that the softening in the temporal bone was evidently of much more recent occurrence than in the other areas, and that it occurred during the last week of life, when, on account of the attack of cardiac failure, it was impossible to examine the patient for word deafness.

DISCUSSION

DR. F. X. DERCUM: This is an interesting and important specimen because of the findings of the lack of involvement, at least so far as surface indications go, of the third frontal convolution. It appears as if the occlusion had taken place posterior to the branch which supplies the third frontal convolution, and that the patient had had a motor aphasia plus the sensory phenomena which are usually present.

Optic Neuritis Associated with Disease of the Frontal Sinus and Ethmoidal Cells

DR. SAMUEL D. RISLEY: It should be remembered that the mucous membrane lining the interior of the nose is continuous through narrow drainage canals with the lining "mucoperiosteum" of all the accessory sinuses. These sinuses are likely, therefore, not only to participate in the infectious diseases of the nasal membrane, but by their anatomic situation are removed from any favorable opportunity for natural protection by the usual methods of increased secretion and free drainage. The intimate anatomic connection of the inflamed membrane lining the thin bony walls of these cavities; the frequent lapses in the bony continuity of their walls; the network of sutures which in adult life unite the different centers of ossification; the numerous foramina for the passage of nerves, arteries, veins and lymph channels, all give opportunity for the migration of infectious products to contiguous tissues. Since the walls of these sinuses form so large a part of the walls of the orbit, it is not cause for surprise that the contents of the orbit are liable to invasion. Disease of the sinuses does extend to the orbital tissues, leading to abscess of the orbit and even to severe optic neuritis. In one case there was orbital abscess with optic neuritis, contracted field, swollen papilla and vision reduced to 1/5. The order of events in the history was complete blocking of the upper nasal fossa with polypoid mass and hypertrophy of the middle turbinate, purulent infection of right frontal sinus, partial drainage into the antrum of Highmore, necrosis of the floor of the frontal sinus and extension to the orbit, proptosis of the eyeball, optic neuritis, complete relief and restoration of normal vision by operation. In another case, there was double optic neuritis, contracted fields, no scotomata, V. = 1/5 in each eye, successive crops of retinal hemorrhages, violent fronto-occipital headache and insomnia. After consultation with Dr. Weisenburg a decompression operation was advised for relief of the optic neuritis, notwithstanding the absence of focal symptoms. Operation was refused by the patient. During two years potassium iodid and mercurials were administered without result. The upper nasal fossæ were then found blocked by polypoid masses and hypertrophied and enlarged middle turbinates. Transillumination showed both frontal sinuses and anterior ethmoidal cells opaque. The polypoid tissue was removed with a snare and the middle turbinates were amputated. This was followed by a profuse creamy white discharge which continued for many days in diminishing quantity. The operations were followed by prompt relief of the pain and insomnia and a steady subsidence of the swelling in both optic nerves. In a month the fields of vision were normal and in two months central vision rose to 6/5 in each eye, and a year after the operative interference the man remained well. The swelling of the papillæ had entirely disappeared. In a third case the patient, a man, when first seen, was blind in the right eye from atrophy of the optic nerve, and vision was reduced to 1/10 (6/60) in the left from well-advanced atrophy. The field was contracted and fixation eccentric (central scotoma). The same nasal and sinus conditions were present as in the other cases, but amputation of the turbinates was not permitted. Large polypoid masses, however, were removed with the snare and the parts carefully irrigated for a month, during which vision in left eye rose to 6/20. The patient then went to Europe and placed himself under the care of Professor Pagenstecher. After an absence of six months he returned totally blind in both eyes and the upper nasal fossæ again stuffed with a polypoid mass, and still suffering from frontal headache. A careful study of the patient by Dr. C. K. Mills failed to discover any focal symptom. Since these experiences I think it probable that some of the inexplicable cases of optic neuritis I have seen, and which have not proved amenable to treatment, may have belonged to this group of optic neuritis due to sinus disease.

DISCUSSION

Dr. T. H. Weisenburg: When I first saw the patient he had the general symptoms of brain tumor, viz., headache, vertigo and choked disc which gave me the impression that the man had a brain tumor, but fortunately for the patient, he would not consent to operation.

Dr. Alfred R. Allen: It might be possible to effect a cure in such cases as Dr. Risley's by the use of hyperemia. Schmieden and Meyer have had more or less success in clearing up these troublesome conditions by this method. To treat a choked disc in this way seems somewhat homeopathic but it could be done while the disc was kept under observation to see if any harm were being done. If the treatment could be prolonged the first etiologic factor could be cleared up.

Dr. C. W. Burr: This is important to neurologists because the first thing they think about when they see an irregular optic neuritis is intracranial disease and I am sure that not a few cranial operations would have been spared if neurologists had understood the subject which has been presented.

Dr. William G. Spiller: Dr. Risley's paper is important in that it shows how optic neuritis may be produced by extracranial disease. Whenever there is no sign of intracranial disease outside of the optic neuritis, the nose and its sinuses should be examined.

Dr. F. X. Dercum: The paper brought out the fact that in a large hospital service the patients can not be examined so exhaustively as they should. Will Dr. Risley explain the mechanism of the production of optic neuritis by sinus disease?

Dr. S. T. Risley: If time had permitted I would have reported other cases presenting other phases of the subject. In reference to treatment of these cases patients with *stauungs-hyperämie*, the only treatment apt to prove of value when the sinuses are blocked with pus is to drain them. Optic neuritis is retrobulbar in origin. The optic atrophy observed in some of these sinus cases is probably not primary but begins as a choked disc and the atrophy is part of a retrograd neuritis.

Indurative Headache

Dr. N. S. Yawger: Indurative headache is of organi origin, chronic and usually paroxysmal, occurring in variou parts of the head, and due to deposits or infiltrations at different points, chiefly in the muscles of the head and neck The disease has been recognized for years abroad, notably i Sweden and Germany. Edinger states that this is probabl the most frequent form of organic headache. This conditio is sometimes called cephalalgia, cephalodynia, migrain hemicrania, cranial neuralgia or neuritis, and seems to b due to a deposition at the insertions or within the bodies o the muscles of the head and neck. It comes and goes a first and later becomes chronic, and when the chronic condition is present a headache may be brought on by fatigu bad air, chilly and rainy weather. In the latter case it i sufficient to get within the outer limits of storm condition and not necessarily within the area of rainfall. Attacks ar most frequent in the fall and spring. It seems likely tha the condition is due to an excess of uric acid or an allied substance and the subjects are often neurasthenic. The depositions are found present in three stages: (1) Swelling, (2 resistance, (3) induration. The longer they exist the firm they become and the more resistance they offer to treatmen During the attack, fever and redness are absent. All cas of headache should be examined by forcible flexion and twisting of the neck which will often bring out pain at the sit of these depositions in the back of the head and neck. Examination can be made to best advantage during a paroxys because the swelling and sensitiveness are then greater. Th scalp should be thoroughly palpated for thickenings, irregularities, indurations, and nodules. Points of hypersensitivene are frequently found in the trapezius, scaleni, splenii, a sternomastoid muscles, along the base of the scalp and adjacent parts of the neck, on the spinous processes of the upper cervical vertebræ, and in the temporal and supraorbit regions. Other sites of invasion of these deposits are t inner side of the knee, the inner and outer aspect of the ank and within the bodies of the deltoid and abdominal muscl Cases have been mistaken for meningitis, appendicitis, sciatica. Deafness has been produced by pressure on t Eustachian tube. The picture presented by lumbago is strikingly similar, inasmuch as it may follow exposure to co it may become chronic and offer resistance to palpation, it relieved by pressure, there is an absence of fever and redne and it yields to the same treatment. Persons having tendency to these depositions should drink an abundance water between meals, avoid fatigue, take outdoor exerci and, if the condition is later proven to be due to an excess uric acid or an allied substance, the diet should contain low percentage of purins. For a severe acute attack it is w to give a purgative, a hot bath, apply hot dry applicati locally and give repeated large doses of sodium salicylate aspirin, or salophen internally.

Other Papers Read and Cases Presented

"A Case of Probable Occlusion of the Posterior Infer Cerebellar Artery," by Dr. Horace Carncross: "Hysteri Paralysis," by Dr. C. W. Burr; "The Syphilitic Form of M tiple Sclerosis," by Drs. W. G. Spiller and A. H. Woods; hibition of "Gordon's Precision Aesthesiometer," and "Dis of the Optic Nerve as the Early Symptom of Multiple S rosis," by Dr. Alfred Gordon.

CALIFORNIA ACADEMY OF MEDICINE

Regular Meeting, held in San Francisco, Dec. 22, 1908

The President, Dr. Howard Morrow, in the Chair

Exophthalmic Goiter

Dr. Emile Schmoll, San Francisco: I have here a man with exophthalmic goiter. When the patient first consulted me he presented the following symptoms: There was tachycardia and the legs were edematous up to the abdomen. There was enormous tumefaction of the liver, which reached below the umbilicus, and was pulsating. The pulse was 160, and irregular. There was dilatation of the heart, the apex beat reached to the left axillary line, the right side being 3 cm. outside the right sternal border. There was enlargement of the thyroid on both sides; the gland was soft to the touch and was pulsating. The circumference of the neck was 16½ inches. There was very pronounced exophthalmos. In view of the critical condition of the heart and the mitral and tricuspid insufficiency, it was thought that surgical interference was impossible or that before such question could be decided the circulatory symptoms must be improved. Furthermore, in my opinion, the presence of an enlarged thymus behind the upper part of the sternum, spoke against surgical intervention. Deaths on the operating table or following within twenty-four hours after operation have shown that in the majority of these cases of exophthalmic goiter there is a persistent thymus. Garry, of Bonn, considers that dulness behind the upper part of the sternum contraindicates operative interference. It was decided, therefore, to treat this patient internally, and he was put on complete rest and digitalis. He responded very quickly. The amount of urine began to increase on the second day, and on the fifth or sixth day the edema had completely disappeared. The liver had diminished considerably, to about 1 cm. below the costal border, and the acute dilatation of the heart had disappeared. However, at this time, while the tachycardia had been controlled by the digitalis, the goiter did not show any change and the exophthalmos did not retrocede, while the nervous symptoms had become excessive. On one evening the man even presented an attack of acute mania; it was impossible to reason with him and large doses of morphin were needed to quiet him. It was then decided to try a line of treatment which I have followed in several other cases with good results: meat was excluded from the diet. The amount of albumin and nitrogenous food was reduced to the minimal amount with corresponding carbohydrates and fat. I gave food which contained about 70 grams of albumin and about 3,000 calories which was more than he needed, and the man began to gain rapidly. At the beginning I gave him sodium phosphate, but could not see any improvement. I then gave ½ grain of sodium iodid twice a day. Under this treatment the pulse came down to about 70 a minute, still remaining irregular; the heart, however, was fully compensated. The goiter began to show improvement after three or four days; it became harder, losing its pulsating character, and the exophthalmos retroceded. After this treatment had been carried out for several weeks, the circumference of the neck was reduced to 15¼ inches and the exophthalmos was still retroceding; it is, however, still noticeable. Lately the pulse has gone up again. There is no sign of cardiac insufficiency. The nervousness has almost completely disappeared and the patient has gained about 20 pounds in weight.

My standpoint has been that in every case of exophthalmic goiter internal treatment ought to be tried. If within two months there is no improvement the case ought to be turned over to the surgeon. As an indication as to whether improvement is obtained, I especially consider the weight of the patient. If the individual increases in weight and the nervous symptoms are controlled, I consider the case to be progressing favorably and to present a favorable outlook for internal treatment. If, however, the patient loses weight, surgical treatment should be instituted. In this case the pulse has remained irregular.

DISCUSSION

Dr. W. I. Terry, San Francisco: Every patient with exophthalmic goiter should be under medical treatment for a short time, and if no improvement is obtained, surgical interference should be considered. Some of these patients respond promptly to medical treatment. I think some of the edema and heart symptoms and the liver condition were probably due to a preceding typhoid. This goiter came on immediately after an attack of typhoid, which may have weakened the heart muscle to a considerable degree. Dr. Schmoll has also improved the exophthalmos, but he has not cured it, nor can he expect either by surgical or medical means to cure an exophthalmos when it is so pronounced. The question of relapse in these cases is to be thought of. This man will have to be followed up for some time; he may relapse, and if he does a thyroidectomy will be indicated. The operation should certainly be done before the heart muscle gives out and before the man has the typical extreme symptoms of exophthalmic goiter.

Dr. W. W. Kerr, San Francisco: Like other medical men I am always glad to hear of something that gives us more hope than we have had before in the treatment of exophthalmic goiter. Many cases are inoperable, more especially in women, who suffer from a great deal of circulatory disturbance, and with whom the question of operation sometimes can not be considered. The use of digitalis I have never found satisfactory; sometimes one can alleviate the disturbance, but there are never results which give one confidence to persist in its use. Sometimes there is improvement when the patient has led an active life and has strained the heart, and in that case there might be restored compensation. The use of an iodid has not been successful in my hands. I generally use it in doses of from 5 to 10 grains, giving from 15 to 30 grains in a day, and have never seen any good come from it. In most cases the disease was more aggravated than benefited by it. I may have been at fault in giving such a large dose.

Dr. Emile Schmoll, San Francisco: In this case I have not had an occasion to use anything so far as the circulation was concerned, because the pulse immediately fell after the use of digitalis to 80. I agree with Dr. Kerr that digitalis is useless unless one has to deal with myocardial insufficiency. Again, with rapid pulse digitalis is often dangerous and should be advocated only in cases in which there is decided myocardial insufficiency and in which there is edema and enlargement of the liver.

Medicolegal

What Is Included in the Term "Limb"

The Court of Appeals of Kentucky says, in Lorts & Frey Planing Mill Co. vs. Weil, a personal injury case brought by the latter party, that it was alleged in the plaintiff's petition that, as a result of his fall, the tendons, ligaments and muscles of his limbs had been permanently weakened, and their strength impaired, whereas on the trial he testified, among other things, that the ligaments in one of his feet, which held the instep in a curved position, were severed, which caused the instep to drop, which produced what is known as "flatfoot." This last statement the defendants claimed surprised them; that they had no reason to anticipate that any such injury would be claimed by the plaintiff; that it was only claimed in the petition that his legs were injured. But the court is of the opinion that the defendants had no reason to be surprised at the introduction of this testimony, because, while the word "foot" did not specifically appear in the petition, it was alleged that the plaintiff's limbs were injured, and the word "limb" includes from the hip to the sole of the foot.

Breach of Marriage Promise for Syphilis

The Supreme Court of Iowa says in the breach of marriage promise case of Beans vs. Denny that the court might well have directed the jury that a person is always excusable for declining to carry out his promise of marriage to one afflicted with syphilis, unless made with the knowledge of this condition. See, as bearing on this subject, Trammell vs. Vaughan, 158 Mo., 214; Allen vs. Baker, 86 N. C., 91; Shackleford vs. Hamilton, 93 Ky., 80; Grover vs. Zook, 44 Wash., 489; Gring vs. Lerch, 112 Pa., 244; Goddard vs. Wescott, 82 Mich., 180; Vierling vs. Binder, 113 Iowa, 337. Most of the cases deal with a situation in which disease was pleaded as an excuse or justification for non-performance of the contract by one party when demanded by the other. But in Grover vs. Zook, 44 Wash., 489, the defendant was relieved of his promise to marry an incurable consumptive on the ground of public policy; and it is held in several jurisdictions that the fact that a spouse is afflicted with syphilis when married which is incurable, or of which there is but a remote probability of effecting a cure, is good cause for annulling a marriage on the ground of fraud. These rulings are in harmony with the instruction of the trial court that, in event the plaintiff was not cured, the defendant was under no obligation to perform. But the evidence was in conflict as to whether permanent recovery from the disease in its secondary stage ever could be effected. The physicians agreed that it might be controlled, but some of them insisted that it was a constitutional disorder which was likely to be transmitted to offsprings, and might break out again on the person afflicted, even after the lapse of fifty years. There can be no doubt but that the curability of the disease is matter of grave doubt in the medical profession; and, were this court confronted with the proposition as to whether one who has become afflicted therewith may complain of a breach of a previous promise of marriage at least when made in ignorance of the malady, it should hesitate long before so holding. The point, however, was not saved in this record.

Competent Evidence Against Professional Abortionist

The Supreme Court of Illinois says, in the case of People vs. Hagenow, where it affirms a conviction of murder by producing an abortion resulting in the woman's death, that in some jurisdictions proof that the defendant had been guilty of causing criminal miscarriages or abortions on other pregnant women than the one named in the indictment has been held proper on a trial against the defendant on an indictment of this character (People vs. Sessions, 58 Mich., 594; People vs. Seaman, 107 Mich., 348), while in other jurisdictions it has been held that such proof is not competent (Rosenweig vs. People, 63 Barb. [N. Y.] 634; State vs. Crofford, 121 Iowa, 395). And while there is some conflict in the authorities, and the question is not free from doubt, this court thinks that the evidence is admissible.

Had the evidence in this case shown that the woman in question was the only pregnant woman whom the defendant had caused to miscarry or abort, it might not have been unreasonable to presume that she did so in good faith and for the purpose of saving the woman's life. If, however, it could be shown that the defendant advertised in the public press to treat women who were pregnant; that she stated in such advertisement that she had had long experience in the treatment of such women who were pregnant, etc., it would be clear, the court thinks, that the presumption that she caused the woman to miscarry or abort to save her life would be greatly weakened, and a criminal knowledge and intent on her part to cause her to miscarry or abort would be shown.

Moreover, while the jury would in this case have been justified in findings from the condition of the woman when she went to the defendant's place and the testimony of the physicians who made a postmortem examination that no cause existed for the causing of a miscarriage or the producing of an abortion on her to save her life, the state was not required to rely on this class of testimony alone, but had the right to show, if it could, that the defendant was not carrying on a hospital in a legitimate way for the treatment of women who were pregnant, but that she was a professional abortionist, for the purpose of rebutting the presumption that she in good faith caused the miscarriage or produced an abortion on this woman to save her life, and for the purpose of showing that she must have known that the woman was pregnant, and that she operated on her with the criminal knowledge and intent to cause her to miscarry or to abort; and, if such testimony was competent as a part of the state's case in chief, the defendant could not render it incompetent by any defense to the indictment which she might seek to interpose. Three members of the court dissent.

Cancer and "Sound Health"

The Supreme Court of Minnesota had, in the case of Murphy vs. Metropolitan Life Insurance Co., an action on a life insurance policy which was conditioned that no obligation should be assumed by the company unless on the date thereof the assured was alive and "in sound health." The court holds that the term "sound health," as it was used in the policy, did not mean perfect health, but an absence of any disease that had a direct tendency to shorten life. And the evidence being practically conclusive that the insured was afflicted with cancer when the policy was issued, the court holds that the insured was not then in sound health. It says that it was clear that if the insured at the date of the policy was afflicted with an organic disease, either sarcoma or cancer, he was not then in sound health within the meaning of the policy. The testimony of two physicians related directly to the condition of the boy's knee and the cause of such condition. Their testimony was not wholly opinion evidence, for they respectively testified to facts relating to the condition of the knee and the development of the disease. There was no contraindication, direct or indirect, of the testimony of either of them, nor was the evidence inherently improbable; on the contrary, it seemed reasonable. Neither the judge nor the jury could arbitrarily reject the testimony of the two physicians as to facts or as to their professional opinion based thereon. A fair consideration of their testimony so directly led to the conclusion that the insured, when the policy was issued, had a malignant disease generally known as cancer that the court would have been bound to set aside any verdict to the effect that he was then in sound health.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 11

1 Serodiagnosis of Syphilis. F. P. Gay and J. G. Fitzgerald, Boston.
2 Human Milk in Treatment of Various Infections. F. P. Denny, Brookline, Mass.
3 *Psychotherapy as Applied to Children. A. C. Eastman, Springfield, Mass.
4 Medicine in the Bible (A Brief Review). H. S. Bernstein, Boston.

3 **Psychotherapy in Children.**—Eastman calls attention to the fact that childhood is the most suggestive period of life and that from early infancy the child is influenced by suggestion. First come the suggestions of external stimuli through the senses, then the suggestion of obedience to certain routine, necessary functions imposed on the infant for his physical development and, finally as speech develops come the innumerable suggestions picked up from the conversation of the child's associates. The older a child grows the more firmly fixed become the habits of both thought and action. Hence, if suggestion can change habits fully developed in an adult, how much easier, says Eastman, to change and model the mind into correct thoughts and actions during this plastic stage of childhood. Eastman divides childhood into three periods, viz., infancy and early childhood, from birth until the age of 5; early school life, from 5 to 10 years of age; early adolescence, from 10 to 15 years of age. At birth, the child is a little animal, instinctively eating and sleeping, oblivious to outside influences. At the age of 5 he has become a human being, so to speak, has learned the first lessons in obedience, and has formed both good and bad habits. His mind is fully alive to his small world and he absorbs more knowledge in

twenty-four hours than we can appreciate. During this first period Eastman states that the best time to use suggestion is just after the child has gone to sleep; if this is impossible it may be used during sound sleep. The child should be addressed in a firm natural voice and the suggestion repeated several times; only one suggestion should be used at a time in order to avoid confusing the child. Eastman cites several cases illustrative of the good accomplished by suggestion in children during this age period. In the second age period suggestion is especially adapted to the cure of nervous conditions resulting from too close confinement and too keen competition in school. In both these periods he also advocates "negative suggestion"; in other words, ignoring a symptom is often the best method of teaching the child to overcome it. The third period brings the individual to the borderland between childhood and adult life and of course opens up a large field for therapeutic and educational suggestion.

New York Medical Journal

February 13

5 Theories and Problems of Heredity. J. Wright, New York.
6 Results in Four Hundred Operative Cases of Mastoiditis. F. P. Calhoun, Atlanta, Ga.
7 One Hundred and Ninety Consecutive Operations From Surgical Service of Fordham Hospital. A. Nicoll, New York.
8 *Diagnosis of Chronic Bright's Disease by Signs Other Than Those Furnished by the Urine. H. B. Allyn, Philadelphia.
9 *Practical Results Obtained in the Philippines in Reducing the General Mortality by the Elimination of Intestinal Parasites, Especially the Hook Worm. V. G. Heiser, Manila, P. I.
10 Neurasthenia. H. M. Folkes, Biloxi, Miss.
11 Congenital Hypertrophic Stenosis of Pylorus. W. N. Bradley, Philadelphia.
12 Case of So called Birthmark. F. A. Thompson, Milwaukee.

8. **Non-Urinary Diagnosis of Bright's Disease.**—Allyn states that not infrequently, in his experience, the urine has given very little help in the diagnosis. It is not uncommon for the analyst, in cases of chronic Bright's diseases, to report the urine negative for albumin and casts. In the majority of these cases, but not in all, persistent low specific gravity of the urine directs attention to the probable diseases of the kidneys. Allyn cites cases in which the specific gravity had been well maintained, and yet extensive disease of the kidneys was found at autopsy. The result, therefore, is that chronic nephritis is often overlooked and the patient treated for heart disease, anemia, or weakness and malnutrition of unknown origin. The author enumerates the extra-urinary phenomena of this disease and states his belief that by them the disease may often be diagnosed, even if the urine is negative. Cardiovascular signs of this disease are probably the most constant and important. They consist, briefly, in enlargement of the heart, particularly the left ventricle, in accentuation of the aortic second sound, in raised blood pressure, thickening of the walls of the artery, and in such phenomena as dizziness, headache, hemorrhage and malnutrition. Rise in blood pressure is very common in chronic Bright's disease. Generally, it can be perceived by the finger, if the physician has considerable practice in feeling the pulse. Allyn refers to 130 cases reported by Janeway in which the systolic pressure, recorded by the sphygmomanometer was 200 mm. or more and in all but 10 or 15 per cent. there was chronic nephritis. Thickening of the blood vessels is another frequent symptom; the amount of thickening varies greatly and does not always bear a direct relation to the gravity of the nephritis. Enlargement of the left ventricle is easily made out. The apex beat instead of being within the nipple line is displaced to the left so as to be flush with the nipple line and beyond it; at the same time it is displaced more or less downward. Other cardiovascular phenomena are hemorrhages, which may take place in the skin, kidneys, stomach or bowels. Hematuria occurs occasionally especially in the gouty form of nephritis, when there is arteriosclerosis of the kidney vessels. Albuminuric retinitis and detachment of the retina occur in a number of cases, the former being the more frequent. Sometimes eye changes indicating nephritis are found before the family physician has any suspicion that disease of the kidney exists. Other symptoms are dizziness and vertigo, which may occur as symptoms of disturbed cerebral circulation, as the result of toxemia. Nutritional changes are characterized chiefly by loss of strength and infrequently by nausea, vomiting, painful digestion and attacks of diarrhea, without adequate cause. In toxic phenomena he cites such symptoms as headache, insomnia, delirium, coma, convulsions and hemiplegia, and bronchial and pulmonary symptoms such as dyspnea, bronchitis and edema of the lungs. He states also that he has seen several cases of peripheral neuritis, in one of which there were recurring attacks of gastralgia associated with anacidity.

9. Abstracted in The Journal, Dec. 5, 1908, p. 1994.

Detroit Medical Journal

January

13 The Surgeon, the Anesthetist, and the Patient. C. S. Oakman, Detroit.

Medical Record, New York

February 13

14 Diet as a Means of Increasing Vital Resistance in Tuberculosis, with Special Reference to the Protein Ration. J. H. Kellogg, Battle Creek, Mich.
15 Cholecystectomy vs. Cholecystotomy. J. F. Erdmann, New York.
16 Diagnostic Use of Tuberculin, with Special Reference to the Cutaneous and Percutaneous Tests. H. F. Stoll, Hartford, Conn.
17 Treatment of Erysipelas by Carbolic Acid and Alcohol. A Judd, New York.

Lancet-Clinic, Cincinnati

February 6

18 Treatment of Cancer of the Breast, with Special Reference to the Value of Roentgenotherapy. J. T. Dunn, Louisville, Ky.
19 Intelligent Cooperation Between School and Home. L. Bloom, Cincinnati.
20 *Causation and Treatment of Infantile Convulsions. E. W. Saunders, St. Louis.
21 Specialism in Medicine. W. L. Shollenbarger, Cincinnati.

February 13

22 Feeding and the Use of Alcohol in Typhoid. J. H. Landis, Cincinnati.
23 The Incurable Blind. W. S. Keller, Cincinnati.
24 The Hazard Attendant on Association with a Rabid Animal. T. V. Keene, Indianapolis.

20. **Infantile Convulsions.**—Saunders ignores the usual classification of factors of infantile convulsions and adopts the following didactic and clinical nomenclatures:

I.—Central Causes

1. Gross lesions of the brain or meninges, morbid or mechanical, congenital or acquired. 2. Concussion—commotio cerebri. 3. Sudden changes of pressure in the blood or cerebrospinal fluid.

II.—Centripetal Causes

1. Reflexes. 2. Psychomotor.

III.—Distrophies and Inanition

1. Rickets—tetany. 2. Acute and chronic cerebral inanition.

IV.—Hereditary or Congenital (inorganic causes)

1. Similar or dissimilar heredity. 2. Prematurity, congenital debility.

V.—Intoxication

The whole list of drugs and poisons, including food poisons, credited with spasmogenic power. (CO_2 and acetone excepted.) Some of them, such as alcohol, may be imbibed with the breast milk.

VI.—Intoxination

The specific toxins of acute infectious diseases, including those of organisms like the colon bacillus, which sometimes become parasitic.

VII.—Pyrexia from

1. Toxins. 2. Reflex irritation. 3. Heat stroke.

VIII.—Autointoxication from

1. Gastrointestinal disturbance. 2. Hepatic insufficiency. 3. Disturbance of the internal secretions. 4. Renal insufficiency. 5. Pulmonary and cutaneous insufficiency.

IX.—Maternal Autointoxication

1. Puerperal eclampsia. 2. Violent emotion shortly before nursing.

X

1. Asphyxia. 2. Whooping cough. 3. Thymic asthma.

XI.—Spasmophilia

XII

Eclampsia of the new-born (requires a separate consideration).

He discusses these conditions in detail, and expresses himself profoundly dissatisfied with the result of the routine emergency treatment of infantile eclampsia. He has long discarded the hot bath and is not sure that chloroform is an unmixed blessing. Death by asphyxia is the imminent danger and the system becomes more tetanized as oxygen is withdrawn. He therefore indorses Holt's plea for trial of oxygen inhalation as a routine measure. Morphin as an antispasmodic is more effective than chloroform. The cool pack is not open to the objections of a hot bath. In rickety cases phosphates with appropriate diet and hygiene do good. Bromids and chloral are safe and useful as antispasmodics. Veratrum viride is especially indicated in acute affections.

Northwestern Lancet, Minneapolis

February 1

25 The Interest of the Physician in the Medical Institutions of the State. L. C. Mead, Yankton, S. D.
26 Papillary Synovitis. C. J. Ringnell, Minneapolis.
27 Rectal Anesthesia; Demonstration of Apparatus with Report of Additional Cases. C. F. Denny and L. S. B. Robinson, St. Paul.
28 Mistakes in Diagnosis in the Upper Abdomen. J. E. Moore, Minneapolis.
29 Tabes Dorsalis. W. Reid, Deerwood, Minn.
30 *The Cutting of Cicatricial Strictures of the Esophagus Through the Esophagoscope. W. Lerche, St. Paul.

30. **Cicatricial Strictures.**—Lerche discusses the causation, pathology, symptoms and diagnosis of cicatricial stricture and describes the case of a boy 3 years old who had a severe cicatricial stricture from sucking lye. The child was reduced to skin and bone, and death was imminent. As not even liquid could be swallowed and enemata were the only means of nutriment, he describes the method in which he succeeded in getting a filiform whalebone bougie into the tight stricture by filling a bent glass tube covered with rubber tube with as many of the bougies as would permit an easy gliding in and out of the instrument and passing the rubber covered glass tube down to the obstruction. A little manipulation enabled him to pass one of the filiforms through the first stricture. A second and subsequently a third stricture were penetrated in like manner after some dilatation of the one above it had been effected. Finally he devised a new esophagotome with blades of different sizes and incised the strictures through the esophagoscope. The child recovered and is in excellent health. The method of using filiform whalebone bougies is particularly suitable to valvular and ring strictures. Lerche emphasizes the fact that the cutting of strictures must be done under the guidance of the eye.

Medical Fortnightly, St. Louis

February 10

31 Case of Double Monstrosity (Thoracopagus Teras Anactadidymum.) J. F. Menestrina, St. Louis.
32 *Treatment of Cancer of the Rectum. R. H. Barnes, St. Louis

32. Abstracted in The Journal, Nov. 14, 1908, p. 1728.

American Journal of Medical Sciences, Philadelphia

January

33 *Clinical Significance of Glycosuria in Pregnant Women. J. W. Williams, Baltimore.
34 *Medical Gymnastics in Early Myocardial Incompetence Without Valvular Disease. R. H. Babcock, Chicago.
35 *Value of the Inunction Method of Administering Drugs to Children. B. K. Rachford, Cincinnati.
36 Treatment of Irreducible Congenital Luxations of the Hip by Operative Means. G. G. Davis, Philadelphia.
37 Postoperative Treatment of Malignant Disease. E. G. Williams, Richmond, Va.
38 Differentiation of Common Types of Protracted Fever. D. Bovaird, New York.
39 Certain Complications of Pneumonia. M. H. Fussell, Philadelhpia.
40 Influenzal Meningitis. B. A. Cohoe, Baltimore.
41 *Illuminating Gas Poisoning. G. L. Jones, Washington, D. C.
42 Circumscribed Serous Spinal Meningitis. W. G. Spiller, Philadelphia.
43 Varix of a Papilla of the Kidney of Persistent Hematuria. H. Cabot, Boston.
44 *Problem of Immunity in Tuberculosis. E. R. Baldwin, Saranac Lake, N. Y.
45 Cammidge Reaction in Experimental Pancreatitis. J. Speese and E. H. Goodman, Philadelphia.
46 Surgery of the Gall Bladder and Bile Ducts. W. D. Hamilton, Columbus, O.

33. **Glycosuria in Pregnancy.**—Williams states that he knows of no complication of pregnancy the significance of which is more variously interpreted than the presence of sugar in the urine. This divergence of opinion, he says, is in great part due to the influence of a paper read by J. Matthews Duncan, before the London Obstetrical Society in 1882. At that time Duncan collected from his own experience and the literature, the histories of twenty-two pregnancies occurring in sixteen women who had become pregnant while suffering from diabetes, or who developed the disease during the course of pregnancy. Of these women four died in coma or collapse within a few days after delivery and seven others perished from diabetes or tuberculosis within the following two years, while 47 per cent. of the children were lost. Matthews concluded, therefore, that diabetes constituted one of the most serious complications of pregnancy and his views were accepted without question. Williams does not agree unquestiongly with Matthews' views and in this article reports in detail cases of glycosuria occurring in his practice and reviews in tabular form cases reported in the literature; from these he draws the following conclusions:

1. A positive reaction with Fehling's solution during pregnancy does not necessarily indicate the existence of diabetes, but is usually due to lactosuria or to transient, alimentary, or recurrent glycosuria.

2. In such cases it is imperative to determine whether the sugar occurs as lactose or glucose, as lactosuria is without clinical significance and is probably associated with premature activity of the breasts.

3. The significance of glycosuria is not so clear. If alimentary in character it may be regarded with impunity. Otherwise it may be of the transient or recurrent variety, or may indicate the existence of true diabetes.

4. If the glycosuria appears late in pregnancy, does not exceed 2 per cent. in amount and is not accompanied by symptoms, it is probably transient and may disappear spontaneously at any time or persist until the end of pregnancy. In either event, it is usually of slight clinical significance, and merely indicates that the patient should be carefully watched. If the sugar appears early in pregnancy and in large amounts, the condition is more serious, as it may be impossible to make a positive diagnosis until after delivery, when the condition disappears in glycosuric, but persists in diabetic patients.

6. Pregnancy may occur in diabetic women or diabetes may become manifest during pregnancy. Either is a serious complication, although the prognosis is not so alarming as is frequently stated; many patients do perfectly well, while a smaller proportion die in coma or collapse at the end of pregnancy, or during or shortly after labor.

7. If the output of sugar is large and can not be controlled, or at least markedly diminished, by suitable dietetic and medicinal treatment the indication of abortion or premature labor is indicated even in the absence of serious symptoms, and much more so when they are present.

34. **Medical Gymnastics in Myocardial Disease.**—Babcock discusses the cardiopathies encountered in men generally of large physique who lead sedentary lives and are, in addition, hearty eaters and heavy smokers. These men generally take on weight and commonly display an abdominal girth out of proportion to the chest development. In a certain percentage of these cases the men have been athletes at college but on entering professional life have neglected physical exercise entirely. In the majority of instances they possess indomitable energy and almost tireless activity, and display a systolic blood pressure that is up to, if not above, the normal limits. In the late fifties or early sixties these men consult the physician for relief from symptoms which betoken long-continued and at length injurious cardiac strain. The entire cardiovascular system is affected, though not uniformly. The kidneys also are involved, though in the cases referred to in this paper the renal inadequacy is overshadowed by the cardiac symptoms. Occasionally the coronaries are so involved as to present symptoms of angina pectoris. Babcock sends patients of this type to a medical gymnast to whom he had explained the end to be attained. The gymnastics to which the patients are subjected are of the kind investigated by Levin, who showed that if certain simple exercises were given properly it was possible to slow and strengthen the pulse instead of accelerating it, a very vital principle in these cases The exercises given consist in both active and passive movements, according to the degree of myocardial incompetence present. The former comprise certain rolling and bending movements of the trunk executed by the gymnast, who standing behind the individual seated on a wooden horse, with his feet held firmly by toe-straps, grasps the shoulders and firmly, yet not too vigorously, bends the body forward and then rolls it around to the opposite side in a backward direction, in such manner that, flexed in the beginning, the trunk becomes extended when the movement is half completed, and ends again in a position of strong flexion. To these may b added passive flexion and extension of the extremities, an alternate expansion and compression of the chest, very muc after the manner of performing artificial respiration. Th active exercises, which in all cases are gentle at first and performed by the help of the gymnast, and only by degrees increased in vigor, consist in deep breathing, in bending, pulling lifting, etc., on a horizontal bar or ladder, or such other movements as in the judgment of the gymnast will promot respiration and venous flow and reduce the girth of the al

domen. But whatever be the kind of exercises, one essential principle underlies them all, namely, the patient must not be allowed to hold his breath, but must breathe regularly and deeply in rhythm with the movements so as to inspire or expire according as the exercises expand or contract the chest and depress or raise the diaphragm.

The purpose of these exercises is not the development of the skeletal muscles, but the restoration of the functional integrity of the myocardium, and this they accomplish more or less effectively, not only by increasing venous flow on the one side and by dilating the intermuscular arterioles on the other, but also by improving cardiac metabolism. Of course, the degree and permanence of the improvement must depend largely on the state of the heart muscle. If this is extensively degenerated, no amount or kind of treatment can be expected to achieve much, and such improvement as is gained can not last long. In such cases, therefore, if dilatation and inadequacy are pronounced, the so-called resistance exercises are preferable, although to these may be added with advantage such deep breathing movements as, with the aid of a trained attendant, can be performed without danger of strain to the heart wall. As might be expected, the most pronounced benefit has been observed in cases of early or moderate myocardial incompetence, shown by breathlessness, or palpitation on slight cause, and on examination by increased cardiac dulness, feebleness of the first tone at the apex, accentuation of the pulmonic second sound, and sometimes a faint systolic whiff in the mitral area. In most, but not all cases, the blood pressure is elevated above the normal. In such cases the first indication of improvement is shown by the greater ease of respiration and a general sense of ease or lightness. Energy is increased and fatigue comes less easily, while a better action of the bowels and a diminution of waist measure are generally observed. Babcock states that his experience with medical gymnastics in cases showing early incompetence of the myocardium warrants him in recommending them, if properly controlled, and in asserting the belief that, if these and allied physical exercises were used more extensively and systematically by men of the build and habits to develop chronic myocardial and arterial disease, they would delay, if not prevent, the onset of cardiac inadequacy.

35. **Administration of Drugs to Children.**—Rachford advocates the administration of drugs to young children by inunction. He has given in this way guaiacol, iodin, oil of wintergreen, and salicylic acid. These medicines, with the exception of the iodin, were combined with anhydrous lanolin in the proportion of 1 dram to the ounce. In applying the ointments the following technic was observed: The skin of the chest and abdomen was carefully washed with soap and warm water, and hot, moist towels were then applied for a few moments to warm and redden the skin. One dram of the ointment was then carefully and gently rubbed into the skin. The inunction was continued for from five to ten minutes. Previous to the inunction the child's bladder had been emptied, and directions were then given to save all urine passed. If at the end of two hours no urine was obtained the bladder was emptied by catheterization, and subsequent specimens of urine were also saved for examination. The urine thus obtained was examined to determine the presence or absence of the drug which had been administered by inunction. By this method the following results were obtained: Eight children under 7 years of age were rubbed with oil of wintergreen and in every instance the drug was found in the urine within two hours after rubbing. It was observed that in the younger children, some of whom were less than a year of age, the reaction in the urine occurred earlier, in one instance within an hour and one-half, so that, on the whole, it may be said that the younger the child the earlier the reaction; if a definite time limit was observed the reaction was stronger in the younger children.

41. This article was abstracted in the Department of Therapeutics, Feb. 6, 1909, page 473.

44. Abstracted in THE JOURNAL, Oct. 24, 1908, p. 1447.

Colorado Medicine, Denver

January

47 *Differential Diagnosis of Lesions of the Mouth Due to Carcinoma, Sarcoma, Syphilis and Tuberculosis. T. E. Carmody, Denver, Colo.
48 Etiology and Diagnosis of Syphilis and the Bearing of Our Recent Knowledge of These Points on the Treatment of the Disease. C. E. Edson, Denver.
49 Integumental Tuberculin Reaction, with Report of 155 Moro Inunction Reactions. G. B. Webb and W. W. Williams, Colorado Springs.
50 Typhoid Fever. H. G. Garwood, Gorham, Colo.

47. **Lesions of the Mouth.**—Carmody discusses cancer, sarcoma, syphilis and tuberculosis of the mouth and gives a series of tables illustrating the differential diagnosis between these conditions as affecting the jaw, tonsil, lip and tongue. The article is fully illustrated.

Kentucky Medical Journal, Bowling Green

January

51 *Diagnosis and Treatment of Diseases in the Accessory Sinuses of the Nose. G. C. Hall, Louisville.
52 Radiography of the Accessory Sinuses. E. T. Bruce, Louisville.
53 *Care of the Pregnant Woman. H. M. Goodman, Louisville.
54 Treatment of Occipito-Posterior Positions. J. K. Freeman, Louisville.
55 Management of Third Stage of Labor. A. E. Gardner, Louisville.
56 Care of the Perineum. T. E. Gosnell, Louisville.
57 Anatomy and Pathology of Acute Intestinal Obstruction. G. A. Hendon, Louisville.
58 *Surgical Diagnosis and Management of Acute Intestinal Obstruction. H. H. Grant, Louisville.
59 Acute Intestinal Obstruction—Diagnosis and Medical Management. W. B. Gossett, Louisville.
60 Treatment of Strabismus From the Standpoint of the General Practitioner. G. C. Hall, Louisville.
61 Case of Ophthalmoplegic Migraine. S. B. Hays, Louisville.
62 Recognition of Acute Glaucoma by the General Practitioner. H. Kelly, Louisville.
63 Domestic Sanitation. L. G. Contri, Winona, Ky.
64 Etiology and Symptomatology of Strabismus. W. T. Bruner, Louisville.
65 Duction Tests. H. Kelly, Louisville.
66 Non-operative Treatment of Squint. S. B. Hays, Louisville.
67 Operative Treatment of Squint. M. F. Coomes, Louisville.

51. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1546.

53. **The Pregnant Woman.**—The deviation from health to disease in pregnancy is so slight, and often so sudden, that serious complications for mother and child may make headway before recognition. Goodman therefore makes a vaginal examination as early as possible and endeavors to see these patients twice a month. He considers that many subsequent troubles are due to neglect during pregnancy. He insists on proper attention to the condition of the kidneys and urges examination of urine twice a month in the first half, and once a week in the last half of pregnancy. He has known the kidneys to break down in twenty-four hours in consequence of overindulgence in meats or rich foods at social functions. The diet of the pregnant woman should be so regulated that the kidneys are not called on to perform extra work. In hyperemesis the elixir of paraldehyd has given him the best results, but it is contraindicated in kidney involvement. He insists also on the advisability of an abdominal examination, as well as a vaginal one, in the last two months of pregnancy, to determine fetal viability, multiple pregnancy, the pelvic measurements, the position of the child, and in the case of a primipara, to ascertain whether from deformity, tumor, etc., it is desirable to induce premature labor or to allow the pregnancy to go to term, relying on forceps, podalic version, Cesarean section or symphyseotomy.

58. **Intestinal Obstruction.**—Grant emphasizes these points: Purgation and opium must be withheld as far as possible until the diagnosis is made. Exploratory laparotomy under conditions of reasonable evidence is no discredit, even if it be found to have been unnecessary, because when it is necessary, procrastination means almost certain death.

Interstate Medical Journal, St. Louis

January

68 *Causation and Treatment of Infantile Convulsions. E. W. Saunders, St. Louis.
69 *Automobile Fractures. S. Lange, Cincinnati.
70 *How Long Should the Woman Remain in Bed After Normal Labor? F. Hinchey, St. Louis.

71 *Physical Culture of the Puerperium. G. Gellhorn, St. Louis.
72 *Hygiene of the Mouth, Nose, Pharynx, Intestine, Skin, Mucous Membrane in General; of Lymph Bodies and Lungs. Prevention of Colds. N. P. Barnes, Washington, D. C.
73 The Apparatus Used by the Greeks and Romans in the Setting of Fractures and the Reduction of Dislocations. J. S. Milne, Hartlepool, Eng.

68. See Abstract No. 20.

69. **Automobile Fractures.**—Lange records four cases. He considers it probable that the automobile fracture is a subperiosteal one. The accident may be avoided by care in cranking, which should always be done on the upstroke. If the engine fails to start on the first upstroke the handle should be readjusted for the next trial. To guard against premature explosions the sparker should be retarded, which prevents ignition from occurring until the piston has reached the end of the cylinder.

70. **Rest After Parturition.**—Hinchey, from a careful observation and study, arrives at the following conclusions:

1. Early rising is beneficial because the lying-down position reverses the normal curve of the utero-cervical canal, conducing to subinvolution and to retrodeviation of the uterus, consequent on the inability to secure uniform anemia aud atrophy of that organ.
2. In the early days after labor, there is an absence of unusual tension of the pelvic floor, in the upright posture, because the uterus rests on the pubis.
3. Exercise favors involution of the pelvic structure, so that by the time the uterus has reached the pelvis, these structures can afford the necessary aid to the internal uterine supports, thus preventing prolapse.
4. Hemorrhage and embolism are not to be feared.
5. Early rising affords drainage, which may prevent infection.
6. General metabolism is often impaired by prolonged rest to such a degree that lactation is inhibited and any tendency to invalidism is encouraged.

71. **The Puerperium.**—Gellhorn, as a result of his statistics, traces a large proportion of ailments to faulty management of the puerperium. He holds that a puerpera should stay in bed not less than eighteen days, should wear an appropriate bandage, preferably of the Semlink model, that mild methodical exercises started in the second week after confinement and continued for several weeks after patient has left the bed are indispensable to complete restoration, and that every puerpera should be carefully examined six weeks after delivery before being discharged from medical observation.

72. Abstracted in The Journal, Nov. 28, 1908, p. 1895.

Montreal Medical Journal

January

74 Cerebral Arteriosclerosis. C. K. Russel, Montreal.
75 Cutaneous Manifestation of Tertiary Syphilis. G. G. Campbell, Montreal.
76 Diagnosis of the Commoner Inflammatory Diseases of the Eye. T. A. Woodruff, Chicago.
77 Pott's Paraplegia Cured by the Plaster Bed. J. A. Nutter, Montreal.
78 Aphasia, Auditory and Motor, with Re-education. N. Viner, Montreal.
79 Medicine in Canada. M. C. Charlton.
80 Practical Considerations in Dealing with Pulmonary Tuberculosis. H. Elliott, Toronto.

Journal Michigan State Medical Society, Detroit

January

81 *Treatment of Syphilis and Parasyphilis of the Nervous System. D. Hecht, Chicago.
82 *Personal Experience with Prostatitis. F. W. Robbins, Detroit.
83 *Three Cases of Lymphatic Leukemia. W. Haughey, Battle Creek.
84 Etiology and Treatment of Nasal Catarrh. J. F. Byington, Battle Creek.

81. **Syphilis of Nervous System.**—Hecht epitomizes his article as follows:

1. Syphilis and parasyphilis of the nervous system continue to stand in direct and indirect causal relation to primary syphilis, although their nosologic position is very likely to undergo revision if the Schaudinn discovery and serodiagnostic values of to-day stand the test of time and further development.
2. The therapeutic position, it is hoped, will also share in this signal advance, but in the expectant interval it is well to insist that neither a routine nor a haphazard administration of antispecifics is commendable.
3. Treatment to be intelligent must meet the requirements of each case, with due regard for the many collateral chiefly supportive measures.
4. Antispecifics, when indicated in these conditions, mean mercury and iodids.
5. In the vast majority of cases occurring in neurologic practice mercury by inunction is the method of choice.
6. The "Frænkel exercises" treatment for the ataxia of tabes loses none of its efficiency if a departure is taken from the original complex plan to a simpler one.

82. Abstracted in The Journal, Aug. 29, 1908, p. 786.

83. Abstracted in The Journal, Aug. 22, 1908, p. 699.

Journal of the South Carolina Medical Association, Greenville

January

85 Public Schools and Public Health. W. J. Burdell, Lugoff, S. C.
86 Arteriosclerosis. T. A. Quattlebaum, Graniteville, S. C.
87 Relation of Physicians to Each Other. J. G. Duckworth, Anderson, S. C.
88 Relation of Physician to Patient. J. M. Richardson, Anderson, S. C.

American Journal of Surgery, New York

January

89 *Acute Dilatation of the Stomach. C. D. Selby, Toledo, O.
90 *Catarrhal Deafness and its Treatment. A. C. Geyser, New York.
91 Diagnostic Indications of Uterine Bleeding. S. S. Graber, New York.
92 Placenta Prævia Centralis. H. A. Miller, Pittsburg, Pa.
93 Correction of External Nasal Deformities. J. C. Lester, Brooklyn, N. Y.
94 Case of Pulmonary Embolism Following Injection of Salicylate of Mercury in Alboline. E. H. Eising, New York.
95 Acute Perforating Gastric and Duodenal Ulcer. E. Eliot, New York.

89. **Acute Dilatation of the Stomach.**—Shelby concludes that many cases of acute gastric dilatation on inquiry will be found to originate in splanchnic stimulation superimposed on some chronic malady of the stomach, and aided by the presence of some fermentative irritant or hypertonic solution in the stomach.

90. Abstracted in The Journal, Nov. 28, 1908, p. 1990.

Ophthalmic Record, Chicago

January

96 *Treatment of Recurrent Pterygium. H. Gifford, Omaha, Neb.
97 Case of Bilateral Fulminating Glaucoma. R. L. Randolph, Baltimore.
98 *Conditions Under Which the Striæ of Incipient Senile Cataract Appear and Disappear. L. Connor, Detroit.
99 Case of Mikulicz's Disease. R. L. Randolph, Baltimore.

96. **Recurrent Pterygium.**—Gifford contests the opinion expressed by Knapp "that pterygia that have relapsed after one or several operations and have the aspect of keloid scar should not be meddled with." He reports five cases successfully treated by the use of sufficiently large Thiersch or epithelial flaps. His experience indicates that all of these bad cases of recurrent pterygium can be cured by this means. In doing the operation it is important in dissecting back the conjunctiva to clean the cornea and sclera very thoroughly and to be sure that the flap is well attached to the globe before allowing the lids to close. Skin flaps should be very thin and they are best taken from the inner forearm. Their advantage is that they always remain skin, the statements to the contrary notwithstanding. On account of not being subject in the eye to the friction which skin generally gets, they do not clean themselves on the eyeball, and the epidermis collected on the surface not only looks bad, but is likely to cause some irritation. But if carefully wiped every day they look well and give no trouble. Lip and flaps have the disadvantage that, no matter how thin they are cut, they have on the eyeball a slight reddish tinge; they are also more liable to shrink. In practice, Gifford uses lip flaps when, on account of the age or disposition, a slight redness of the eyeball is of no importance, or when he has reason to think instructions as to wiping a skin flap would not be carried out. Slight recurrences in which the conjunctiva grows back on the cornea for a millimeter or two and there stops, require no treatment, but when a pterygium returns and is apparently progressing steadily, a narrow circumcorneal skin flap, as proposed by Dr. F. C. Hotz, will probably effect a cure. Gifford thinks, however, that we can generally more surely prevent recurrence by using a somewhat larger flap, applied as shown by one of his illustrations in this article. Of all the operations for pterygium he finds that of McReynolds the one least liable to be followed by recurrence.

98. **The Striae of Incipient Senile Cataract.**—Connor summarizes his considerations as follows:

1. The striated lenses of incipient senile cataract are the resul of disease, coincident with advancing years, but uot a necessar

part thereof (more than cholera infantum, club foot or squint are caused by childhood).

2. This disease is the result of general malnutrition and diminished local immunity or failure of the capsule cells to make lens fibers adequate to fill intercellular gaps by shrinkage of cells adjacent the nucleus.

3. These striated lenses occasionally become clear, either without or with a great variety of treatment.

4. In cases of incipient striated senile cataract, every existing cause of general or local malnutrition should be eliminated, and every known agency of promoting general or local nutrition be utilized, that the lens may regain transparency; or that workable vision be retained for the longest period; or to secure the best possible preparation for the shock and traumatism of extraction.

Woman's Medical Journal, Toledo, O.

January

100 Against the Spirochæta Pallida and Diplococcus of Neisser. H. C. Putnam, Providence, R. I.
101 The Eye and Its Diseases, in Relation to the Work of the General Practitioner. M. L. Hurrell, Rochester, N. Y.
102 Thyroid Enlargements. M. E. Dickinson, Rochester, N. Y.

United States Medical Naval Bulletin, Washington

January

103 Artificial Illumination of Naval Vessels—A Study in Naval Hygiene. J. D. Gatewood, U. S. Navy.
104 *Simple Operation for Hemorrhoids. H. F. Hull, U. S. Navy.

104. **Hemorrhoids.**—Hull describes the following operative technic: After dilating the sphincter, grasp the pile well toward its base with a hemostat, the blades parallel with the long axis of the bowel. It may be necessary to draw out the pile with a tenaculum. Take a strand of No. 2 catgut, 8 or 10 inches long and thread on each end of it a full curved or half curved needle. Start to sew at the upper end of the pile—that is, at the distal end of the clamp, entering one of the needles close to and just beneath the hemostat, about one-eighth of an inch from the extremity of the pile. Draw the thread half through. Bring the thread around the free end of the pile and re-enter the same needle through the same hole and from the original side. Thus a loop will be formed about this end. Follow down along the pile, keeping close to and beneath the hemostat with an ordinary shoemaker's or harnessmaker's stitch, with two needles, making the loops or stitches about one-eighth of an inch apart. This stitch is put in by entering the needles from opposite sides through the same hole and then pulling fairly tight. The last stitch or loop ends one-eighth inch from the proximal end of the clamp, and the two ends are simply pulled tight and tied about this end of the pile. Cut the pile off close to the upper surface of the hemostat, and lastly cut the long end of the threads. Repeat this procedure for each pile. Should any be very large, angry looking, and "bursting" with blood, a back stitch may be taken at about the center of the pile, first pulling tight those stitches already in. A cautery may be used on the raw edge. The after-treatment consists of a suppository of opium and belladonna, a rectal plug of gauze, and rubber dam wrapped about a piece of tubing and left in for two or three days. As soon as the plug is removed an oil enema is given.

Alabama Medical Journal, Birmingham

January

105 Successful Case of Endoaneurismorrhaphy. C. Whelan, Birmingham, Ala.
106 Sexual Neurasthenia. R. C. Bankston, Birmingham.

Chicago Medical Recorder

January

107 *Advisability of Operations During Shock. S. C. Plummer, Chicago.
108 *Treatment of Syphilis and Parasyphilis of the Nervous System. D. Hecht, Chicago.
109 *Relation of Influenza Bacillus to the Disease Influenza. W. S. Harpole, Chicago.
110 Abuse of Medical Charities in Chicago. C. J. Whalen, Chicago.
111 Untoward Results of Middle-Ear Disease. H. M. Hays, New York.
112 Rhachitismus—A Clinical Study. A. C. Wiener, Chicago.

107. **Operation During Shock.**—Plummer analyzes the expressions of various authorities on the question of operation during shock, and concludes as follows: Do not operate during shock as a rule. Before making exception to this rule, weigh carefully any rare and unusual case under your care; do not too hastily decide that a deviation from the ordinary practice is justified.

108. See Abstract No. 81.

109. **Influenza Bacillus.**—Harpole traces the history of influenza from 1510, and analyzes the opinions of many physicians thereon. He says that the situation to-day seems to be that we have:

1. Many cases of respiratory disease and febrile disease, in which the influenza bacillus is found in the throat cultures or sputum. These may or may not be cases of influenza of a mild type.

2. There are occasionally cases of severe infection of the body or its various systems in which the course is severe, and even fatal, and the organism found deep in the tissues is unmistakably the influenza bacillus. These cases seem to be undoubted cases of influenza.

3. The germ is found in cases of well-marked whooping cough, scarlet fever, measles, etc., in which the importance of its presence is a question.

4. It is also found in healthy mouths.

It would seem reasonable to believe that the influenza bacillus is a constant guest with us, producing sporadic, and at times epidemic, cases, and at periods, for reasons not understood, gaining a virulence at some point on the earth's surface from which the virulent colonies spread with great rapidity into a pandemic.

Providence Medical Journal

January

113 Vomiting. E. E. Pierce, Providence.
114 Peculiarities of the Stools of Young Children. F. G. Taggart, East Greenwich, R. I.
115 Three Cases of Glaucoma. V. L. Raja, Providence.

St. Louis Medical Review

January

116 *Blood Cultures in Typhoid. L. K. Baldauf, St. Louis.
117 New Laboratory of the University of Berlin. J. W. Marchildon, St. Louis.
118 Carcinoma of the Body of the Uterus. C. C. Vanderbeek, St. Louis.
119 *The Marriage of the Blind from the Standpoint of a Physician. C. Loeb, St. Louis.
120 Development—Physical, Mental, Moral. H. C. Fairbrother, St. Louis.

116. **Blood Cultures in Typhoid.**—Baldauf discusses the subject in general, dwelling particularly on the work of Coleman and Buxton (*American Journal of Medical Sciences*, June, 1907), whose conclusions he quotes. He has himself been making systematic and routine examinations at the St. Louis City Hospital in suspected typhoid cases, with a view to determining the frequency of bacillemia in typhoid infection and isolating different organisms from several individuals, for he is in agreement with those who believe that there are numerous strains of the typhoid bacillus and that the severity of the symptoms is dependent in many cases on the variety of the organisms. He has used in his work almost exclusively ammonium oxalate solution and Conradi's medium. He describes the technic.

119. Practically the same article, with identical conclusions, was published in the *Annals of Ophthalmology*, January, 1909, and abstracted in The Journal, February 20, page 663.

Southern California Practitioner, Los Angeles

January

121 Case of Subcutaneous Abscess Caused by the Sporothrix Schenckii. J. M. Burlew, Santa Ana, Cal.
122 Bismuth Paste in Diagnosis and Treatment of Fistulous Tracts. J. K. Swindt, Pomona, Cal.
123 Intravenous Injections in Tuberculosis. C. A. Shepard, Needles, Cal.
124 *Eclampsia, Toxemia and Uremia of Pregnancy. F. H. Redewill, Phoenix, Ariz.
125 Climatology of the Southwest. J. A. Munk, Los Angeles.
126 Care of Tuberculosis Patients at the Los Angeles County Hospital. D. C. Barber, Los Angeles.

124. **Eclampsia.**—Redewill reports experimental work which demonstrates conclusively, in his opinion, that in every case examined the placenta of an eclamptic woman was highly toxic. Glycerin extracts were made from both the maternal and fetal portions. The fetal extract in 70 per cent. of the cases showed no toxic effect up to ten times the unit of dose, while those injected with the maternal portion containing syncytium showed extreme toxic effects with one unit in every case. Redewill holds that we can accept, therefore, the syncytial theory of the origin of the toxin of eclampsia. The pathologic lesions of eclampsia are primarily necrosis of the periphery of the liver lobules with secondary lesions in the kidneys and brains. In pernicious toxic vomiting of pregnancy, as in acute yellow

atrophy, but less intense, the lesions are principally in the center of the liver lobules. Acute uremia of pregnancy, though of kidney origin, is indirectly produced by torpid activity of the hepatic cells. In determination of kidney and liver activity, the urea and ammonia quantitative tests are far more important than the searching for casts and albumin. To determine, directly, the liver activity, Strauss' levulose test is recommended. In eclampsia with a soft dilated cervix, the uterus should be emptied at once; with a hard, non-dilated cervix, dependence must be on laboratory as well as clinical evidence to determine the condition of patient, and if in critical condition, forcible dilatation and extraction or aseptic Cesarean section is called for. Anesthetics and morphin should be used sparingly. Venesection should be performed in most cases, low pulse alone not being a contraindication (Williams), and hypodermoclysis should be administered.

Ohio State Medical Journal, Columbus

January

127 *Sciatic Pain as an Orthopedic Symptom. A. H. Freiberg, Cincinnati.
128 Management of the Third Stage of Labor. E. W. Doherty, Toledo.
129 Relation of Diseases of Accessory Sinuses of the Nose to Eye Symptoms. J. W. Murphy, Cincinnati.
130 *Potentiality of Habit. C. B. Milis, Marysville.
131 Adherent Prepuce. J. C. Larkin, Hillsboro.

127 and 130. Abstracted in The Journal, May 23, 1908, pp. 1721, 1723.

Journal of Nervous and Mental Disease, Lancaster, Pa.

January

132 Three Cases of Facial Spasm Treated by Injections of Alcohol. H. T. Patrick, Chicago.
133 *Psychotherapy and the Church. C. B. Farrar, Baltimore.
134 *Hysterical Insanity, with a Special Consideration of Ganser's Symptom Complex. T. Diller and G. J. Wright, Pittsburg, Pa.

133. **Psychotherapy and the Church.**—Farrar criticizes the Emmanuel movement from a materialistic standpoint.

134. Abstracted in The Journal, July 4, 1908, p. 69.

Journal New Mexico Medical Society, Albuquerque

January

135 Head Injuries. J. R. Espey, Trinidad, Colo.
136 Traumatic Lesions of the Spinal Cord. J. W. Colbert, Albuquerque.
137 Routine Examination of Eyes, Ears, Nose and Throat in School Children. C. S. Loscy, East Las Vegas.

Mississippi Medical Monthly, Vicksburg

January

138 Postpartum Hemorrhage. A. P. Alexander, Sledge.
139 Obstetrical Observations. F. M. Brougher, Belen.
140 Etiology of Malarial Hematuria. C. J. Marshal, Lambert.
141 Uses of Digitalis. G. S. Johnson, Belen.

Journal of Medical Research, Boston

December

142 Bacteriolysis of the Gonococcus and of the Meningococcus with Normal and Specific Immune Rabbit Serums. J. C. Torrey, New York.
143 I.—New Para-Dimethyl-Amido-Benzaldehyde Test for Indol. II.—Cholera-Red Reaction as Affected by Mixed Cultures. E. N. Tobey, Boston.
144 Modification of the Technic of Complement Fixation. A. H. Caulfeild, Toronto, Canada.
145 Typhoid Meningitis: Cultivation of *Bacillus typhosus* from Meninges and Mesenteric Lymph Node in a Case of General Paresis, with Note on Experimental Typhoid Meningitis in the Guinea-Pig. E. E. Southard and E. T. F. Richards, Boston.

January

146 *Immunity Production by Inoculation of Increasing Numbers of Bacteria, Beginning with One Living Organism. G. B. Webb and W. W. Williams, Colorado Springs, Colo.
147 *Large White and Soapy Kidney. O. Klotz, Montreal.
148 Origin and Development of Foreign Body Giant Cells. A. Forbes, Boston.
149 *Later Stages of the Repair of Kidney Tissue (Dog), with Special Reference to Proliferation of the Pelvic Epithelium and Heteroplastic Bone Formation. R. M. Pearce, New York.
150 *The Increased Infective Power Produced in Bacteria by Sensitization, with Normal Serum of the Same Species. W. C. White and D. A. L. Graham, Pittsburg.
151 *Value of the Use of Ammonium Oxalate in Blood Culture Technic. C. Ryttenberg, Boston.
152 *General Susceptibility in Typhoid and Colon Infection, as Shown by the Ophthalmic Test. C. Floyd and W. W. Baker, Boston.
153 *A Mucin-Containing Multilocular Cyst of the Ovary. G. McConnell, St. Louis, Mo.

146. **Immunity Production by Inoculation.**—From their work on guinea pigs Webb and Williams conclude that some immunity is produced by beginning with a subcutaneous inoculation of one tubercle bacillus and slowly going up. They regard the method as harmless and suggest that it may prove beneficial in the treatment of established tuberculosis.

147. **Large White or Soapy Kidney.**—In the so-called large white kidney, Klotz finds myelin which contains fatty acids in combination with sodium and potassium—soaps of oleic acid. He could not demonstrate proteids or cholesterin. The large white kidney has usually been considered as fatty kidney, but in reality it would be more of a soapy kidney according to these results.

149. **Repair of Kidney Tissue.**—Pearce finds that in the repair of kidney tissue at the site of injury caused by partial extirpation there is, as a rule, proliferation of the epithelium of the pelvic mucosa and in the underlying connective tissue heteroplastic bone formation may take place.

150. **Increased Infective Power in Bacteria.**—White and Graham cite experiments which appear to them to indicate that the treatment of normal tubercle bacilli with normal rabbit serum increases the infective power of the bacilli for rabbits.

151. **Ammonium Oxalate in Blood Culture Technic.**—Ten cubic centimeters of the following solution, ammonium oxalate 2 grams, sodium chlorid 6 grams, distilled water 1,000 c.c., are put into large test tubes and sterilized for twenty minutes on each of three successive days. The tubes are stored in the ice chest until needed, but fresh solutions should be made every third or fourth week. The oxalate precipitates the calcium salts of the blood thereby preventing coagulation. In the actual work of making blood cultures, from 4 to 8 c.c. or so of blood are introduced into a tube of the oxalate solution and thoroughly mixed together, and this mixture may be used for making plates and inoculating various media. The method is useful as an intermediate step in blood culture, because it permits transportation of the blood from the bedside to the laboratory.

152. **General Susceptibility in Typhoid and Colon Infection.**—Floyd and Barker used a solution of typhoid bacilli prepared according to the method originally employed by Hamburger: The bacilli are grown on agar for twenty-four hours and then suspended in salt solution and the suspension is incubated for four days in order that autolysis may take place The solution is then sterilized at 60 C. for half an hour centrifugated for twelve hours and the clear supernatant fluid pipetted off. Hamburger used a solution representing three billion bacilli to the cubic centimeter, but Floyd and Barker regard this solution as too active and use one representing one billion bacilli per cubic centimeter. The test is simple and without danger and gave a definite positive reaction in 96 per cent. of the series studied, often several days before the agglutination reaction could be obtained. Floyd and Barke also studied a colon ophthalmic reaction carried out in th same way as the typhoid, but further work is necessary before its diagnostic value can be established.

153. Abstracted in The Journal, Jan. 30, 1909, p. 409.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinica lectures, single case reports and trials of new drugs and artificia foods are omitted unless of exceptional general interest.

Lancet, London

January 30

1 *Physiology and Pathology of Work in Compressed Air. S T. Oliver.
2 *"Bacillus F": An Organism in a Case of Epidemic Diarrhe J. Orr, R. S. Williams, H. L. Murray, C. Rundle an A. E. Williams.
3 Primary Squamous-Celled Epithelioma of the Epididymi R. P. Rowland and G. W. Nicholson.
4 *The Parasite of Kala-Azar and Allied Organisms. W. S. Pa ton.
5 The Treatment of Syphilis. G. G. S. Taylor.
6 A Typhoid Carrier, Treated Successfully by Inoculation Typhoid Vaccine. S. T. Irwin and T. Houston.

7 Modification of Excitant for Leucocytes Composed of Methylene Blue and Atropin. H. C. Ross.
8 *Tuberculosis in Children. T. Shennan.

1. **Compressed Air.**—Oliver gives the results of his experience of compressed-air illness, gained during three extensive engineering enterprises in the north of England. He describes the caisson, the phenomena of compression, and the method of decompression when the men leave the caisson. The length of time spent by the men in the working chamber should be inversely proportional to the pressure. The symptoms generally develop after men have come out of the airlock. There are sudden onset of pains in limbs or abdomen, sickness and vomiting, dizziness, bleeding from the nose or mouth, nervousness, often amounting to terror, unconsciousness, and even paralysis, which last, however, usually passes away, though in one of Oliver's cases the paralysis, which was accompanied by loss of sensation, became permanent. He discusses the explanations that have been given of the causation of the symptoms, the physiology, pathology, prevention and treatment. As to the last, recompression, followed by subsequent slow decompression, appears to be the most effective measure. Working in compressed air should be done only by comparatively young men who are temperate, of spare build, and whose tissues are still elastic.

2. **A Bacillus of Epidemic Diarrhea.**—The authors describe the morphology, staining reaction, cultivation and agglutination experiments, and the results of animal inoculations and feeding experiments in reference to a bacillus recovered from the stools in an epidemic of diarrhea. It is readily differentiated from the *Bacillus typhosus* and other definitely known morbific bacilli, such as Morgan's and the dysentery bacilli. The agglutination reactions appear to show a relation between it and the *Bacillus typhosus* and the paratyphoid bacillus B.

4. **Kala-Azar.**—Patton essays to show that the parasite of kala-azar is a herpetomonad, and that in its flagellate stage it may be indistinguishable from a harmless species; this truth is of importance, because in spite of other data the two closely allied human forms—the parasites of infantile splenomegaly and oriental sore—are still regarded as identical with the parasite of kala-azar.

8. Abstracted in The Journal, Oct. 17, 1908, p. 1366.

British Medical Journal, London

January 30

9 *Physiology and Pathology of Work in Compressed Air. Sir T. Oliver.
10 *Uses of the Calcium Salts in Various Morbid Conditions. A. P. Luff.
11 *Use of Alkalies in Practical Medicine. E. Smith.
12 Remedial Use of Alcohol. J. MacDonald.
13 Operation at End of Fifth Month for Extrauterine Gestation with Living Fetus. A. Doran.
14 Tubal Pregnancy with Early Operation. H. F. Warner.
15 Perforative Peritonitis Following Typhoid Fever: Operation. Recovery. H. B. Mylvaganam.
16 *Method of Measuring the Systolic Pressure in Man, and the Accuracy of This Method. L. Hill and M. Flack.
17 *Treatment of Inoperable Cancer by Hypochlorites. J. E. A. G. Becker.
18 *Treatment of Cancer with Cocain. R. M. Gilchrist.

9. See Abstract No. 1.

10. **Calcium Salts.**—Luff cites Wright's observations that deficient blood coagulability does not always manifest itself in actual hemorrhages, but may show instead an increased transudation of plasma through the capillary wall—"serous hemorrhage." Examples are urticaria, chilblains, edema of the feet and hands, not due to cardiac, renal or venous troubles, and a certain form of headache known as the lymphatic type. This last occurs more frequently in women, usually as a heavy dull ache in the frontal region, occasionally as a throbbing pain in the frontal and temporal regions. It commonly appears on awaking in the morning, and diminishes in intensity or disappears after a few hours. It is most intractable. The subjects of it are usually of the lymphatic type, with a tendency to slight edema of the face, eyelids, hands and feet. Ross suggested the administration of a calcium salt to increase the coagulability of the blood, and demonstrates that the decalcification of the blood, with consequent diminution of coagulability, which can be brought about by potassium citrate, caused a reappearance of the headaches. During nine years Luff has treated 121 cases of deficient blood coagulability with calcium salts, usually with the best effects. The conditions treated included headache, chilblains, boils, urticaria, flushing of the face, aneurism of the aorta, hemoglobinuria, edema of the feet on exertion, vesicular or bullous eruptions, and certain skin conditions—erythema, lichen-planus, gouty pruritus, pruritus ani, and offensive perspiration. He uses for adults calcium lactate, 15 grains (1 gram) in a fluid ounce of chloroform water, with from a half to one minim of tincture of capsicum, three times a day, one hour before meals. The constipation caused by the drug must be controlled, for which purpose salines should not be used, owing to their precipitant action on calcium salts. He has found an effusion of senna pods taken at bed time the most useful laxative.

11. **Alkalies in Medicine.**—Smith says that valuable and widely used as alkalies are in medicine, they must be used with discretion, for appropriate conditions, and on a definite plan. Taken before meals they have a local action. They should be prescribed only in moderate doses and be discontinued as soon as their administration has ceased to be obviously beneficial. They have a local action, both on the stomach and bowels, which, however, appears to be due not so much to their chemical action on the gastric contents as to their undoubted influence in restoring the deranged mucous membrane to a normal condition. Their effect is not limited to this local action, however, for, when used with judgment, they seem to have the power of influencing the whole system for good and setting up a favorable change, which is not always a merely transitory improvement. In gastric derangements, sodium and potassium bicarbonate are probably equally good. From 10 to 20 grains are usually sufficient for adults (for children, from 5 to 10 grains), and it adds to the curative value to combine in each dose a few grains of sodium chlorid. Smith finds the addition of two or three minims of tincture of colchicum seeds, useful in cases of dyspepsia. If there is great irritability of the stomach the alkalies should be made to effervesce with citric acid. The caustic alkalies—liquor potassæ and liquor sodæ—have a more decided sedative action on the stomach than the bicarbonates. Long courses of alkalies are rarely of service in the management of ordinary flatulent dyspepsia. In addition to the salts of potassium and sodium, the heavy carbonate of magnesium and calcium carbonate are very useful. When the object is to neutralize the acid in the cecum the insoluble alkalies are to be made use of, for these are likely to pass unaltered through the stomach and reach the lower bowel unchanged. Smith discusses the uses of alkalies in the treatment of urinary acidity and the discharge of sand and gravel, in the painful cramps which often affect the habitual dyspeptic, especially at night, in suppression of urine, in viscid bronchitis, and the use of sodium citrate in infant feeding.

16. **The Systolic Pressure in Man.**—Hill and Flack, in view of the doubt recently expressed as to the accuracy of the obliteration method of measuring the systolic blood pressure, have tested it in man in two different ways, and both ways, so far as the authors' tests go, show that the method is an accurate one. They describe the methods.

17. **Inoperable Cancer.**—Becker reports three cases of inoperable cancer in which great improvement followed treatment by injection of a solution of potassium and sodium hypochlorite. The periods elapsing between the recognition of the condition and the date of writing—at which period each patient was apparently in good health—are five and one-half years, eighteen months and over four years. The diagnosis was verified microscopically in 2 of the 3 cases. The solution is prepared by dissolving 5 grams of potassium hydroxid and 4 grams of sodium hydroxid in a liter of distilled water, and passing it through washed chlorin gas. Of this solution, 1.5 to 2 c.cm. were injected daily for a varying period, usually under the skin over the deltoid muscle or over the great trochanter, so that the solution might enter the system at a site in the general neighborhood of the lymphatic glands. The growth itself and the skin over it were carefully avoided. So, too, was the use of alcohol during treatment.

18. **Cocain in Cancer.**—Gilchrist reports fourteen cases of various forms of cancer, mainly uterine or breast, treated by cocain administered internally, and where practicable applied locally also. The author makes the following remarks:

> 1. In every case the general constitutional condition of the patient was very much improved, even if only for a time.
>
> 2. From the observations made in these cases, it may be considered, so far as the relief of pain is concerned, that cocain stands unrivaled, for while easing, or altogether taking away pain, there are none of the objectionable conditions which opiates produce.
>
> 3. In every case of uterine cancer in which hemorrhage was a prominent symptom, the administration of cocain was followed by immediate benefit; either stopping the flooding entirely or leaving only at intervals a show.

Medical Press and Circular, London

January 27

19 *Peroneal Type of Muscular Atrophy. A. Whiting.
20 Incontinence of Urine Associated with Epispadias. R. P. Rowlands.
21 Ten Cases of Operation for Perforated Gastric Ulcer. C. Morton.
22 Some Gonorrheal Diseases of the Eye. S. Stephenson.

19. **Peroneal Type of Muscular Atrophy.**—Whiting summarizes the pathologic findings of the more recent investigations by saying that several have found degeneration of peripheral nerves, muscles and posterior columns of the cord; some have found lesions both of the posterior horns and the anterior horns, and a few have observed a hypertrophy of the interstitial substance of the nerves. Muscular atrophy is by no means unknown in unequivocal cases of tabes dorsalis. As to sex frequency, it is usually said that males are more frequently affected than females as five to one, but in the case of the family he describes in his paper that does not appear to be the case; indeed, the heredity seems to follow the rule in certain other nervous disorders of transmission, from the mother to the son, and the father to the daughter. In reference to etiology, it is clear that there is an inherited vulnerability, to say the least, of nearly the whole of the lower nervous system, and, indeed, possibly also of the higher, as an erratic, bizarre, excitable psychology is held by some to be characteristic of the disease. In this respect it seems closely to resemble Friedriech's hereditary ataxia. In addition to this predisposing cause, there is clear evidence that in many cases there is also an exciting cause, usually in the form of some acute, specific fever, particularly, as the case records seem to suggest, measles; but other toxic agents such as alcohol and lead, have been held to participate, and even conditions of muscular and mental stress have seemed to have a share in the development of the disease. Up to the present, effective treatment may be summed up in almost a word, namely, well-directed tenotomies; any other is of little avail.

Clinical Journal, London

January 27

23 Appendicitis and Its Treatment. T. H. Openshaw.
24 Diseases, Not of the Stomach, Which Are Liable to Produce Misleading Gastric Symptoms. A. E. Maylard.

Journal of Tropical Medicine and Hygiene, London

January 15

25 Trypanosomiasis and the Geographic Distribution of Some of the Blood-Sucking Insects. J. E. S. Old.
26 Hemogregarines of Snakes (to be continued). L. W. Sambon.

Annales de l'Institut Pasteur, Paris

December, XXII, No. 12, pp. 929-1020

27 *Research on the Intestinal Flora. E. Metchnikoff.
28 *Ankylostomiasis and Beriberi in Cochin China. F. Noe. Commenced in No. 11.
29 Filtration of Certain Proteolytic Diastases Through Collodion Membranes. F. Strada.
30 Piroplasmoses of Cattle in Indochina. H. Schein.

27. **The Intestinal Flora.**—Metchnikoff protests against Finkelstein's conception of the intestinal disturbances of infants as due exclusively to dietetic disturbances—alimentary intoxication. Finkelstein's main argument is that this alimentary intoxication is not connected with any special bacterial flora, as he found this so diverse in the different cases, while the influence of the food was constant and pronounced. Metchnikoff points out that the secretions of the bacteria differ with different food; if a little fecal matter is placed in two tubes, one of which contains chopped meat in water and the other chopped vegetables in water, the fluid in the first jar after two days becomes extremely poisonous for rabbits, while the fluid in the second is entirely harmless for them. The bacterial products are thus different in the two tubes, although derived from the identical source. He then reports personal research on the microbes of putrefaction and their toxic products, especially the anaërobes, *Bacillus putrificus* and *B. perfringens* or *welchii*. He has demonstrated that these anaërobes are a source of autointoxication against which the organism should struggle with all the means at its disposal. It is precisely during the first few days of the development of these putrefaction anaërobes that their products are the most intensely toxic. This is interesting in view of the frequently proclaimed fact that the putrefaction in the intestine is only the first stage of the putrefactions observed outside the huma body. He shows further the analogy between the proteolyti flora in the intestine and putrefactions in general, whereve encountered, and states that this constitutes a new argument in favor of the pathologic importance of the putrefactio microbes in the human organism.

28. **Beriberi Due to the Ankylostomum.**—Noe is convince that the *Necator americanus* is partially responsible for th syndrome known as beriberi, its action supplemented by th lack of sufficient nourishment. The toxic secretions of th parasite seem to accumulate in the system and rende the blood serum hemolytic. Repeated ingestion of the larv of the hookworm plus the usual Annamite diet is liable t induce the syndrome of beriberi. Thymol cures the diseas readily and completely when it is of recent origin, but it i useless when the lesions of degeneration are far advance Intoxication from the ankylostomum in its various forms i an extremely serious endemic in the Orient. Prophylact treatment of ankylostomiasis and improvement of the ord nary diet, which contains too little nitrogen and fat, will ai in exterminating this scourge. When carefully treated wit thymol and the reflexes fail to return promptly, the patien must be regarded as incurable. He gives the thymol in tw doses of 4 gm. or 6 gm. (60 or 90 grains) each, with an interval of from four to eight days; each dose is preceded by jalap or calomel purge, the patient being on a strict milk di careful to refrain from castor oil and alcohol. He has appli this treatment in numerous cases of beriberi; 47 out of o series of 58 patients were cured and 5 others failed to co plete the course. The hospital at Choquan has had from 4 to 1.227 beriberi patients every year since 1900, the mortali ranging from 22.14 to 41.61. A number of young men und 25 had the paralytic or mixed form, with pain in the le and loss of the knee-jerk, but little or no edema, only a f weeks having elapsed since the onset of the disease. All th patients were promptly and completely cured. In the old cases the lesions of the nerves, heart, lungs and liver prov irreparable.

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XIII, No. 1, pp. 1-36

31 *Undescended Testicles. (L'ectopie testiculaire.) Villemin
32 Rectal Injections of Seawater in Treatment of Infantile G troenteritis. (Nouveau mode d'administration du sérum Quinton dans les gastro-entérites infantiles.) E. Gaujo
33 *Asystoly in Children. (Asystolie chez les enfants.) A. Mo sous.
34 *Treatment of Burns. (Traitement des brulures.) J. Luc Championnière.

31. **Diagnosis and Treatment of Undescended Testicles** Villemin does not advocate operating on very young child free from complicating hernia or pain or when the testicl in the abdomen or behind the peritoneum. On the other ha he operates when there is concomitant hernia or pain as s as the child has learned not to soil himself. There is li prospect after the age of 10 for spontaneous descent of testicle. If the testicle slides into some other abnormal l tion intervention should not be delayed. Gentle, slow m sage, frequently repeated, may sometimes force the test down into the scrotum. In case of failure, operative meas are indicated when the child is approaching the age of The tendency to hernia must be corrected and the fibrous sue retaining the testicle must be severed. The best way

retain the testicle in the scrotum is to unite it with the other testicle. Then any attempt of one testicle to slide back upward is prevented by the other testicle as they reach the root of the penis. He has done this operation more than three hundred times since 1899, and the results have been very satisfactory. Of course the operation is unable to render functionally perfect a congenitally defective testicle, but in every case the pain and the nervous symptoms were abolished.

33. **Asystoly in Children.**—Moussous regards the localization of the disturbances in the liver and the more rapid course as the special characteristics which distinguish asystoly in children from that in adults. When there is pericardial adhesion the liver dominates the syndrome to such an extent as even to divert attention from the heart. The defective functioning of the liver and the hampered portal circulation entail serious digestive trouble and ascites follows. Repeated punctures may relieve and prolong life for a year or so; a few cases are on record of survival for eight or ten years. The rheumatism or tuberculosis responsible for the asystoly in the first place adds its injurious action on the peritoneum, and the child is liable to fall an easy victim to some intercurrent infection.

34. **Treatment of Burns.**—Championnière protests against the usual treatment of burns with irritating substances which aggravate the condition or permit intoxication from absorption of drugs applied to the wounded area. For this reason he never allows a sedative to be applied to the burn; if one is absolutely necessary, he prefers an injection of morphin. He cleanses the region around with a hot strong solution of carbolic acid, empties the blisters, and swabs the burned surface with a sponge dipped in a carbolic acid solution but so lightly as not to tear the epidermis. A piece of linen in which holes have been cut is spread with a salve and applied to the burned area; over this is laid another piece of linen and cotton to keep out the air, then a bandage to hold all in place. The cotton must be changed every day without fail. Great care should be taken to preserve the epidermis. The salve he has been using for years is petrolatum, 100 gm. (3 ounces), with 15 drops each of essential oil of thyme, of geranium, of vervain and of origanum. This mixture has a soothing and disinfecting action and promotes rapid healing. When unable to obtain the ingredients for this he uses a mixture of 100 parts petrolatum with 10 parts pulverized boric acid and 1 part balsam of Peru. Years of experience have confirmed the value of this technic. He adds that impregnation of a large eschar with zinc chlorid will ward off infection of the eschar, and that tar may prove useful as an application to parts doomed to mortify.

Presse Médicale, Paris

January 16, XVII, No. 5, pp. 33-48

35 *Suprapubic Prostatectomy. (Prostatectomie sus-pubienne.) G. Marion.
36 The Outlook for Pharmacodynamics. (Le devenir de la pharmacodynamie.) A. Martinet.
37 *Recurring Coryza and Autointoxication. P. Cornet.
38 *Action of Gonococcus Vaccine in Gonococcal Joint Affections. (Action du vaccin gonococcique sur les arthrites à gonocoques.) C. Mainini.

January 20, No. 6, pp. 49-56

39 Light Colored Liver Cells. (Les cellules hépatiques claires. Leur nombre relatif à l'état normal. Leur charge glycogénée.) A. Gilbert and J. Jomier.
40 Variations and Measurement of Muscle Tonus. The Myotonometer. P. Hartenberg.

35. **Suprapubic Prostatectomy.**—Marion discusses the indications and contraindications for prostatectomy, and reviews the technic by the suprapubic route, advocating permanent drainage by means of a short piece of wide rubber tubing to the side of which is fastened the sound connected with the irrigator. An elbow-shaped glass tube fits into the short wide drain tube; the latter is perforated near the bottom. The outer end of the glass tube is fitted with a rubber tube conveying away the fluids when the drain is inserted in the bladder through the suprapubic incision. A retention catheter is liable to become plugged with clots, which danger is avoided with this method of drainage, which also does away with the contact of the catheter against the raw surfaces. As soon as the patient is returned to bed the continuous irrigation is commenced: from 20 to 40 quarts or more of cold boiled water are allowed to flow through the drain into and out of the bladder each day. It should be arranged in such a way that the dressings are kept dry and thus do not need renewing for three or four days at a time. The irrigator is placed two or three feet above the level of the bed, the flow being controlled by a clamp in the tube. If the outflow becomes arrested, clots must have got into the drain tube; by removing the glass elbow it is possible to fish up the clots in the drain with forceps. The continuous irrigation not only washes out clots and arrests hemorrhage, but it prevents infection from stagnating urine and clots in some raw pocket. He keeps up this irrigation for three, five or ten days, substituting a smaller, right-angled drain when healing is progressing smoothly, and then he commences to rinse out the bladder daily through the urethra. It is easy for the catheter to go astray behind the spur left from the prostate, and he warns that a guide is necessary to ensure its safe entrance into the bladder. He has treated 18 patients in this way, with invariably good results. One of the men insisted on pulling out his tubes and going to the toilet room every day, and his convalescence was unusually brief. As a rule, Marion lets his patients get up on the eighth or twelfth day. This continuous irrigation has robbed prostatectomy, he is convinced, of its former seriousness. One of the proofs of this is that the other "prostatics" clamor for an operation when they see the excellent condition of those operated on. The operation itself, he adds, is by no means so important as the after-care. The article is illustrated.

37. **Recurring Coryza a Manifestation of Autointoxication.**—Cornet presents numerous arguments to sustain his view that recurring coryza, from simple "colds in the head" to pronounced hay fever, is merely one of the manifestations of the arthritic diathesis, that is, of a family tendency to sluggish elimination of waste products and toxins. He points out that the mucosa of the nose is an excreting organ, and the excretion through this mucosa of some of the toxins generated in the digestive tract may be one factor in recurring coryza. He has had a number of instances in his experience in which an error in diet was promptly followed by an attack of coryza. It is like the congestion observed in the face during difficult digestion. Reflex irritation from the digestive tract distends the vessels, heats and reddens the face, and by stimulating the glands renders the skin greasy and pimply. This same process in the nasal mucosa induces swelling, congestion and excessive secretion; the nerve fibers in the mucosa become irritated from the recurring or continuous autointoxication and the consequent hyperesthesia renders them peculiarly sensitive to dust inhaled or changes in temperature. He has found regulation of the diet, especially avoidance of meat and alcohol, the most effectual means of curing such patients. A little white meat at noonday is all he allows. If local measures are deemed necessary, he applies the actual cautery to the hypersensitive points. The cauterization must be deep enough to destroy the nerve filaments, but this alone is futile unless the underlying autointoxication is combated. The hypersensitive points in the nose are mainly the protruding points where lodge the inspired dust and microbes.

38. **Antigonococcus Vaccine and Gonococcal Arthritis.**—Mainini describes the simple technic for making the vaccine from an emulsion of gonococci, and then reports its application in six cases. It arrests the pain in the true gonococcus arthritis, but it did not seem to modify the course of the affection. He suggests that this specific action on the pain might be useful for differentiation in dubious cases of joint affections.

Semaine Médicale, Paris

January 20, XXIX, No. 3, pp. 25-36

41 Behavior of Spleen and Liver in Acute Malaria. (Le syndrome spléno-hépatique dans le paludisme algu.) A. Chauffard.

January 27, No. 4, pp. 37-48

42 Inhalation the Only Possible Source of Tuberculosis of the Lungs in Nearly Every Instance. (Impossibilité de la propagation de la tuberculose au poumon par la voie lymphatique.) J. Lhermitte.

Archiv für Kinderheilkunde, Stuttgart

XLIX, Nos. 3-4, pp. 161-320. Last indexed July 4, 1908, p. 82

43 Lactalbumin. (Zur Geschichte und Kenntniss des Milchalbumins.) P. Bergell. Id. (Versuche mit Albulactin bei künstlich genährten Säuglingen.) J. Cassell and H. Kamnitzer.
44 *Tuberculin Reactions, Especially the Ear Reaction. (Auriculoreaction.) V. Tedeschi.
45 Obscure Cases of Infectious Intestinal Affections. (Enteritis, Dysenterie, Pseudodysenterie, Paratyphus, Typhus, etc.) A. Baginsky.
46 *Albuminuria From Curvature of the Spine. (Ueber lordotische Albuminurie.) H. Nothmann.
47 Treatment of Paralytic Talipes Equino-varus. W. Sochaczewski.

44. **The Ear Tuberculin Reaction.**—Tedeschi uses the extremely vascular and comparatively transparent surface of the ear for application of the tuberculin to induce a specific local reaction. Its absolute harmlessness commends this technic, he says, while the test has the advantage of precision and allows better recognition of the specific induration in the depths of the tissues; the whole reaction seems to be more typical and permits more accurate dosage.

46. **Curvature of Spine Responsible for Orthostatic Albuminuria.**—Jehle announced a short time ago that he had found more or less curvature of the spine in all the cases of "orthostatic" albuminuria in his experience, and believed that the curvature was responsible for the albuminuria. This assumption was confirmed by the fact that he succeeded in inducing the "orthostatic" albuminuria in healthy children, previously free from any such tendency, by merely artificially inducing a curvature in the spine. When the children sit or recline, there is no lordosis and the kidneys functionate normally, but when they stand up, the weakness of the muscles causes the spine to curve in the lumbar region and the kidneys have to work under abnormal conditions on that account. If the muscles are strengthened or supported, the sole of the shoe made a little thicker or a supporting corset worn, the tendency to albuminuria is corrected. Nothmann states that he has witnessed the development of abluminuria in cases of progressing lordosis, and has also succeeded in inducing the production of albuminuria by artificially induced lordosis. He reports a number of cases of children convalescing from scarlet fever with traces of kidney disturbance; in all such cases albuminuria promptly followed when the spine was artificially incurved. In another series of scarlet fever children it was impossible to elicit albuminuria by the artificial lordosis, and the kidneys of these children at the time and later have always been apparently absolutely healthy. He has been experimenting on rabbits and on the cadaver to see the effect on the kidneys of curvature of the lumbar spine, and has found that the incurved vertebræ protrude into the space between the kidneys, push them apart and twist them around on the vertical axis, amply explaining the disturbances in circulation evidently responsible for the albuminuria. He thinks it should properly be called "lordotic albuminuria" instead of "orthostatic." If the kidney is at all pathologic, albuminuria is more readily induced than in a sound organ.

Berliner klinische Wochenschrift

January 25, XLVI, No. 4, pp. 141-188

48 Fatal Hemoptysis from Bursting of Aneurisms in Non-tuberculous Bronchiectasis. H. Chiari.
49 *Treatment of Rhinoscleroma with Roentgen Rays. A. R. Rydygier, Jr.
50 *Direct Visual Inspection of Sigmoid Flexure. (Zur Sigmoskopie.) H. Strauss.
51 Serodiagnosis of Syphilis. C. Bruhns and L. Halberstaedter. Id. E. Meirowsky.
52 Treatment of Strictures in the Urethra. (Behandlung schwerer Harnröhrenstrikturen.) J. Cohn.
53 Determination of Antipyritic Power of Blood. (Verbessertes Verfahren zur Bestimmung der antitryptischen Kraft des Blutes.) Marcus.
54 Contagious Fowl Leukemia. (Zur Kenntniss der übertragbaren Hühnerleukämie.) H. Hirshfeld and M. Jacoby.
55 Radium Cataphoresis. F. L. Kohlrausch and C. Mayer.
56 Determination of Size of Blood Corpuscles. (Bestimmung des Blutkörperchenvolumens.) M. Bönniger.

49. **Roentgen Treatment of Rhinoscleroma.**—Rydygier has treated 14 patients with rhinoscleroma by applying the Roentgen rays directly or to the external skin, and states that it is thus possible to effect a complete cure. Most of his patients were women and all were from the poorer classes. In one of the typical cases described, the scleromatous masse obstructed and deformed the nose and extended into th palate. The nose and upper lip and the palate through th open mouth were exposed to the rays for two minutes dail This was kept up for 16 days and resumed after 16 days f 12 days, followed by another interval of 16 days, resuming th exposures for 18 and then for 16 days with the same inte vals of suspension. The rhinoscleroma gradually subsided an disappeared and the nasal passages became normally perm able, with no recurrence during the five years since. He us a medium soft tube, with a current of 32 volts and 2 or amperes. When the rays were filtered through tin foil, t exposures were made for four minutes instead of two.

50. **Sigmoidoscopy.**—Strauss gives an illustrated descripti of a manikin for teaching the technic of direct visual inspe tion of the sigmoid flexure and of the sigmoidoscope he pr fers, and also illustrates a case of primary double carcinon in the sigmoid flexure. The malignant nature of the affe tion was determined by direct visual inspection and t stretch of bowel involved was resected in time to save t patient. The case further emphasizes the importance of i specting the sigmoid flexure even when lesions are found the rectum presumably sufficient to explain the symptor observed. In this case, palpation gave negative finding while a hemorrhagic proctitis served to explain the bleedi The introduction of the sigmoidoscope was painful and di cult and was given up after two attempts, especially as t opening seemed to be normal and the patient, a man of had arteriosclerosis and required careful measures. The st was normal except for traces of mucus and blood. Under lo treatment of the proctitis, conditions improved, so that t man was free from symptoms for two months, but then m blood appeared in the stool and the sigmoidoscope cleared the diagnosis at once, a scrap removed showing the maligna nature of the lesion discovered. The patient was in the b of health at time case was reported, six weeks after the cision of the tract involved. The difficulty experienced in troducing the sigmoidoscope in some cases shows the necessi for practice, and for this Strauss has devised a very practi manikin. He advises using a sigmoidoscope in which the la is outside, the light being reflected into the tube, thus avo ing soiling or injury of the lamp from matters passing throu the tube.

Deutsche medizinische Wochenschrift, Berlin

January 21, XXXV, No. 3, pp. 89-136

57 *Fat Infiltration and Degeneration in the Kidneys. (Ver tung der Nieren.) G. Klemperer.
58 *Infusoria in Stomach Affections. (Infusorien bei gut- bösartigen Magenleiden nebst Bemerkungen über die genannte Infusorienenteritis.) P. Cohnheim.
59 *Xanthomatosis with Chronic Jaundice. (Symptomatis Xanthome bei chronischem Ikterus.) O. Posner.
60 Disturbances in Orientation. (Orientierungsstörungen.) Wahle.
61 *Surgical Treatment of Idiopathic Renal Hemorrhage. (genannte essentielle Nierenblutungen.) Treplin.
62 Nature and Importance of Pathologic Electrophysiology. Boruttau.
63 Immunizing Action of Lecithin Bacterial Extracts. (Bakt elle Lecithinauszüge.) R. Bassenge.
64 *Acquired Diverticula in Large Intestine. (Zur Pathologie Therapie der falschen (erworbenen) Divertikel des D darms.) F. Franke.

57. **Fat in the Urine.**—Klemperer has been studying fat generation of the kidneys and was able to demonstrate in case of a young suicide that fat is liable to infiltrate into kidney tissue even when the latter is healthy. The dis ery of fat particles in the kidney urine is not necessa therefore, a sign of grave prognosis. When they occu large amounts, however, it is a sign of a necrotic proces the kidney cells. During the necrotic process the lipoid stances undergo some transformation which renders t visible; to this he applies the term fat "phanerosis."

58. **Infusoria in Stomach Affections.**—Cohnheim, conti his researches in this line, has found that the presenc flagellates in the stomach is a presumptive sign of ac from some malignant process, although in exceptional they may be found with achylia from some benign affec When found in the stool they indicate some primary sto

affection. He does not believe that the infusoria have pathologic properties. He gives the details of six cases of cancer of the stomach or esophagus in which the infusoria were found, as also in a case diagnosed latent cancer, but this was disproved by the latter course of the case. The infusoria were not an early sign in any instance.

59. **Xanthomas in Chronic Jaundice.**—Posner's patient was a woman of 37 with cirrhosis of the liver and jaundice but no ascites. Generalized xanthomatosis developed, accompanied by intense pruritus during exacerbations. None of the xanthomas showed any tendency to retrogress; they developed symmetrically and predominantly on parts exposed to friction. Carlsbad and other mineral waters gave no relief, and treatment had to be merely symptomatic.

61. **Surgical Treatment of Idiopathic Hemorrhage from the Kidney.**—Treplin's patient had mild nephritis in the course of osteomyelitis, and serious hemorrhage occurred in the affected kidney. The patient was a boy of 16, and on the days when the urine contained most blood he complained of pain in the kidney region and the organ could be felt much enlarged. Treplin exposed and decapsulated the swollen and dark red kidney, then sutured the incision, as nothing else pathologic was found. The urine contained blood for two more days, then it cleared and the patient rapidly recovered with no further symptoms from the kidneys. Treplin would not hesitate to decapsulate both kidneys in such a case if there was hemorrhage from both.

64. **Pathology and Therapy of Acquired Diverticula in Large Intestine.**—Franke's article is a complete study of this subject which he thinks is very important. The symptoms caused by these false diverticula are essentially the same as those of appendicitis, the conditions being approximately the same in each. Sometimes the resemblance is so striking that the appendix is supposed to be on the left side in the special case. In some instances the syndrome caused by the false diverticulum has been ascribed to cancer. In one such case seventeen years ago he found the sigmoid flexure, rectum and bladder so involved in the supposed cancer that he sutured the abdomen without attempting to remove the growth. The patient, a man, gradually recuperated and the tumor subsided completely, so that he lived in good health for many years afterward. Franke accepted the case then as the spontaneous cure of a carcinoma in consequence of the laparotomy, but now he is confident that the whole trouble was one of these acquired diverticula, the disturbances from which gradually retrogressed, as he has had opportunity to observe in a number of similar cases since. When the diverticulum is in the small intestine it seldom causes any trouble—only one case of the kind is on record; when near the appendix the syndrome is that of ordinary appendicitis. The sigmoid flexure is the main location for the disturbances from this cause. In Telling's compilation of 105 cases, clinical symptoms had been noted in 63, while in 42 the diverticulum was an autopsy surprise. In 16 cases there was adhesion to the bladder, and there was a fistula in 11. In one case in Franke's experience, a woman about 35 had been ailing and feverish for some time, with a tendency to diarrhea. He diagnosed intestinal tuberculosis and prescribed a mixture of bismuth and calcium carbonate with opium. Fecal matter was passed with the urine for a time, but then the condition began to improve and the patient has been in good health during the fourteen years since. He now explains the case as a diverticulitis with adhesion of the flexure to the bladder and perforation, the fistula gradually healing spontaneously. The development of a cancer at the site of a diverticulum has been reported only three times. He discusses the differential diagnosis, the syndrome varying within wide range, and the tumefaction assuming numerous shapes. It is possible, he adds, that irritation from a foreign body may cause a similar syndrome, as in a case in his own experience, treated by resection of the flexure, but no traces of the assumed cancer nor of a diverticulum were detected, merely a small foreign body. In another case he was able to diagnose the false diverticulum syndrome and operate during the incipient stage of trouble. The patient was a typesetter of 45 who for years had suffered apparently from chronic colitis or sigmoiditis, with infiltration and hyperplasia. The laparotomy failed to disclose any traces of inflammation in the colon or flexure, but nearly 100 diverticula were found scattered throughout the intestines, a large number being in the sigmoid region. He explains the serious syndrome induced as the result of the efforts of the diverticula to empty themselves of fecal substance finding its way into them. As the mouths of the diverticula were small, considerable effort was required to evacuate them, and the spasmodic contractions of their musculature caused irritation in them which spread to the bowel outside. In the reported case diarrhea still persists, which he attributes to the diverticula left in the bowel above. The sigmoid flexure formed a sausage-like tumor, and he resected about 9 inches, with end-to-end suture of the large intestine. The patient has been in good health since. The case demonstrates that these diverticula, even without much inflammation, may yet cause an obstinate affection otherwise inexplicable. The case further shows that constipation or ileus need not necessarily accompany these diverticula, but rather that years of incessant diarrhea may result, and yet that notwithstanding these years of irritation, inflammation need not necessarily follow. It is probable that in his case inflammation would have developed in time with the syndrome usually supposed to be characteristic of this diverticulum formation. Franke regards these diverticula as responsible for many intestinal affections, whose origin and cause have hitherto been unexplained; not only for acute and chronic colitis and sigmoiditis, but tumor formation, suppuration and abscesses, with perforation into the abdominal cavity or into adjacent organs. He advises an exploratory laparotomy in all dubious cases or when internal measures fail.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, XCVII, Nos. 1-2, pp. 1-175

65 *Tuberculosis of the Joints. (Gelenktuberkulose.) K. Vogel.
66 Errors in Clinical Measurement of Degree of Genu Valgum. (Fehlergrösse bei der klinischen Bestimmung des Kniebasiswinkels.) A. Hoffmann.
67 Action of Ether on the Hemoglobin and Red Corpuscles During General Anesthesia in Man and Rabbits. (Neuere Untersuchungen über die Einwirkung des Aethers auf Häamoglobin und rote Blutkörperchen während der Narkose am Menschen und Kaninchen.) M. Bloch.
68 Grouping of the Motor Tracts in the Lateral Columns of the Pyramids. (Läsion durch Kugel.) H. J. Hällström.

65. **Tuberculous Joint Affections.**—Vogel was assistant at Bonn to Schede, later to Bier and still more recently to Garré, and devotes 127 pages to a review of his experience with 349 cases of tuberculosis of the shoulder, elbow, wrist, hip, knee and ankle. Most of the patients have been examined again recently. The knee and hip joint seem to be predisposed to a tuberculous affection only during early life; the tissues become too tough later to favor the development of the tubercle bacillus. On the other hand, the small multiple joints retain their youthful conditions through life and are thus liable to tuberculous invasion even into advanced age. In 2 cases the tuberculous affection was ascribed to vaccination; in some traumatism was incriminated, but it was always comparatively slight. A serious trauma seems to summon such quantities of defensive agents to the spot that a tuberculous affection rarely results—a slight trauma, on the other hand, offers favorable conditions for the tubercle bacillus. Tuberculin and cinnamic acid treatment proved disappointing, but excellent results were obtained with constriction hyperemia and Vogel commends this method of treatment as by far the simplest and easiest for the patient and the most effectual in its results, although it requires exceptional judgment and attention on the part of the physician in charge of the case. He never leaves it to another unless exceptionally to some particularly intelligent and conscientious trained nurse. Bier's instructions were minutely followed; the simple rubber band, 2 or 3 inches wide, was applied for an hour morning and evening, sometimes with a layer of gauze beneath. The limb is placed as comfortably as possible, and everything else removed that could bind it in any way. This method of treatment applied to the knee gives as good results as iodoform injection, while the functional results are far better. In every

case of elbow, ankle and wrist tuberculosis the cure was complete under this treatment, with no ankylosis. An abscess is not regarded as a serious complication. The age of the patient is immaterial, Bier and his followers obtaining just as good results in patients over 30 as in those under 20. Another point is that they are not discouraged into abandoning this method of treatment too soon or when there is a transient aggravation of the condition. Each case requires individual study and adaptation of the method, and Vogel confesses that he has not obtained quite such good results since he has ceased to be an assistant and has been treating patients independently. In one of the cases related, a woman of 26 had a severe tuberculous affection of the wrist which was lax, crepitating, much swollen and with several suppurating fistulas; the fingers were rigid. The patient remained a year in the hospital, and under the constriction hyperemia the process gradually retrogressed after elimination of several sequesters; the fingers became flexible and there is nothing left now but one small fistula with slight exudation. If a patient has to leave the hospital before the cure is complete, he has the mother or some member of the family trained to continue the constriction, supervising them until convinced of their skill. The patient should return to the hospital occasionally for examination, especially when any change is to be made in the treatment. Some of his patients sent their family physician to learn the special points.

Fortschritte der Medizin, Leipsic

November 20, XXVI, No. 32, pp. 1025-1056

69 Alcohol and Epilepsy. H. Vogt. (Commenced in No. 31.)

December 30, No. 36, pp. 1153-1192

70 Dirt in Milk and How to Keep it Out. (Ueber Milchschmutz und seine Bekämpfung.) Seiffert. (Commenced in No. 34.)

January 10, XXVII, No. 1, pp. 1-48

71 *Treatment of Tardy Contracture in Hemiplegia. (Behandlung der Spätkontrakturen der Hemiplegiker.) von Criegern.
72 *Stenosis of the Pylorus in Infants. (Ueber die sog. Pylorusstenose der Säuglinge.) I. Steinhardt.

71. **Treatment of Tardy Contracture in Hemiplegia.**—Criegern describes a simple method of treating the contractures which develop from two to four weeks or later after the onset of the hemiplegia. He analyzes the phenomena which occur when a person unaccustomed to rowing rows for a time; there is a sensation of fatigue and stiffness in the muscles and the arms are seen to be congested. This fatigue stiffness passes away if the person keeps on rowing or raises his arms above his head. It is not the fatigue of real exhaustion, but is the result of an oversupply of blood in the parts. This physiologic phenomenon is the basis of his treatment for contracture in hemiplegia. The aim is to expel the blood from the arm and then exercise the muscles. The contracture subsides more or less completely after an Esmarch bandage is applied to the upper arm, and the muscles can then be exercised. The bandage is removed with the arm raised; sometimes it is best to defer the exercises until after the bandage has been removed. Afterward the arm is worn in a sling or kept supported high or frequently lifted, striving to ward off local congestion. It is frequently found that the paralysis is not so severe as supposed before the contracture was cured, so that the patient recovers the use of the arm. He relates one typical case out of his experience: A mason of 54 had recovered to some extent from hemiplegia nearly two years before, but his right arm was worse than useless, the contracture forcing the nails into the palm so that abscesses formed. The man had been constantly under medical care and was able to walk with a cane. Under three months of the induced anemia and exercise treatment the contracture was so far cured that he can use his hand in dressing and eating, the improvement persisting to date and even progressing. Unfortunately, von Criegern adds, the method can not be applied so well to the leg, as it is difficult to keep it raised to expel the blood, but the attempt should be made and much can be accomplished by wearing a light elastic stocking. The principle of the treatment is exactly the reverse of hyperemic treatment; in its modest sphere it has proved remarkably useful in his hands, although of course it has no influence on the underlying cerebral lesions.

72. **Cure of So-called Stenosis of the Pylorus in Infants.**—A complete cure was obtained in the case described with lavage of the stomach, hot cataplasms and opium, three drops a day for weeks; water was supplied by rectal injection or saline infusion.

Jahrbuch für Kinderheilkunde, Berlin

January, LXIX, No. 1, pp. 1-128

73 *Conditional Reflexes in Children. (Bedingungsreflexe in Kindesalter.) N. Krasnogorski.
74 Albumin Content and Lymphocytosis of Cerebrospinal Flui in Infants with Inherited Syphilis. (Eiweissgehalt un Lymphozytose des Liquor cerebrospinalis bei Säuglinge mit Lues congenita.) L. Baron.
75 Acute and Chronic Bronchiectasis in Children. W. Tsche now.

73. **The Conditional Reflexes in Children.**—Krasnogorski' article reviews what has been accomplished in Russia of lat years in the study of the "conditional reflexes," especially a Pawlow's clinic. He has been studying them on children an describes the means by which he was able to record on th Marey drum the movements of the child's mouth and th swallowing movements—all expressions of reflex action i response to stimuli, such as the taste of honey, sound of bell, tickling, etc. The mechanism of the conditional reflexe in children seems to be the same as in dogs, but the latt are more exact in their response to tones. It is impossib to induce the conditional reflexes during sleep, but study them opens new horizons, he thinks, for research on th complex nervous phenomena in children, in their simple form and by objective physiologic means.

Medizinische Klinik, Berlin

January 17, V. No. 3, pp. 79-116

76 *Atropin in Treatment of Bronchial Asthma. P. v. Terray.
77 Urticarial Affections. Wolters.
78 Foundation for the Biologic Mercurial Treatment of Syphil (Grundlagen der biologischen Quecksilbertherapie der Syp ilis.) J. Citron.
79 Frontal Sinusitis. (Entzündung der Stirnhöle.) C. Ziem.
80 Medical Utilization of Ions. (Die Ionenlehre.) W. Böttg (Commenced in No. 2.)

76. **Atropin in Asthma.**—Terray protests against the ge eral neglect of atropin in treatment of bronchial asthma. the affection is a neurosis, atropin is theoretically indicat and he has witnessed excellent results from it in certain cas although it is by no means a panacea in all cases. In o case he has succeeded not only in arresting the attacks wi it, but the patient was improved so that there was no rec rence of the asthma for ten months, although the man h been constantly affected with it for twenty years. Atro can be advantageously used as a substitute for or to alt nate with morphin. He describes the cases of seven patie with severe asthma treated with atropin, the results qu encouraging. He prescribes the atropin in pills containi each 0.0005 gm. (1/120 grain) at first one a day, then af two or three days gradually increasing to a total of from f to six pills a day, and then gradually reducing the dosage one pill a day. The atropin not only arrests an attack, it seems to prevent recurrence. He never saw any ill effe from this dosage.

Monatsschrift für Geburtshülfe und Gynäkologie, Berli

January, XXIX, No. 1, pp. 1-140

81 *Treatment of Placenta Prævia. B. Krönig. Id. H. Sellhe
82 *Zinc Intoxication from Intrauterine Cauterization with Chlorid. (Ueber resorptive Zinkintoxication nach in uteriner Chlorzinkätzung.) P. Buttersack.
83 The Toxicoses of Pregnancy. (Schwangerschaftstoxikos O. O. Fellner.
84 Lack of Amniotic Fluid and Clubfoot. (Oligohydramnion Pes varus congenitus.) M. Mekerttschiantz.
85 Beriberi during Pregnancy and the Puerperium. (Klinis Beobachtungen über die mit der Schwangerschaft und Wochenbette kombinierte Kakke.) J. Ogata.

81. **Treatment of Placenta Prævia.**—Krönig's article is open letter to Professor Martin prophesying that the la will soon become converted to the necessity for more ac measures in treatment of placenta prævia, especially for w application of Cesarean section. Sellheim says the same, fident that the skill of the general practitioner can be tru more and that it is a mistake to assume that he will in

the patient if he makes an examination and tampons. Sellheim adds that he has recently operated on eleven women for placenta prævia who had mostly been examined or tamponed before they reached the clinic, and yet there had been no infection. His confidence in the general practitioners had not been misplaced, although, to be sure, his incision in the uterus had been extraperitoneal.

82. **Zinc Intoxication from Cauterization of Uterus.**—Buttersack reports the case of a young ii-para with chronic endometritis and recurring hemorrhages; a spontaneous abortion at the seventh week was followed by persisting hemorrhage which yielded to curettement. The physician in charge of the case advocated cauterization of the uterine mucosa to put an end to the hemorrhagic tendency, and in the course of five days he swabbed out the uterus three times with a 10, 15 and 30 per cent. alcoholic solution of zinc chlorid. Abdominal symptoms then developed, vomiting, nausea, pains in lower abdomen and stomach, insomnia, twitchings and symptoms of nephritis; after various remissions of the symptoms the patient succumbed sixty-three days after the cauterization. The kidneys showed signs of toxic nephritis and zinc was found in the urine, eschars and intestines. The nephritis showed an acute onset, then an apparently mild course interrupted by four acute exacerbations evidently due to reintoxication, as no external cause was evident. The first acute phase gradually became transformed into the chronic parenchymatous form with rising blood pressure and uremia. Then followed symptoms of secondary contracted kidney. There was difficulty in urinating, amounting once to complete retention, but there was no fever at any time. No therapeutic measures proved of any avail; it was impossible to reach the source of the constant reintoxication, as the zinc had evidently been conveyed through the lymph. There was no sign of inflammation in the peritoneum. It is possible that nephritis may have developed in other cases after zinc chlorid cauterization, the true source of the poisoning being unsuspected.

Münchener medizinische Wochenschrift

January 19, LVI, No. 3, pp. 113-160

86 *Constitutional Eczema in Infants. (Zur Klinik und Therapie des konstitutionellen Säuglingsekzems.) E. Feer.
87 *Treatment of Placenta Prævia and of Eclampsia. K. Baisch.
88 *The Ocular Tuberculin Reaction for Prognosis in Tuberculous Affections in Pregnancy. E. Martin.
89 *Predisposition of the Apices to Tuberculosis. (Die Disposition der Lungenspitzen zur tuberkulösen Phthise und das Lokalisationsgesetz des ersten tuberkulösen Lungenherdes.) C. Hart.
90 Determination of Hemoglobin and its Derivatives by Hemochromogen Crystals and the Lines in the Violet or Ultraviolet Part of the Spectrum. K. Bürker.
91 Experimental Research on Production of Atypical Proliferation of Epithelium. (Erzeugung atypischer Epithelwucherungen.) H. Stoeber.
92 Bordet's Pertussis Bacillus. (Keuchhustenbazillus.) G. Seiffert.
93 Suture of Lung to Arrest Hemorrhage. (Zwei Fälle von Lungennaht wegen schwerer Blutung.) Lotsch.
94 *Camphor in Alimentary Intoxication in Infants. (Anwendung von Kampher bei alimentärer Intoxikation des Säuglings.) A. Würtz.

86. **Constitutional Eczema in Infants.**—Feer distinguishes between "milk crust" and diffuse dry eczema. The former yields readily as a rule to regulation of the diet, restricting the proportion of milk to the minimum or suspending it altogether, giving instead flour gruel, strictly avoiding eggs and meat broths. A teaspoonful of uncooked fruit juice can be given occasionally to children four months old. As the child grows it requires a fruit and vegetable diet, the fruits and vegetables being strained through a sieve; no meat is given. The same measures also prove effectual in lichen scrofulosus, but the diffuse form of eczema without effusion is more rebellious. He does not advise local measures for the "milk crust," having observed after them febrile phenomena and even convulsions. He has even witnessed fatal heart failure and death in dyspnea with high fever and symptoms of intoxication. He has collected from the literature 30 such cases of sudden "eczema death," the underlying status lymphaticus predisposing both to infections and to sudden fatalities. In children with this constitutional anomaly, merely the rapid removal of crusts, the application of an irritating salve, a hot pack, subsidence of the eczema, etc., may entail a sudden fatality. He has had no experience with metastasis of the eczema, but has frequently noticed the subsidence of the eczema on the outbreak of asthmatic bronchitis, the two alternating. Local treatment of the eczema differs from that of adults only in the necessity for greater gentleness and caution.

87. **Treatment of Placenta Prævia and Eclampsia.**—Baisch regards the new operative era in treatment of these conditions as denoting marked progress. Instead of the old statistics of from 10 to 20 per cent. maternal mortality and from 70 to 80 per cent. fetal mortality, he states that with vaginal Cesarean section all the mothers were saved in a series of forty cases, and all but three of the twenty-two children were alive at birth. His communication issues from Döderlein's clinic at Munich.

88. **The Ocular Tuberculin Reaction for Prognosis.**—Martin applied the ocular tuberculin test to twenty-seven pregnant women with known tuberculosis. His aim was to determine whether the system could count on defensive processes or whether they were too weak to be of any avail. A positive reaction to the test he regarded as a good omen, accepting it as a sign that the defensive apparatus was actively functioning. A negative reaction, on the other hand, in the presence of clinically unmistakable tuberculosis, is an indication of exhaustion of the defenses, a sign that the pregnancy should be interrupted at once; freed from the stress of pregnancy the system may rally and conquer the tuberculous process, while otherwise it is doomed to succumb. Treatment on these principles has proved very satisfactory in his experience, and he urges the ocular test as a reliable means of determining the prognosis in such cases.

89. Summarized in THE JOURNAL, Oct. 10, 1908, page 1252.

94. **Camphor in Alimentary Intoxication in Infants.**—Würtz combats the collapse in infants with severe gastrointestinal derangement by injecting every three hours from 0.5 to 1 c.c. of a 10 per cent. camphorated oil. The injections are kept up until it is possible to supply food to restore strength to the heart. In one case he gave 59 injections in the course of ten days, saving the apparently moribund child. Saline infusion is liable to overburden the heart already sinking under its task, and thus to promote the fatal ending. In some instances he has known that saline infusion was the direct cause of the immediate heart failure, while camphor stimulates the respiration center, heart and vessel innervation, and raises the blood pressure.

Wiener klinische Wochenschrift

January 21, XXII, No. 3, pp. 79-114

95 Experimental Hypertrophy of the Heart. (Experimentelle Herzhypertrophie.) E. Miesovicz.
96 The Opsonins During the Puerperal Process. J. Schiffmann and R. Cohn.
97 *Diagnosis of Malarial Splenomegaly. S. Kirkovic.
98 Study of Esbach Test for Albumin. (Zur Esbachschen quantitativen Eiweissbestimmung und über eine neue Kreatininverbindung.) E. Mayerhofer.
99 *Treatment of Tuberculous Children with Marmorek's Antituberculosis Serum Administered by the Rectum. F. Gaughofner.

97. **Diagnosis of Malarial Splenomegaly.**—Kirkovic presents arguments to prove that the affection known as Banti's disease has really been unrecognized malaria in a large proportion of cases, or, at least, what he calls a paramalarial condition. Malaria does not always induce a characteristic febrile syndrome, or the fever may have not been noticed by the patient. He tabulates the findings in a number of cases, calling attention to the small number of leucocytes and the preponderance of mononuclears in actual malaria, and the small number of leucocytes with lymphocytosis which is characteristic of the paramalarial condition. The latter findings with the history of the case and former residence in a malarial region confirm the diagnosis. The blood findings in this case suggest that the blood-producing apparatus is somewhat impaired, while the lymph-producing apparatus is still in good order.

99. **Marmorek's Antituberculosis Serum Administered by the Rectum.**—Ganghofner reports administration of this serum by

the rectum to thirty-two children at Prague. The results were disappointing, he says.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXIII, No. 3, pp. 407-658. Last indexed Feb. 13, 1909

100 *Cesarean Section. Retrospect and Prospects. (Kaiserschnitt.) O. Küstner.
101 *Trials of Disinfection with Mixture of Acetone and Alcohol, According to von Herff. R. Oeri.
102 *Value of Pure Alcohol Disinfection. (Wertigkeit der reinen Alkoholdesinfektionsmethode.) R. Pfisterer.
103 Relations of Head Tumor to Life of the Fetus. (Beziehung der Kopfgeschwulst zum Leben der Frucht.) K. Holzapfel.
104 Study of Corpus Luteum and Interstitial Tissue of Ovary During Pregnancy. (Corpus luteum und interstitielle Eierstocksdrüse während der Schwangerschaft.) J. Wallart.
105 Are Chorioangiomas True Tumors? (Sind die Chorioangiome echte Geschwülste? E. Gräfenberg.
106 *Experiences with Schauta's Method of Vaginoperoneal Plastic Operations. (Zur Interpositio uteri vesico-vaginalis.) T. Petri.
107 *Treatment of Hematocele After Extrauterine Pregnancy. (Behandlung der Hämatocele nach ektopischer Schwangerschaft.) O. Herbert.
108 Deventer's Visit to Copenhagen, 1689. E. Ingerslev.
109 Cyclic Transformation of Uterine Mucosa. (Cyklische Umwandlung der Uterusschleimhaut.) Y. Iwase.
110 Intraligamentary Ovarian Pregnancy. (Intraligamentär entwickelte Ovarialgravidität. mit Hämatombildung im Ligamentum latum.) J. Voigt.
111 *Care of the Umbilicus Omitting the Daily Bath. (Nabelabfall und Nabelheilung bei Fortlassung des täglichen Bades an der Hand 12jähriger klinischer Erfahrung.) E. Eicke.

100. **Cesarean Section: Retrospect and Prospects.**—Küstner reviews the various works that have issued from his clinic bearing in any way on this subject. During the last fifteen years he has had occasion to do or supervise Cesarean section in one hundred and four cases, including six in which the operation was done during or after death. This material is analyzed from various standpoints and the new phase into which Cesarean section has recently entered is discussed.

101 and 102. **Acetone-Alcohol Disinfection of the Hands.**—Oeri writes from von Herff's clinic to expatiate on the superior results obtained when the hands are disinfected with the Herff acetone-alcohol technic. The acetone dissolves fat and penetrates deep into the tissues and into the capsules of bacteria, while in combination with the alcohol it tans the surface and puckers up the crevices in the skin. It guarantees a freedom from germs that approximates asepsis, especially in the nail region, while the technic requires much less time than any other, the injury to the skin is less than with other technics, and the disinfecting effect lasts longer. The tabulated findings of numerous tests of the technic as applied in the clinic sustain his assertions. Acetone is comparatively inexpensive, mixes readily with water and alcohol while it hardens the tissues and is less inflammable than ether and benzine. The concentration recommended is a 50 per cent. alcoholic solution of acetone. The hands are washed quickly but not scrubbed, and then the acetone mixture is applied and rubbed in with flannel rags for four or five minutes. The hands feel smooth and dry. In 127 operations moist stitch holes were observed in only 2 per cent. Pfisterer reports similar tests of disinfection with alcohol alone, his conclusions being that alcohol alone is suitable only for very brief operations; the nail region must be carefully attended to beforehand. He adds that it is an actual science to disinfect the hands properly, and that it has to be learned carefully and applied each time with the most scrupulous care and the closest attention.

106. **Utilization of Uterus for Plastic Operation on Vagina and Perineum.**—Petri has followed Schauta's technic in 14 cases, utilizing the uterus to make a new floor for the pelvis, covering it entirely with vaginal tissue. Two of the patients succumbed to intercurrent disease and in one case the uterus tore out of its new location, but the results were extremely satisfactory in the other cases, and he advocates this technic as offering many advantages for such operations on elderly women, except that it might be difficult to remove the uterus in case of cancer later. The details of the technic and of his cases are given in full.

107. **Treatment of Hematocele After Extrauterine Pregnancy.**—Herbert reports eight cases which demonstrate the importance of immediate operation in all cases of extrauterine pregnancy, never leaving to chance the disposal of the hematocele. Even after it has become encapsulated, fatal complications may ensue, repeated hemorrhages or infection, even weeks after the first hemorrhage. In one of the cases reported adhesions developed between the hematocele and the other sound tube, interfering with conception later. This case emphasizes particularly the necessity for prompt surgical intervention to prevent sterility later.

111. **Care of the Umbilicus.**—Eicke comments on the large proportion of fatalities among infants for which the umbilicus is responsible, and urges the necessity for treating it with as much care and protecting it against infection as scrupulously as any other wound. He is assistant at Küstner's clinic at Breslau where it is the practice to leave only a short stump to the cord and dress it merely with sterile cotton left for five days unless symptoms of infection develop, in which case alcohol gauze dressings, renewed daily, are applied. There have been 56 cases of febrile infection during the last 7,300 infants, that is, about 0.76 per cent. After the first cleansing bath, the infants are not bathed again until the cord drops off, except in asphyxia or pneumonia. The stump generally drops off by the sixth or seventh day. The umbilical wound is like an aseptic operative wound, and no one would ever think of exposing the latter to a daily bath, compelling frequent changing of the dressings. There is even less reason for the daily bath for infants during the first week after birth, especially in view of the conditions that generally prevail for bathing the baby and the opportunities for maltreatment of the healing umbilical wound, beside the damage from allowing it to get wet.

Riforma Medica, Naples

January 11, XXV, No. 2, pp. 29-56

112 Tumors of the Base of the Brain. (Tumori della base dell' encefalo.) G. Rummo.
113 Experimental Leucopenia. G. Lucibelli.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Gynecologic Diagnosis. By George Winter. O. O. Professor and Director of the Kgl. Universitäts-Frauenklinik in Königsberg, Prussia, with the Collaboration of Dr. Carl Ruge, of Berlin. Edited by John G. Clark, M.D., Professor of Gynecology, University of Pennsylvania. After Third Revised German Edition. Cloth. Pp 670, with illustrations. Price, $6.00. Philadelphia: J. B. Lippincott & Co.

Experimental Researches on Specific Therapeutics. By Paul Ehrlich, M.D., D.Sc., Director of the königlisches Institut für experimentelle Therapie, Frankfort. The Harben Lectures for 1907 of the Royal Institute of Public Health. Cloth. Pp. 95. Price, $1.00. New York: Paul B. Hoeber, 1909.

An Analytical Index of Volumes I to X of the Medical Review and a Digest of the Facts Important to the Practitioner in the Medical Periodicals of the World, 1898-1907. Cloth. Pp. 201. Price, 7 shillings 6 pence. London: The Medical Review.

The Methods and Scope of Genetics. An Inaugural Lecture delivered October 23, 1908, by W. Bateson, M.A., F.R.S., Professor of Biology in the University of Cambridge. Cloth. Pp. 49. Price, 50 cents. Cambridge: The University Press, 1908.

Report of Provisional Administration from Dec. 1, 1907, to Dec. 1, 1908, Republic of Cuba. By Charles E. Magoon. Provisional Governor. Paper. Pp. 515, with illustrations. Havana: Rambla & Bouza, 1909.

Twenty-fourth Annual Report of the Adirondack Cottage Sanitarium, Saranac Lake, N. Y., November, 1908. With Medical Supplement. By Lawrason Brown. Paper.

National Association for the Study and Prevention of Tuberculosis. Transactions of the Fourth Annual Meeting, Chicago, June, 1908. Paper. Pp. 352.

The Changing Values of English Speech. By Ralcy Husted Bell. Cloth. Gilt Top. Pp. 302. Price, $1.25. New York: Hinds, Noble & Eldredge.

Missouri State Sanatorium for the Treatment of Incipient Pulmonary Tuberculosis. Mount Vernon, Mo., November, 1908. Paper.

Tono-Bungay. By H. G. Wells. Cloth. Pp. 460. Price, $1.50. New York: Duffield & Co., 1909.

Report of the Albany Hospital and Training School for Nurses, 1908. Paper. Pp. 65.

Transactions of the North Dakota State Medical Association, 1908. Paper. Pp. 191.

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Address

DIAGNOSIS IN ITS RELATION TO THE LABORATORY AND THE BEDSIDE *

W. W. GRANT, M.D.

DENVER

In describing a visit to this country, Dr. Rolleston[1] expresses himself interestingly as to medical teaching and hospitals here. He says that more systematic work is done in the clinical laboratories, but that there is a serious lack of routine ward work in the hospitals. The danger is suggested that the thoroughness in the clinical laboratory examinations may lead to less thoroughness in the routine physical examination of patients. (Specialism is more extreme, he states, than abroad.) I believe that this criticism is fair and just. The not infrequent diagnostic errors of internists and surgeons, even those who have had good educational and clinical advantages, show a lack of thoroughness in examinations and of close observation of clinical phenomena, or at least failure to deduce rational conclusions.

The schools, and the bearing of many leading men in special work, in emphasizing, to an inordinate degree, the importance of pathology and technic, in comparison with other features of the work, are partly responsible for the absence of painstaking observation and scientific analysis of symptoms at the bedside.

Detailed critical study of the history of cases and the meaning of clinical signs, subjective and objective, is, I fear, not the common practice—even of surgeons.

There is too much reliance, even when not necessarily exclusive, on instruments of scientific precision and on laboratory diagnoses, and too little on the training and discipline of one's own faculties in one's accustomed work. The result is a few expert diagnosticians in certain departments, and a general decadence in diagnostic skill and acumen.

In proportion to the better facilities for teaching and improved educational advantages generally, we should expect equal progress in the ability to observe and understand the causes and the conditions of disease, and we ought to have more, and not fewer, diagnosticians. Even in large communities, it seems to be accepted as a satisfactory condition if there are one or two men only who deserve this distinction.

It requires closer study, more time to analyze and elucidate—in order to interpret symptoms and conditions more rationally—than most men seem willing to give to the subject. It seems strange that competent men should commit errors in diagnosis that could be avoided if well-known resources were employed in the solution of problems common to our experience. The surgeon has deified aseptic and operative technic—the former the common knowledge of the profession, the latter the individual, and, in considerable degree, varying attribute of each operator. Excellent in these respects, and often in pathologic lore, the surgeon trusts the rest to the laboratory, seeming to overlook or underestimate the fact that the thorough, competent surgeon is not only a skilful operator and an intelligent pathologist, but an observer and respecter of many other important and necessary facts in the equipment of an equally skilful diagnostician.

Sound judgment in the many phases of our work is the growth of natural fitness, education, close observation and the knowledge of laws and facts governing specific and general diseases. A great surgeon is not a mere mechanic; he is a good physician and a trained clinician as well. It must be admitted that errors of diagnosis are often due to careless and indifferent examinations, to insufficient time and want of due consideration of all the evidence that might be obtained, and too much reliance on the probability or certainty of the laboratory expert, if one is convenient and available.

An exploratory operation is often a short, and sometimes unnecessary, cut to the solution of the difficulty. Being generally a safe procedure, under favored conditions, it is a ready and quick resort whether an emergency exists or not.

May I cite a few recent suggestive cases of diagnostic interest? A man of 67, of previous excellent health, except a brief but significant history of evidence of gallstones ten years before, had suffered for eight or ten months from slight indigestion and intermittent diarrhea. He was examined by two first-class physicians and three or four surgeons of equal distinction. A tumor of the epigastrium of considerable dimensions was noted, and a globular swelling, the size of a cocoanut, to the right of the umbilicus, and below the edge of the liver, was also recognized. The patient never vomited, though eating solid food, and at no time was there evidence of pyloric stenosis. A test meal was given and absence of hydrochloric acid was shown. The diagnosis was cancer of the pylorus. With such a history, should it have been necessary for a postmortem six months later to determine the presence of cancer of the gall bladder with gallstones, secondary involvement of the liver, and no disease of the stomach?

Again, a woman of 65 had uterine hemorrhage, an acrid, offensive discharge, and other clinical evidences of cancer. A surgeon advised hysterectomy. A consultation was held, curettage was performed and the scrapings sent to a distant pathologist to determine the existence or non-existence of cancer. Was this, for obvious reasons, a wise surgical procedure?

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* Presidential address read before the Western Surgical and Gynecological Association, Minneapolis, Dec. 29, 1908.

[1] Brit. Med. Jour., Dec. 28, 1907.

A young woman of 20 fell from the steps of a street car in motion, striking on her abdomen; was laid up for several weeks, and a swelling to the left of the umbilicus gradually developed. It was explored and a large quantity of pus evacuated. A fistula remained, from which there was discharge, including urine, for a year. Physicians and surgeons were in doubt as to the source of the trouble. Should an x-ray examination, revealing renal calculi, have been necessary to determine the source and nature of the abscess (pyonephrosis)?

Would an experienced surgeon wait for the demonstration of 20,000 white corpuscles to the cubic millimeter before recognizing a case of postoperative ileus? Would he rest on the opsonic index to determine, as a rule, his course of action in operative work?

A woman of 38, married, never pregnant, was examined, three or four years ago, by a surgeon of good character. The symptoms were persistent pain in back over left ileum posteriorly; the diagnosis, tuberculosis of the left hip joint. The patient was treated with extension in bed for six months with marked aggravation of pain and nervousness. The pain extended to the thigh, knee and ankle. Extension was discontinued and the patient went on crutches for a year. A critical examination of the patient at a more recent date by a surgeon and neurologist reveals absolutely no indication or evidence of tuberculosis, past or present, of any part or organ and no family history of same. The joint is perfect. Hemoglobin, 75 per cent. There is a distinct neurotic personal and family history. The patient is anemic and hysterical. The surgical treatment was unnecessary and undoubtedly made worse the neurasthenia from which she has been suffering.

Such patients are not infrequently overtreated, even by the surgeon sometimes.

A young woman of 26 had had acute pleurisy in the left side when 8 years old. At 15, pus from empyema ruptured through the bronchial tubes. For the last eight years the patient had suffered from paralysis of the left leg; she was bedridden for two years, and also had disease of the lower dosal vertebra with ulceration through the back. Three years ago she was examined by a surgeon of high character, who pronounced the disability of the leg tuberculous periostitis of the femur. Thoracotomy was performed one year ago. The patient was recently examined by a neurologist and the same surgeon who made the examination three years ago, and a diagnosis was made of motor paralysis of leg due to meningomyelitis from the diseased vertebra with no tuberculosis of the femur.

The syphilographer and the surgeon have not often found it difficult to make a diagnosis of hard chancre; but in the future the demonstration of the *Spirochæta pallida* will, I suppose, be necessary to a sure diagnosis, notwithstanding the declaration of Hoffman, Schaudinn's chief assistant, that only an expert who, by familiarity, has acquired intuitive knowledge of the morphology is competent to differentiate the stained forms from other spirochete bodies. Bloodgood, in a recent review of joint surgery, says: "It seems surprising that for years we have concentrated our attention on the joints, or, as physicians, on some changes in metabolism, and not investigated for the source from which the infections flowed."

These statements and criticisms will apply as justly to the work of the laboratory as to the unscientific clinical work at the bedside. The busy physician and surgeon can not do much of the immense amount of laboratory work now required, even if equipped for it, a few are; but laboratory findings are essential to a higl degree of diagnostic efficiency and to the most scientific practice of our art. The knowledge of the internis is necessary to the surgeon. He is far from accomplishe without it, and it is of the utmost importance to th patient that the physician should know enough of surgery to differentiate between a medical and a surgica condition. The very exclusive specialism which treat these qualifications lightly seems forgetful of its ow needs and the full measure of its obligations.

In those fine differential distinctions, especially i the diagnosis of pancreatitis, cholelithiasis and duodenal and stomach ulcers, there are no laboratory test by which the diagnosis can be made, nor are there an conclusive clinical tests; but both are helpful and nece sary to a just conclusion. The Cammidge test, like th test meal, the Widal and other tests, is merely an aid i the scientific solution of the many problems which confront us in the efforts to discover the cause and natur of disease. The microscope, unless directed by a knowing hand, and balanced by a scientific spirit, could nc have given renewed distinction to the Paris school c medicine and to the names of Capitan and Professc Cornil, who made the pathologic examinations, and diagnosis of interstitial nephritis (which is consiste with the clinical history) in the case of Admiral Pa Jones 113 years after his death.

Far be it from me to underestimate in the slighte degree the absolute necessity and the great value of tl laboratory to the progress of medicine. It is the ver basis of our greatest achievements, and it is the for which has immortalized, among the many, the names Pasteur and Koch, and which has honored and glorific the profession wherever the science of medicine known. But the results obtained by the use of instr ments of scientific precision are not always accurate ar reliable. So much depends on the motive power ar genius behind the instrument that we can be conte only with real, and not half-baked, experts, in ord that our scientific conclusions may rest on a scienti basis, and our efforts have a practical value. With th knowledge and equipment applied at the bedside, ar with that common sense which is fortified by observ tion and experience, we should be able to secure a sati factory history, to make a more complete and intellige examination, and to interpret symptoms and signs wi more skill and judgment.

Science is not the exclusive property of the expe nor the necessary product of the laboratory. Our ai should be, not to produce fewer experts in resear work, but more scientific clinical experts and diagnos cians. This I believe necessary to the broader cultu and usefulness of the profession, as well as to the b welfare of the sick. Surgery, as a study, is not exc sive, though the practice may be. A narrow view of t subject is not conducive to the best education, nor to t most thorough equipment. Personality is of the gre est moment; but great surgeons are not made by imi tion, and skill in diagnosis is a protean product th can never be measured by the rod and the plumb.

Slow Pay.—The press reports of a national tailors' conv tion state: "The tailors say that a whole lot of people se to think the only bills they are not duly bound to pay tailors' bills." Some physicians have stated that doctors' b were so considered. It may help some to know that there a difference of opinion.

Original Articles

THE TREATMENT OF ERYSIPELAS BY INOCULATION WITH A SPECIFIC VACCINE[*]

GEORGE W. ROSS, M.A., M.B., M.R.C.P. (LOND.)
AND
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TORONTO

In January of this year we undertook the study of erysipelas with the special consideration of the production of an artificial immunity by inoculation with a vaccine prepared from the *Streptococcus erysipelatis* of Fehleisen. "True" erysipelas, as you know, is due to an infection of the lymph spaces of the skin by the micro-organism just referred to, with or without involvment of subjacent cellular tissue; and the majority of investigators believe that the streptococcus of erysipelas is the sole or specific cause of the disease. Moreover, many believe that it is identical with the streptococcus causing puerperal septicemia, pyemia, etc. The work of Dean and Petruschky would seem to confirm this view.

From the standpoint of immune therapy it is a matter of some importance to discover whether the disease is one in which the bacteria are localized to the affected part or whether they commonly escape into the blood stream and produce a bacteriemia.

Experiments on animals and also blood cultures taken in severe cases would seem to establish the rarity with which it becomes a general infection. Furthermore, Manfredi and Traversa have succeeded in producing the severe constitutional symptoms of erysipelas in animals by inoculation of the toxins of the specific streptococcus. It would thus seem probable that the general symptoms of malaise, pyrexia, acceleration of the heart-beat, and mental apathy or irritability are all due to the absorption of the specific toxin of the streptococcus, while, on the other hand, the local signs and symptoms are consequent on the local multiplication of the micro-organisms in the lymph spaces of the skin and the local production of toxins; moreover, that a remedial measure which is capable of inhibiting the reproduction of the streptococcus would be likely to control the clinical manifestations of the disease quickly.

Our investigations of the opsonic content of the blood of 16 patients before inoculation was undertaken revealed the interesting and important fact that in 14 of these the streptococco-opsonic index ranged from 0.65 to 0.9; in the remaining 2 cases it was in one 1.1 and in the other 1.3. It is worthy of note that these last 2 patients were proceeding to recovery, presumably owing to the natural production of specific antibacterial substances as the result of autoinoculation, by which term is meant the escape of bacteria or their products into the adjacent lymph or blood streams and the consequent stimulation of the machinery of immunization to the production of antibacterial substances.

Perhaps this consideration will be more intelligible if we mention certain well-known phenomena of such localized infections as boils. In these the opsonic index to the specific micro-organism — that is, the *Staphylococcus pyogenes aureus* — is less than normal — for example, 0.7, 0.8, etc.—normal being taken as 1. The chronicity of furunculosis and the low opsonic indices observed have been shown to be due to the absence of autoinoculation. Similarly in the case of certain localized infections due to the tubercle bacillus the opsonic index is less than 0.8. Tuberculosis of lymphatic glands, the bladder, etc., are characteristic instances of this. It is unnecessary for us to multiply examples of localized infections due to other micro-organisms; suffice it to say that continuance of these infections is associated with a lowered opsonic power while progress to cure is associated with a rise of the opsonic power above normal.

The sixteen cases referred to were studied with respect to their opsonic power to the *Streptococcus erysipelatis*, not only before active treatment by the streptococcus vaccine was undertaken, but also afterward. In the 2 patients proceeding to recovery a high opsonic power was observed before inoculation, so these must be omitted. In 13 cases a subsidence of the signs and symptoms of the erysipelas was definitely associated with a rise in the opsonic power. The remaining patient died; and it is of interest to note this patient particularly, since her case is the only fatal one of our series of 50 cases. The patient was a very fat woman, 61 years old, comatose on admission to the hospital. Her leucocytes were not increased in number and her opsonic index to the streptococcus was 0.6. Just as she responded feebly to such general stimulants as alcohol and strychnin, so also was her response weak to the specific stimulation of our vaccine. It was with difficulty that we increased the opsonic power of her blood to 1.1 by inoculation. She died shortly after admission from the progress of her disease without regaining consciousness. This patient's case is graphically shown in Chart 1.

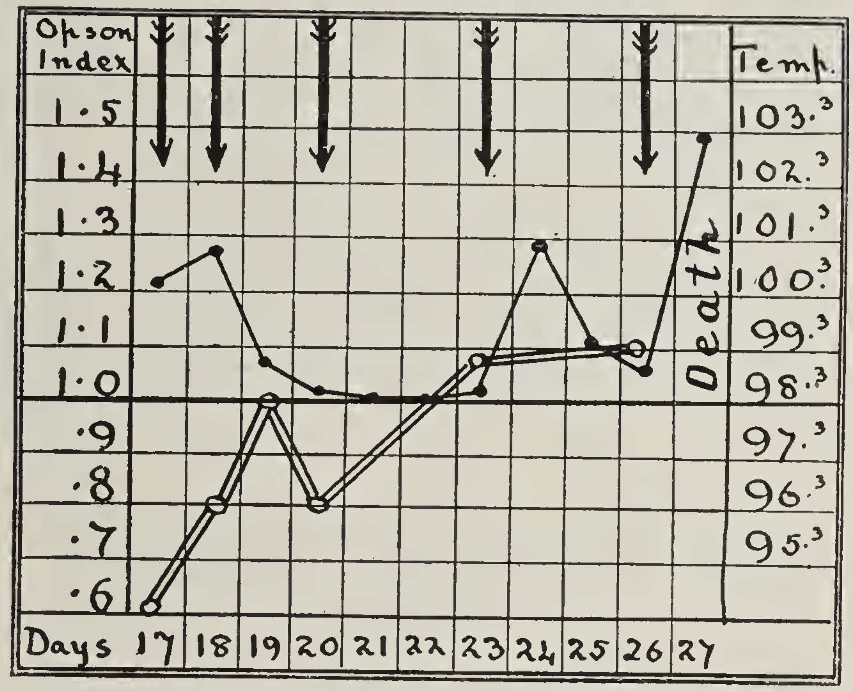

Chart 1.—Almost continued pyrexia with feeble response of opsonic immunity to inoculation with from 10 to 20 million devitalized streptococci. Double line is opsonic tracing; single line, temperature tracing; arrows represent inoculation. This chart represents the only fatal case in a series of 50.

STUDY OF PATIENTS TREATED BY INOCULATION

Charts 2 and 3 represent fairly well the opsonic and temperature curves of 13 out of the 16 patients whose blood was fully and frequently investigated. It will be observed that in both the opsonic power was low before treatment and that it rose subsequent to one or two inoculations of the streptococcus vaccine; furthermore, that the fall of the temperature was shortly subsequent to the rise of the opsonic power. We may add that the rise of the opsonic power coincided more particularly with marked diminution of toxemia and definite evidence of localization of the inflammatory area.

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[*] From the Department for Therapeutic Inoculation, the Toronto General Hospital: an address given before the Medical Society of the County of New York, Oct. 26, 1908.

These observations on the course of immunity in erysipelas before and after inoculation with the vaccine appear to us important; but, after all, the final judgment on the value of an alleged specific remedy must rest on the comparison of the clinical results obtained by its use with those due to the administration of other alleged remedies. Erysipelas is so varied in its clinical manifestations that there are serious difficulties to an absolute comparison, but such a comparison is not impossible and we shall proceed with it.

The first stage of the comparison is somewhat illogical, for we shall refer to our clinical observations of the course of the disease in our whole series of 50 cases and only then make certain detailed comparisons of a series of 19 cases treated without vaccination and a similar number treated by our specific vaccine.

Of the 50 cases 18 were very severe, 20 were severe, and 12 were mild cases. The chief criteria of severity were pronounced pyrexia (103 F. or more), tachycardia, mental dulness or delirium, and a considerable inflammatory area, with signs of rapid spread.

Time will not permit us to detail cases, so we are forced to sum up our observations in a general way. Perhaps the most striking change in our patients was a rapid subsidence of such symptoms of toxemia as mental unrest or even delirium and of that profound malaise so usual in this disease. Even the patients in acutely severe cases almost invariably felt quite different—we might almost say infinitely better—in twenty-four to thirty-six hours after the first inoculation with our vaccine. Locally some spread of the process usually occurred until after the second inoculation, which was administered on the second day, and occasionally until after the third; but whatever the extension observed, it was remarkable in certain respects.

1. The color was of a brownish-red rather than the angry red of the acute process.

2. The swelling of the skin was less.

3. The tenderness over the area of extension was less acute or absent.

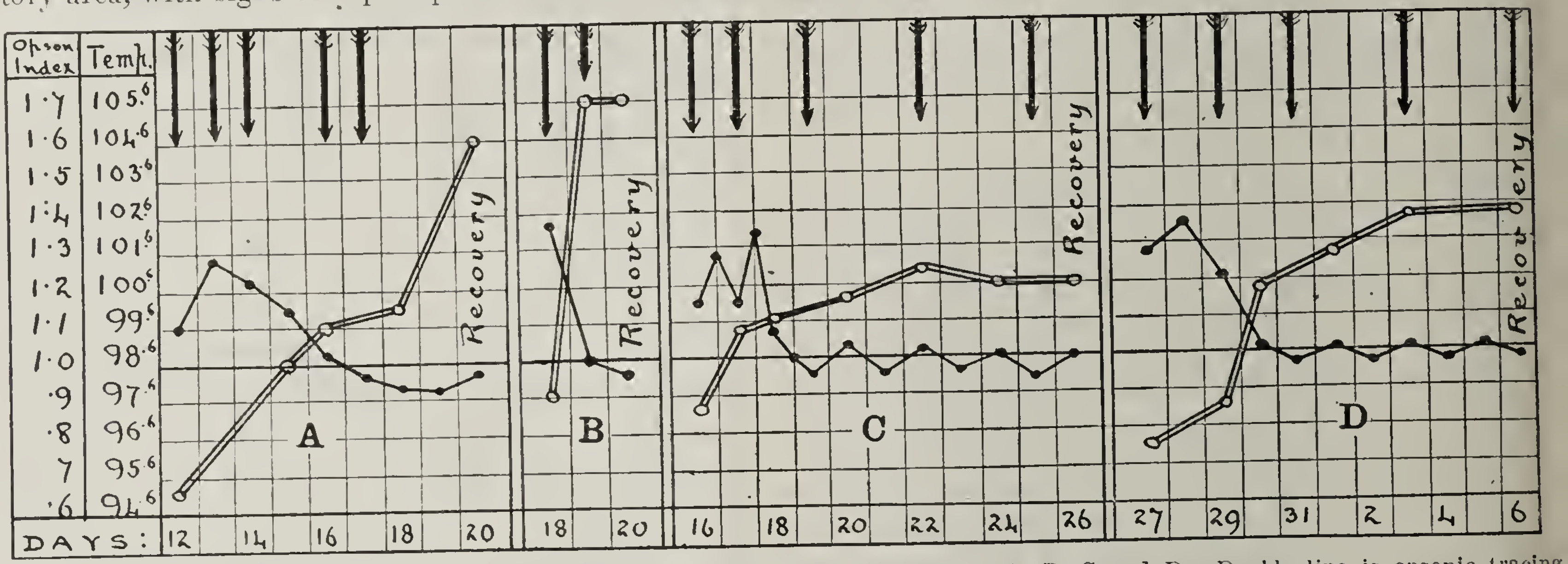
4. The patient complained of little pain in it.

5. The margin of the erythema was rarely raised but faded imperceptibly into the adjoining tissues.

For purposes of comparison of our own results of cases treated solely by inoculation with our streptococcic vaccine, we have had recourse to the records of all the cases in the case-books of the Toronto General Hospital for the year 1907. Of these 19 are recorded, most of which were treated by some such external application as ichthyol or lead lotion or internally by ferric perchlorid. I realize the objection to accepting this series as parallel to our own, but probably the comparison is not an unfair one, as perhaps those who have had years of experience of hospital erysipelas will be able to testify. I think it will be agreed that the cases of one year closely resemble in average severity those of another. The salient features of this comparison are set forth in the accompanying table:

TABLE SHOWING THE RESULTS OF TREATMENT OF A SERIES OF 19 CASES OF ERYSIPELAS BY INTERNAL AND EXTERNAL MEDICATION AS COMPARED WITH A SERIES OF 19 CASES TREATED SOLELY BY INOCULATION WITH A SPECIFIC VACCINE

Method of treatment.	Pyrexia completed in 24 hrs.	Pyrexia completed in 48 hrs.	Pyrexia completed after 48 hrs.	Average duration of pyrexia.	Complications.	Average duration of of illness.	Average stay in hospital.
Non-specific. Series 1907, 19 cases..	3	3	13	8.9	6	25.0	18.0
Specifie Vaccine. Series 1908, 19 cases..	7	7	5	3.1	1	12.8	11.2



Charts 2-5.—Rise of opsonic immunity and fall of temperaturein four patients, A, B, C and D. Double line is opsonic tracing single line, temperature tracing; arrows represent inoculation withfrom 10 to 20 million devitalized streptococci.

In the 1907 series the pyrexia lasted in 13 cases from four to thirty days.

In our own series of 19 only 5 lasted after fort eight hours; that is, 1 for three days, 1 for four day 1 for six days, 1 for nine days, and 1 patient died.

The cases of the 1907 series manifested the followin complications:

Recurrences, 2 on the fourteenth day.
Synovitis, 1.
Conjunctivitis, 1.
Multiple abscess about face, 1.
Pneumonia and cervical abscess, 1.
In all, 6.

In our own series there are no complications to r port, except an abscess over the parotid, which wa due to a staphylococcus infection, probably the resu of an incision previous to admission to the hospital.

We are unable to make any satisfactory compariso as to the rapidity or extent of the spread of the pr mary area involved in the two series. The data avai able on this point are insufficient.

We realize fully that a prolonged trial of the vaccin will be necessary before any final judgment can reached by the medical profession as to its therapeut value. Nevertheless our own belief is firm from t study of 50 cases that a vaccine prepared from t

Streptococcus erysipelatis, properly administered, exercises a specific and controlling influence on the course of the disease — preventing its spread, lessening its severity and hastening recovery.

The reason for our faith may be briefly summarized under two main heads:

1. From the standpoint of immunity: The opsonic power of the blood is low during the acute process of the disease and whenever more or less rapid spread is manifest; again, the subsidence of such symptoms as malaise, mental unrest or apathy, pain and tenderness and the localization of the inflammatory area are closely associated with an increased immunity as evidenced by a rise of opsonic power. We are inclined to attach great importance to these considerations of immunity because we have so frequently observed parallel series of events in therapeutic inoculations with bacterial vaccines in many cases of boils, septic bands, tuberculosis of the glands, bladder, etc., and in many other cases of localized bacterial infections.

2. From the standpoint of clinical observation of the course of the disease as apparently influenced by inoculation with our vaccine: Whatever surface becomes involved subsequent to inoculation manifests a less severe form of inflammatory process; mental unrest and physical discomfort are rapidly controlled; pyrexia seems to subside more rapidly and long-continued pyrexia has not been encountered; complications and sequelæ seem to be much less common.

We, therefore, submit that the evidence adduced in this communication is sufficient to justify the use of a vaccine prepared from the *Streptococcus erysipelatis* in the treatment of erysipelas, particularly as there is no recognized remedy for this disease.

TREATMENT

In our series of 50, only the first 16 patients were treated according to the opsonic principles of vaccine therapy, but these revealed such a uniformly satisfactory immunizing response and clinical result that we felt justified in attempting the administration of the erysipelas vaccine without the usual blood examinaions; and it seems reasonably certain that in the vast majority of cases of erysipelas it will be unnecessary to be guided by estimations of the opsonic content of the blood to determine either the amount of the vaccine ndicated or the appropriate time for reinoculation. We are led to this belief because, having once determined a atisfactory method of administration of the vaccine by he close study of the blood in 16 cases we achieved equally successful results in a series of 34 cases of erysipelas, many of which were severe, without having had recourse to the opsonic index in any case. We are, however, appreciative of the fact that in certain severe cases he usual thorough blood investigation may be required.

If we are right, therefore, in our conclusions that erysipelas vaccine when properly administered is a specific remedy for erysipelas, then the importance of being able to omit the laborious opsonic investigations becomes exceedingly great, for it puts into the hand of every practitioner of medicine a new specific for an exceedingly troublesome affection for which as yet only a multitude of remedies of alleged efficacy is available.

It is entirely unnecessary to prepare a vaccine for ach case. It is, however, advisable to have a composite tock vaccine derived from several different strains, from as many different cases. It is probable that the more virulent the case of erysipelas the more valuable will its streptococcus be as a vaccine.

Our method of treatment has been, in almost every case, to inoculate with 10,000,000 of the devitalized streptococci on the first visit if the case is a severe one, and with 20,000,000 if it is less severe. On the second day in the severe case the patient gets 10,000,000 more if there be signs of improvement. The most important of these signs is a certain clearing of the intellect, and the others are a lessened intensity of the local condition —less tenderness and pain. The temperature is not so satisfactory a guide, although a fall of 2 or 3 degrees on the morning following the injection is a valuable indication for a second inoculation. If, however, no evidence of improvement obtains in the very severe case and it is impossible to determine the opsonic power of the blood, then 5,000,000 only should be administered on the second day. In less severe cases improvement is almost invariably manifest on the day succeeding inoculation and the patient should receive half the first dose: that is, 10,000,000. We then inoculate with 5,000,000, 10,000,000 or 20,000,000 of streptococci on every second day until a week after the temperature has reached normal and the erythema has subsided. We are guided as to the amount of our dose in each case (when opsonic investigations are impossible or unnecessary) by its severity and the satisfactory results as shown by clinical observation. Our rule is: "The more severe the case and the less satisfactory the clinical response the smaller the dose."

The site of inoculation chosen has always been away from the area involved. Our results have been so successful by this method that we have not felt justified in attempting other measures, such as inoculation near the site of infection.

A MILK-BORNE OUTBREAK OF TYPHOID FEVER TRACED TO A BACILLUS-CARRIER

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The city of Washington and the District of Columbia are one. There is but one government, and there are no "city" boundaries except such as prior to 1871 marked the limits of the then existing corporation of Washington. To the westward of the city, across Rock Creek, there was at that time located a smaller, though older, community known as Georgetown. This, like the city of Washington, has long since ceased to exist as a separate corporation and now forms an integral part of the District of Columbia. Officially it is known as West Washington, but in the ordinary speech of either community it is still commonly referred to as Georgetown. For convenience it will be so designated in this paper. The water supply, the sewerage system, the food supply and the laws and sanitary administration of Georgetown are in no way different from those of the rest of the district. The annual police census of 1907, the latest returns available, gave to Georgetown a population of 17,168 and to the remainder of the District of Columbia 312,423, making the population of the whole district 329,591.

EXTENT AND LOCATION OF OUTBREAK

From October 8 to November 1, inclusive, 1908, there were reported in the entire District of Columbia 135 cases of typhoid fever. Of these, 54 occurred among persons residing in Georgetown. The population of Georgetown, about 5 per cent. of the total population, yielded, therefore, about 45 per cent. of all cases, and during this period typhoid fever was over twelve times as prevalent in Georgetown as it was in the remainder of the district. During the twenty-five days preceding October 8 there were reported in the entire district, exclusive of patients brought in from other jurisdictions, 96 cases, only 4 of which were among the residents of Georgetown; and in the twenty-five days immediately following November 1 there were 54 such cases reported in the district, only 2 of which were in Georgetown. The situation is clearly shown by the following table:

Statement Showing the Incidence of Typhoid Fever in West Washington, Commonly Known as Georgetown, as Compared with the Incidence in the Remainder of the District of Columbia

Period.	No. of Cases. Georgetown.	No. of Cases. Remainder of D. C.	Case Rate per 10,000. Georgetown.	Case Rate per 10,000. Remainder of D. C.
Prior to outbreak. Sept. 13, to Oct. 7, 1908....	4	92	2.23	2.94
Period of outbreak. Oct. 8 to Nov. 1, 1908......	54	81	31.45	2.46
Subsequent to outbreak. Nov. 2, to Nov. 26, 1908....	2	52	1.16	1.66

Population according to the police census of April 10, 1907: Georgetown, 17,168; Remainder of the District, 312,423.

MILK SUPPLY IN RELATION TO OUTBREAK

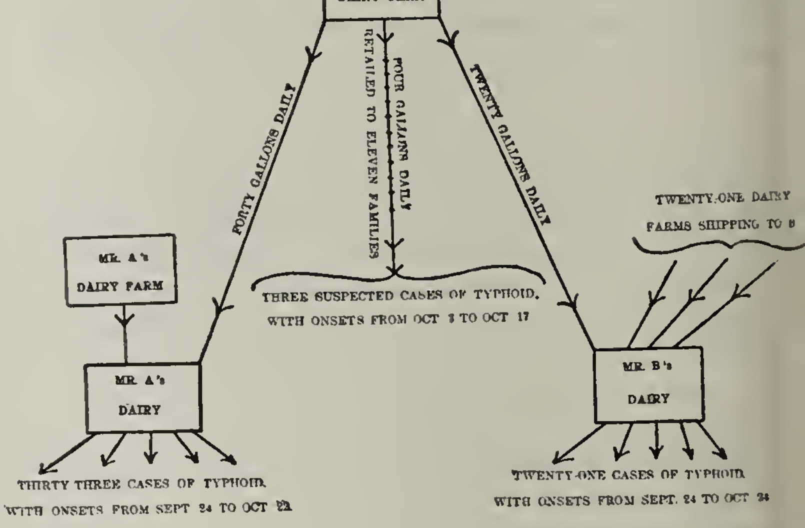
A joint investigation of the reported cases by officers of the Public Health and Marine-Hospital Service and of the Health Department of the District of Columbia showed that of the 54 cases occurring in Georgetown during the outbreak 30 were among persons who during the thirty days prior to onset of illness had consumed milk supplied by dairyman A, and 18 among persons who had consumed milk supplied by dairyman B. Of the remaining 6 patients, 2 used milk supplied by dairyman C, 1 used milk rarely and from various sources, 2 used no milk in any way, and 1 used milk supplied by dairyman D and subsequently boiled. No direct connection has ever been found between these 6 cases and the milk sold by either dairyman A or dairyman B. The last-mentioned case occurred, however, in the same household as 2 of the cases which had used milk from dairyman B, and during the two weeks prior to the onset of his illness this patient was in association with the other patients. His infection probably was due to contact.

The milk supply of Georgetown is obtained from certainly more than thirty different dairymen. Dairyman C probably supplies more customers than any other dairyman in Georgetown. He serves 292 households, as against 263 supplied by A and 231 supplied by B, and his delivery route ramifies through the same sections of the city as theirs. Among retail customers A distributes daily about 261 quarts of milk, B about 200 quarts, and C about 525 quarts. As there were during the period of the outbreak but 2 cases reported from households supplied by C, and only 2 cases from households supplied with milk from all sources other than those of A, B and C, it is evident that a disproportionately large number of cases of typhoid fever was occurring among the customers of dairymen A and B in Georgetown. Moreover, during this period there were reported among persons living in sections of the city outside of Georgetown 3 cases among the customers of A and 2 among the customers of B. (Anot case, the onset of which was October 15, was reporte among the customers of B on November 16.) Th records of the health department showed no cases i households supplied by dairyman A during the enti twelve months preceding this outbreak, and only among the households supplied by dairyman B.

The period of definite onset of illness of the 33 p tients supplied with milk by A extended from Septen ber 24 to October 22 and of the 21 patients supplie with milk by dairyman B extended from September 2 to October 24. Two cases secondary to those patien supplied with milk by B had their definite onset o October 22. Early in the investigation it became ev dent that the spread of the infection had occurred alon the routes of the two dealers at about the same tim and a common source of infection for the outputs these two dairies was suspected.

SOURCES OF SUSPECTED MILK

A's supply of milk was received from two dai farms, one of which, in the District of Columbia. owned by him and is the location of his dairy. Th other was the farm of Mrs. X in Maryland, from whi he received about 40 gallons of milk daily. B's supp came from about twenty-two dairy farms located various parts of Virginia and Maryland. One of the was the farm of Mrs. X, which also furnished a part A's supply, and from this farm B received 20 gallo daily. Diagrammatically the situation was as follow


MRS. X's DAIRY FARM
FORTY GALLONS DAILY
FOUR GALLONS DAILY
RETAILED TO ELEVEN FAMILIES
TWENTY GALLONS DAILY
THREE SUSPECTED CASES OF TYPHOID, WITH ONSETS FROM OCT 3 TO OCT 17
MR. A's DAIRY FARM
MR. A's DAIRY
TWENTY-ONE DAIRY FARMS SHIPPING TO B
MR. B's DAIRY
THIRTY THREE CASES OF TYPHOID WITH ONSETS FROM SEPT 24 TO OCT 22
TWENTY-ONE CASES OF TYPHOID WITH ONSETS FROM SEPT. 24 TO OCT 24

A most careful investigation was made, but no h tory of suspicious illness could be discovered amo those who were concerned in handling the milk at dairy of A, at the dairy of B, or at any of the far supplying either A or B with milk. All the facts, ho ever, seemed to point to the farm of Mrs. X as source of the infection.

About 64 gallons of milk were produced on the fa of Mrs. X daily. About 40 gallons (in cans) went dairyman A, about 20 gallons (in cans) to dairym B, and about 4 gallons (in bottles) were sold to ele families along the road which the wagon traveled its way to A's dairy. A house-to-house canvass made of the homes to which milk was retailed by M X. The eleven families consisted of about fifty- persons all told. In only one household was any s picious illness found. Here a mother and two child were sick. The mother took to her bed on Octobe with a high fever. She remained in bed for about ei or ten days, but was not attended by a physician.

blood gave a positive Widal reaction when examined at the Hygienic Laboratory on October 16. One child, about 5 years of age, began to complain about October 8, and on October 15 was sick in bed with a temperature of 103.5. His blood on that date gave a negative Widal reaction. The second child, aged about 3, took to bed about October 17. Both children had fever about ten days; in both stomatitis developed a few days after definite onset of fever, and the diagnosis made by the attending physician was "stomatitis." The facts that the onset of the first case was synchronous with the outbreak in Georgetown, and that the patient's blood gave a positive Widal reaction, suggested strongly that this case was typhoid fever whatever the other two cases may have been.

The sanitary condition of the farm of Mrs. X and the way in which milk was handled there were such as not reasonably to preclude infection from reaching the milk (by hands of persons, by flies, etc.) if infection existed on the farm. The dairy-house was located within a few feet of the stable and was not screened. Flies were abundant. The privy was located about fifty feet from the dairy-house. The privy contents went directly on the ground, being partially retained as a heap by a few boards fixed at the back of the privy. Chickens had access to the privy contents and to the yard around the dairy-house, in which milk cans were set. They had access also to the ground around and to the platform over the well from which the farm's water supply was obtained. The well was down hill and about 450 feet from the privy. A few feet from the well was a housed-in spring, and in the spring box the cans of milk were placed to be kept cool. Sand was used for scouring the milk cans and was obtained for this purpose, it was said, from the bed of the stream having its origin in the spring on the place.

Those engaged in milking the cows and handling the milk consisted of Mrs. X, a son, and three hired colored men. In addition to the above there lived on the farm in a house about 1,000 feet from that of Mrs. X and the dairy-house the family of one of the hired men, consisting of a wife and seven children, making on the farm thirteen persons all told. No history of any recent illness among the persons on the farm could be ascertained. The last case of typhoid fever that was known to have occurred on the place was that of a school teacher, who about seven years previously had boarded there. About two or three months after he went to the farm he was taken down with typhoid fever and died. At the time of the investigation the only persons living on the farm who gave a history of ever having had typhoid fever were Mrs. X, who had had it eighteen years before, and one of the employés, who had had it eight years before; but during the attack neither Mrs. X nor the hired man had lived on this farm.

A careful inquiry as to recent sickness on other places in the neighborhood of the farm was made, but no history of any illness could be obtained. As it seemed that there had been no actual case of typhoid fever to account for the infection, and that all the evidence still suggested strongly that there had been infection on this farm, the possibility of some one on the place being a typhoid bacillus carrier suggested itself to us and an investigation with this possibility in view was begun.

DISCOVERY OF BACILLUS-CARRIER

On October 13 specimens of stools and urine from all the persons on the farm were obtained and examined for the presence of the typhoid bacillus. The examinations were made by Passed Assistant Surgeon L. L. Lumsden, assisted by Dr. Walter Cannon, at the Hygienic Laboratory of the Public Health and Marine-Hospital Service. All the specimens were negative for *B. typhosus* except the specimen of feces from Mrs. X. This specimen showed on the Endo plates a large number of colonies typical for growth of *B. typhosus* on this medium. Eleven of these colonies were "fished" and planted in broth tubes. Every one of the eleven colonies proved by subsequent and extensive studies to be of a bacillus which morphologically, culturally and in serum reactions responded typically to all of the tests required to identify it as the typhoid bacillus.

EFFECT OF SHUTTING OFF MILK SUPPLIED FROM FARM OF BACILLUS-CARRIER

The positive finding of the bacillus in the feces was determined on October 16 and on that date the sale in the District of Columbia of milk from Mrs. X's farm was discontinued by order of the health officer. Eight days later, October 24, the last case occurring in the outbreak of typhoid fever among the customers of dairymen A and B had its onset of definite symptoms of typhoid fever.

During the thirty days subsequent to October 24 not a single case of typhoid fever developed among the customers of either of these dairymen, although they continued without interruption to sell milk from all the farms which had been supplying them except that of Mrs. X.

INFECTIVENESS OF BACILLUS-CARRIERS

Unfortunately, Mrs. X so far has declined to submit further specimens for examination, so we can not report now on the persistence of the bacilli in her feces. Her subsequent history in this regard would, of course, throw some light on the question as to whether she is a chronic typhoid bacillus-carrier (and perhaps has been since her attack of typhoid fever eighteen years ago), or whether she was what we may term an acute bacillus-carrier—that is, a person who becoming infected harbors bacilli and discharges them in the excreta for a few days or weeks, and who yet, due to some immunity rendered by previous attack or otherwise, does not have the symptoms of the disease.

If this woman has been a bacillus-carrier since her attack of typhoid fever eighteen years ago it appears somewhat remarkable, since she has been in the dairy-farm business for five years or more, that infection has not sooner reached the milk and caused a pronounced outbreak. Furthermore, the infection, judging by the dates of onset of the cases, seemed to be more or less constantly in the milk for a period of about a month.

One exercising ordinary care as to cleanliness of person, however, as Mrs. X apparently did, would not frequently contaminate directly with fecal matter the milk handled. Then, too, considering the number and duration of the intervals in which the fecal matter of pronounced chronic bacillus-carriers is apparently free of typhoid bacilli, a number of contaminations with fecal matter might be necessary before infection would occur in which organisms alive and virulent, and sufficiently hardy to survive, would be introduced into the milk. If the view is taken that the infection was conveyed to the milk indirectly through the privy contents, which by means of flies or the feet of the chickens or in any other way reached the milk cans or the water supply, it is still readily conceivable that a number of contaminations of the milk with the excreta might have occurred during the several years previous without causing infection. The contamination of the milk with typhoid bacilli once having occurred, it is readily conceivable that the infection could survive on the dairy utensils, and so more or less constantly infect the milk for some days or even weeks.

SUMMING UP OF EVIDENCE THAT THE OUTBREAK WAS CAUSED BY INFECTION IN MILK

1. There was a sudden onset of a disproportionately large number of cases among the customers of the two dairymen supplying the suspected milk.
2. A typhoid bacillus-carrier was discovered among the persons handling the milk on the only dairy farm supplying both dairymen with milk.
3. There was no occurrence of any unusual number of cases among persons living in the same sections of the city as those affected but receiving milk from other sources.
4. There was no occurrence of an unusual number of cases in sections of the city other than those supplied with the suspected milk.
5. Most of the cases occurred among well-to-do persons, and among those who used milk freely, women and children principally being affected. Thus of the 54 patients there were, among those who used milk as a beverage, 30 cases; among those who used it on fruits and cereals freely 20, among those who used it in coffee only 2, and of those who used it as ice cream only 2. There were 15 instances in which the members of the household who used milk freely were affected, while those who used none or used it more sparingly, escaped.
6. Many of the cases had a sudden onset of definite symptoms without recognizable prodromes, and many ran a mild course.
7. All other known possible factors were eliminated as cause common to any considerable number of the cases.
8. The outbreak suddenly ceased ten days after the suspected milk supply was shut off, although all the other suggested possible factors continued, so far as could be learned, about as they were before and during the outbreak.

LESSONS TAUGHT BY OUTBREAK

Had dairymen A and B pasteurized their supply of milk before delivering it to their customers, the infection in the milk received from the dairy farm would have been destroyed and this outbreak of typhoid fever would not have occurred.

Had the sanitary arrangements been perfect on the farm of Mrs. X, and had much greater care been exercised there in handling the milk, the infection might not have reached the milk.

The possibility that there may be typhoid bacillus-carriers among persons handling milk, and the liability that these carriers may get infected excreta on their hands from time to time, should be considered in determining if any degree of cleanliness less than absolute surgical cleanliness would be sufficient to safeguard milk from infection.

To enforce officially such extreme care in the handling of the milk supply of a large city would be a difficult, if not an impracticable task, while official supervision of the pasteurization of the milk supply of a large city, if done at distributing depots, would be entirely practicable, much less expensive, and a more nearly certain safeguard against infection.

THE RATE OF COOLING OF SEVERAL POULTICE MASSES *

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The value of poultices for most purposes being proportional to their retention of heat, it appeared desirable to compare the rate of cooling of several poultice masses. A comparison of the easily prepared linseed poultice and the official clay poultice, cataplasma kaolini, seemed particularly desirable and these were controlled most carefully.

Experiments with small quantities in large test-tubes proved unsatisfactory, and the following disposition, suggested by Dr. Sollmann, was finally adopted:

The poultice masses were placed in bottles measuring 6 by 14 cm. to a depth of 9.5 cm. A thermometer was supported in each bottle by a cork. The bulb of the thermometer was adjusted 2.5 cm. from the bottom and 2.75 cm. from the sides. The bottle of cataplasma kaolin was heated in a boiling water bath and when a temperature of 70 to 80 degrees C. was reached the bottle of freshly-prepared hot linseed poultice mass (one part of ground linseed added to two and one-half parts of boiling water) was placed in the same bath. When the mixtures attained a fairly constant temperature, 94 to 98 degrees, they were transferred to a second large but shallow water bath, 2 to 2.5 cm. in depth, kept at 37 to 40 degrees C. The parts of the bottles above the level of the water were wrapped in cotton. This arrangement was thought to approach as nearly as possible the conditions of the poultices when applied to the body. The temperatures were recorded at ten-minute intervals until the temperature of the bath was reached. Three sets of experiments were made, two bottles of each specimen being used in each experiment. Between 85 and 95 degrees the linseed mixture swelled considerably, forcing a small quantity from the bottle, which had to be removed in order that the thermometer might be accurately placed. When the mass cooled a depression was left in the center, which brought the thermometer bulb nearer the surface than in the other mixtures and might have caused an apparent increase of the rate of cooling of the linseed mass.

In another set of experiments the difference in the rate of cooling at the surface and at the center was observed by placing two thermometers in jars measuring 18 by 17 cm. A central thermometer, as in the previous experiment, was placed with the bulb 2.5 cm. from the bottom and equidistant (2.75 cm.) from the sides, and a second, or "outer" thermometer 1.25 cm. from the sides of the jar. The mixtures in the bottles were 8 cm. in depth.

As the two thermometers ran practically parallel with a difference of but 1 or 2 degrees, these experiments, five in all, are classed with the previous experiments.

The results were plotted in curves in which the

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* From the Pharmacological Laboratory of Western Reserve University.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session held at Chicago, June, 1908.

abscissæ represent the time in minutes and the ordinates the temperatures in degrees C. The curves agree quite closely and are combined as in the illustration, Figure 1. During the first twenty minutes, down to 75 degrees, the temperatures ran fairly parallel; then the temperatnre of the linseed mixture remained about 5 degrees above that of the cataplasma kaolini until the close of the experiment.

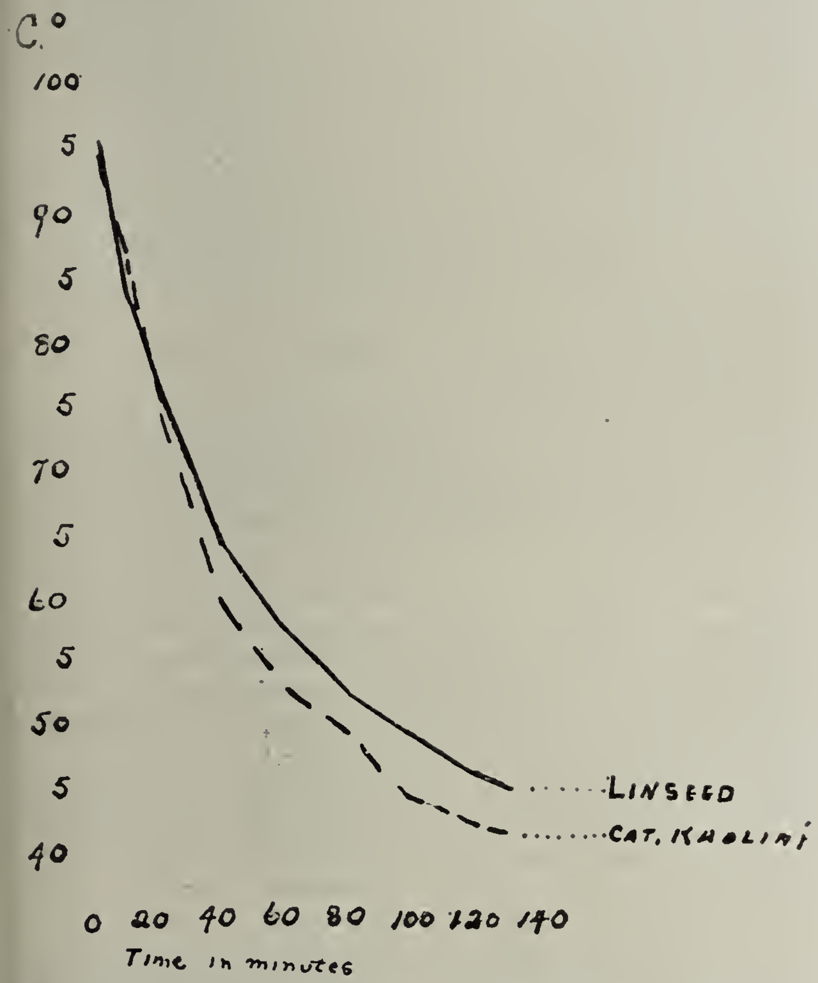

Fig. 1.—Curves showing rate of cooling of linseed poultices and cataplasma kaolini; composite of eight experiments.

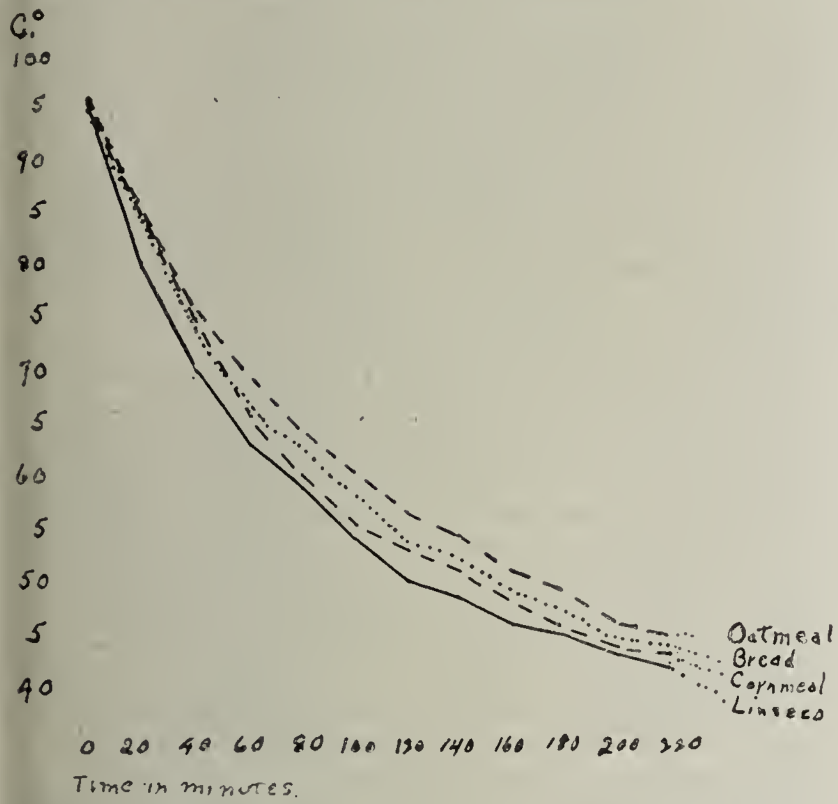

Fig. 2.—Curves showing rate of cooling of oatmeal, bread, cornmeal and linseed poultices; composite of three experiments.

For purposes of comparison a set of three experiments were made with other poultice materials, oatmeal, cornmeal and bread, and water and petrolatum also. The mixtures were made of the same consistency as the linseed mixture. The poultice masses formed a temperature curve similar to that of the linseed poultice, though somewhat higher and from 2 to 8 degrees higher than that of the clay poultice; the petrolatum and water curves were practically the same as that of the cataplasma kaolini, the petrolatum a little above and the water a little below that of the kaolini mixture (Figs. 2 and 3).

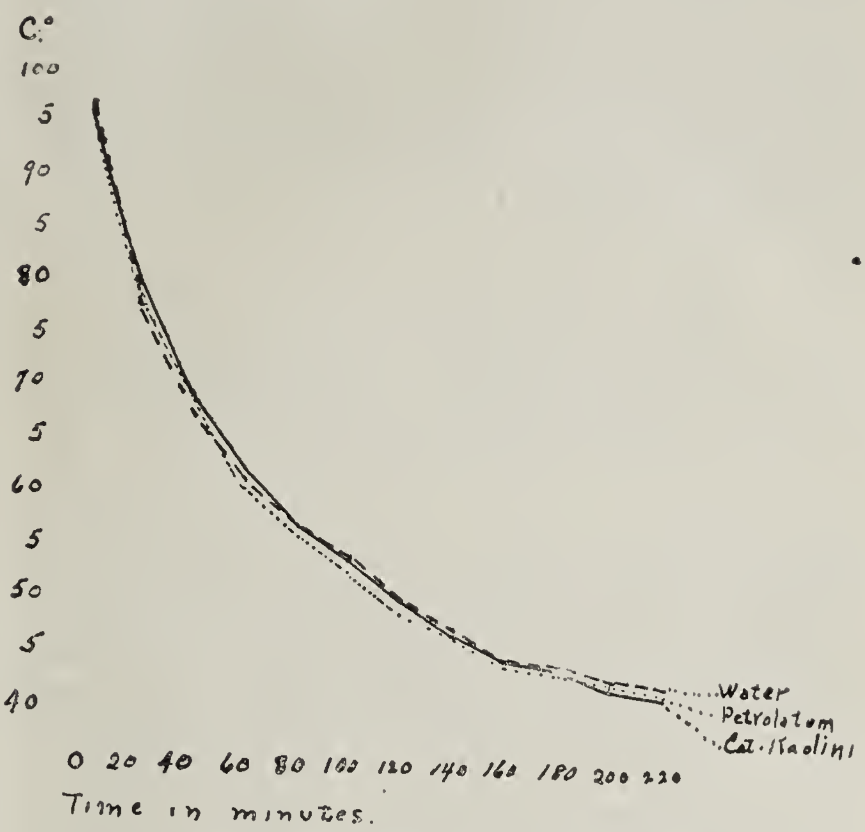

Fig. 3.—Curves showing rate of cooling of water, petrolatum and cataplasma kaolini; composite of three experiments.

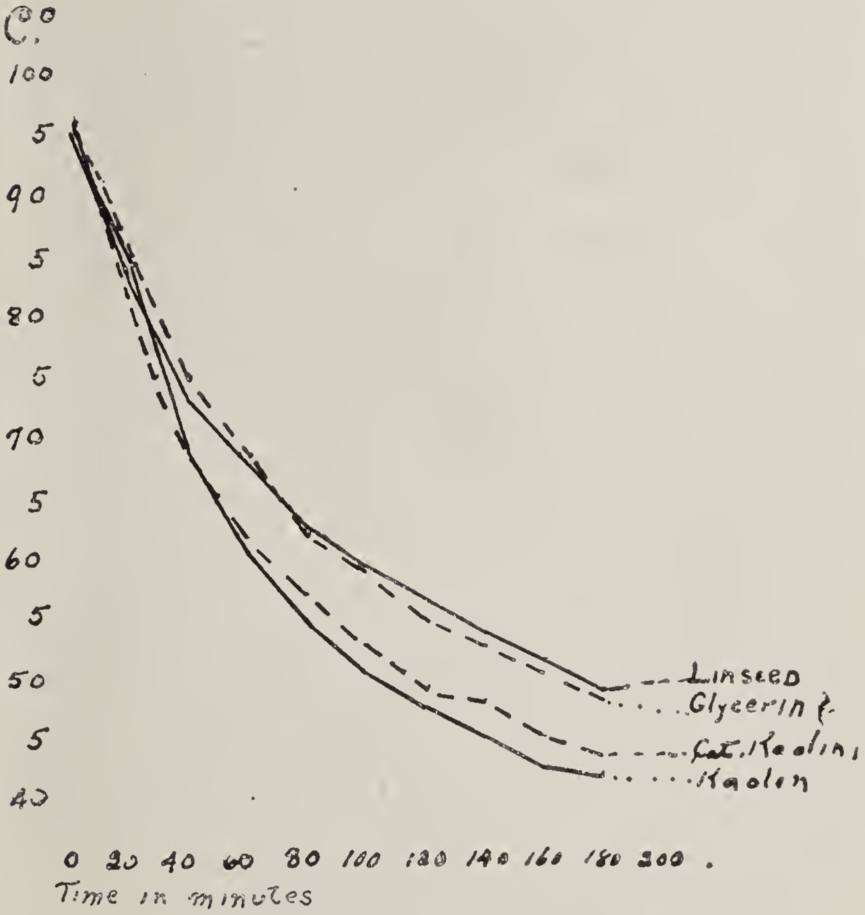

Fig. 4.—Curves showing rate of cooling of linseed poultices, glycerin, cataplasma kaolini and kaolin; composite of two experiments.

To determine if possible the reason for the more rapid cooling of the cataplasma kaolini two experiments were made comparing its chief constituents, glycerin and kaolin (clay) with the official mixture and with the linseed poultice mass. The curves of the linseed mass and the glycerin are practically the same, while that of the kaolin falls somewhat below the clay poultice curves (Fig. 4).

CONCLUSIONS

While the rate of cooling is not conspicuously different for the cataplasma kaolini and the linseed poultice mass, the difference is constantly in favor of the linseed poultice mass.

Dry kaolin cools appreciably faster than the cataplasma, while glycerin cools considerably more slowly.

Other poultice masses, viz., oatmeal, bread and cornmeal, apparently retain their heat even somewhat better than the linseed mass; on the other hand, water cools at about the same rate as cataplasma kaolini and petrolatum a trifle faster.

THE SYMPTOMATOLOGY OF PROSTATITIS[*]

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The classical symptoms of acute prostatitis are so apparent in every case that I mention them at this time merely by way of contrast to the more varied and protean manifestations of the chronic form. With the exception of rare cases of metastases in acute infections and injury of either the prostatic urethra or the gland itself, our attention in nearly all cases of acute prostatitis is immediately attracted to the cause of the disease, viz.: an acute or subacute gonorrhea. Associated with this we observe the frequent painful passage of a small, feebly ejected stream of urine, often followed by terminal hematuria and leading occasionally to complete retention. Digital exploration per rectum reveals a large, boggy, sensitive prostrate many times the normal size, producing painful defecation, painful erections and deep-seated perineal pain. All these signs are so unmistakable that a diagnosis of acute prostatitis is readily made.

Chronic prostatitis, however, presents a very different picture. In order to arrive intelligently and correctly at the diagnosis of a malady whose manifestations are so varied and at times obscure, it is necessary to have a classification of the symptoms that can be followed as a routine measure. Otherwise we often miss important details. Taylor,[1] of New York, divides the symptoms into two classes: first, those observed in patients mostly under 30 years of age, and second, those observed in older patients. This classification is not without value, for the multifarious symptoms of sexual neurasthenia are usually most pronounced in the younger subjects, while in the older patients the urinary and referred type of symptoms, as a rule, predominate. The preponderance of nervous symptoms in many cases has led Peyer[†] to classify three neuroses of the prostate as follows:

1. General hyperesthesia of the prostate.
2. Hyperesthesia of the prostatic urethra.
3. Irritability of the neck of the bladder.

On the whole, however, I think that the classification of symptoms as suggested by Young,[2] of Baltimore, is the more comprehensive and is suitable to all cases. Young divides the symptoms into: 1, urinary; 2, sexual, and, 3, referred.

URINARY SYMPTOMS

The urinary symptoms may be manifested by frequency, often more noticeable at night than during the day; pain at the beginning, during, or at the end of urination; slow or difficult urination; hesitation in starting the stream; urgency and dribbling at the end of urination. These symptoms depend on the hypersensibility of the terminal nerve filaments supplying the prostate, the prostatic urethra, and the neck of the bladder. And as a result the sensory stimuli are produced in such an excess above the normal that there is a lack of coordination in that apparently simple and yet exceedingly complex act of urination, the phenomena of which we must agree with Casper,[3] that we do not yet fully understand.

As an illustration of the urinary symptoms the following case is reported:

Case 1.—*Patient.*—M. R., aged 30, general health good, not anemic or neurasthenic; has never had gonorrhea, and urine does not show any abnormality. About three years ago he began to notice some frequency of urination, and since that time had to get up two or three times every night, and has also had some frequency during the day.

Examination.—This revealed a very sensitive prostate, slightly enlarged and nodular. Prostatic secretion showed numerous pus cells, but otherwise normal elements. Examination showed the urethra to be normal except that the prostatic urethra is excessively sensitive.

That the frequency of urination in this case was due to the chronic prostatitis was shown by the relief of that symptom under appropriate treatment.

SEXUAL SYMPTOMS

The sexual symptoms are usually manifested first by disturbing and often painful erections due to a condition of erethism, which after a time is followed by diminished vigor with imperfect erections, premature ejaculation, frequent nocturnal emissions, etc. These patients are usually neurasthenic. The basis for these symptoms lies in the pathologic condition which is the result of chronic inflammatory changes affecting the terminal filaments of the pudic nerve in the prostate. The phenomena of erection is not fully understood, but experiments on dogs have shown that section of the pudic nerve completely abolishes it.

The following case illustrates this class of symptoms:

Case 2.—*Patient.*—B. W., aged 35, general health excellent and physically very strong, expression indicating strong force of character. He had gonorrhea five years ago. The attack was not very severe and the patient had no complications, but never got entirely well. He noticed intermittent discharge and had some discomfort in the perineum. Finally he began to notice premature ejaculations and gradually the erections became weaker and more imperfect until he was practically impotent. Worry over his impotency eventually produced a deplorable condition of neurasthenia. He tried all sorts of treatment, even the suggestion treatment, but the suggestions did not reach the prostate.

Examination.—This showed urine, first glass cloudy and containing shreds, second and third glasses fairly clear. Occasionally the urine was very cloudy with phosphates. The prostate was only slightly enlarged, but very sensitive, not distinctly nodular, but slightly indurated in region near the seminal vesicles. The seminal vesicles were palpable, but not indurated. The prostatic secretion showed pus cells in considerable numbers, but otherwise normal elements. The urethra was excessively sensitive, especially in the prostatic portion.

A few months of local treatment by vigorous massage, irrigations, sounds up to 33 F., application of nitrate of silver to the urethra, and absolutely no medicines internally have improved this patient so much that intercourse is possible and fairly satisfactory, and he confidently expects a complete cure, which I think is reasonably assured.

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[*] Read before the Southern Medical Association, Atlanta, Ga., November, 1908.

[1] Taylor: Genitourinary Diseases, 1906.

[†] King, A. F.: Washington Med. Ann., 1907, p. 101.

[2] Young, Geraghty and Stevens: Johns Hopkins Hosp. Rep., 1906, xiii.

[3] Casper: Genitourinary Diseases, 1906.

REFERRED SYMPTOMS

Before taking up the referred symptoms a slight reference to the nerve supply of the prostate and the reasons for the interpretations of the referred pains may be permissible. The nerve supply of the prostate is only briefly referred to in the various works on anatomy. The prostate receives its sensory spinal fibers through the pudic nerve and sympathetic fibers from the hypogastric plexus. The terminal filaments of the sensory fibers in the prostate and prostatic urethra are endowed with genital corpuscles or end-bulbs of Krause. Young[2] states that he has found beneath the dense tissue of the capsule of the prostate numerous nerve bundles containing large numbers of ganglion cells. Viktor Blum[4] says that there are in the periprostatic tissues surrounding the true capsule many corpuscles similar to the end-bulbs of Krause.

With such an elaborate and highly specialized apparatus for the reception and conveyance of sensory impressions we can readily understand the influence which this organ exerts on the individual. Through the influence exerted on these highly specialized and sensitive nerve-endings by the pathologic conditions resulting from chronic inflammation, painful impressions are carried along the afferent sensory fibers and by an irradiation, or sort of overflow, are felt in the area of distribution of those somatic sensory fibers taking origin from the same spinal segment as the visceral sensory fibers supplying the prostate.

Many writers have quoted Head as saying that the prostate receives its spinal sensory fibers from the three lower dorsal and upper three sacral segments. It seems paradoxical that the lumbar segments should be skipped. Piersol,[5] in a more recent investigation, states that the prostate receives its spinal fibers through the pudic nerve, which receives most of its fibers from the second, third and fourth sacral, but also receives some fibers as high as the fifth lumbar. Thus we can readily understand the meaning of intense pruritus ani through the inferior hemorrhoidal nerve, the pain and feeling of weight in the perineum through the perineal nerves. Patients with chronic prostatitis very frequently suffer with pains in the back and down the legs, which is often diagnosed as lumbago and sciatica, but which is, in fact, referred pain from the prostate and is readily explained by the intimate relation existing between the roots of the pudic nerve with the sacral and lumbar plexuses. Cases have been reported in which the symptoms simulated renal colic so closely that nephrotomy was performed and no stone found; the patients were afterward cured by prostatic massage.

The following case illustrates well-marked referred symptoms:

Case 3.—*Patient.*—L. G., aged 43, had several attacks of gonorrhea fifteen years ago. The attacks were not very severe, but he never recovered entirely. About two years ago he began to suffer with pains in the back and down the legs. Condition grew worse until walking was decidedly painful. He was treated for rheumatism and sent to Hot Springs for while, but had no relief.

Examination.—This revealed a prostate, enlarged, firm, nodular, indurated at upper and outer poles and sensitive to pressure. The fact that this prostate was firm and resistant to touch indicates a process of long standing in which much of the round-celled infiltration had become converted into fibrous tissue. The prostatic secretion showed enormous numbers of pus cells and very few lecithin bodies. The secretion from the seminal vessels showed many motionless spermatozoa.

Several months of treatment by prostatic massage, irrigations, Kollman dilator, etc., has improved the motility of the spermatozoa, improved the patient's general health and relieved to a great extent his pains. The chronicity of the case, however, and the amount of new-formed fibrous tissue in the prostate do not make me very sanguine as to a complete cure, at least so far as the anatomic structure of the prostate is concerned.

RESIDUAL URINE

A symptom that is sometimes observed in chronic prostatitis that is especially interesting is the presence of residual urine. The following case recently came under my observation.

Case 4.—*Patient.*—H. J., aged 44, never had gonorrhea. Five years ago he had a very severe attack of dysentery, which was diagnosed as amebic dysentery. One year later he had another attack and the following year another. Ever since the first attack he suffered with frequent painful urination which became progressively worse until he urinated almost every hour during the day, and the act of urination was attended with violent straining.

Examination.—This revealed a prostate slightly enlarged, sensitive and nodular. The prostatic secretion showed many pus cells. The urethra was sensitive, but a 28 F. sound could be passed into the bladder, and a Kollman dilator in the posterior urethra could be opened to 31 F. The residual urine present amounted to 300 c.c., which amount was found on several occasions. The bladder capacity was 400 c.c. During sleep the vesical sphincter apparently relaxed and the urine flowed out without the knowledge of the patient. Catheterization immediately after sleeping showed only a small amount of residual urine. With the assistance of Dr. Fowler, cystoscopy was performed, and we found a bladder markedly trabeculated, numerous small diverticuli being seen between the trabeculæ, giving evidence of the intense straining efforts of urination. No stone was found. The lateral lobes of the prostate were slightly enlarged, a small furrow showing in the upper anterior margin of the vesical orifice. There was a slight median bar present which could not be felt per rectum. The amount of residual urine present, however, was out of all proportion to the amount of obstruction and was due to the spasmodic contraction of the vesical sphincter. This, in turn, was the result of the chronic inflammatory changes in the prostate.

Obscure vesical symptoms are often the prodromes of locomotor ataxia, and patients in the early stages of this disease frequently consult the urologist before they do the neurologist. In the case just narrated, however, there was no history of syphilis, the knee-jerks were normal, there were no lightning pains, and no unsteadiness of gait; pupils reacted to both light and accommodation. In short, I think we can safely exclude tabes.

POSITIVE SIGN OF CHRONIC PROSTATITIS

In most cases sufficient symptoms are present to direct our attention to the prostate at once. There are some cases, however, in which no definite symptoms are present, or at least the symptoms are so slight that the patient is entirely unaware that he is suffering from any prostatic trouble. Rectal examination usually shows some irregularity of the surface of the gland, slight enlargement, induration, nodulation or excessive sensitiveness. These signs, too, may also be lacking in some cases.

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[4] Blum, Viktor: Symptomatologie der urogenitalen Erkrankungen, 1908.

[5] Piersol: Anatomy, 1907.

There is one definite positive sign, however, which is always pathognomonic of chronic prostatitis, and that is the presence of pus cells in the prostatic secretion.

The normal prostatic fluid presents some very interesting features. Macroscopically, the prostatic secretion is a grayish or bluish-white, homogeneous, opalescent fluid, either slightly alkaline or amphoteric in reaction. If in the process of obtaining the fluid for examination some of the secretion of the seminal vesicles is also expressed it is recognized as semisolid, transparent masses. In a very few minutes, however, this is liquefied by the prostatic secretion and becomes intimately mixed with it.

Microscopically, the most striking feature of the prostatic secretion is the presence of large numbers of lecithin bodies; in fact, they make up the bulk of the secretion. They are seen as small round bodies, of various sizes, usually smaller than a red blood corpuscle. Their composition is exceedingly complex, but, broadly speaking, they may be regarded as a phosphorized, fatty substance. The other elements noticed are epithelial cells, some granular cells in which no nuclei can be demonstrated and whose origin is in doubt. Occasionally corpora amylacea are seen. In addition to the elements named, Wederhake has called attention to small bodies often seen which are of uniform size, smaller than an ordinary leucocyte, and whose origin and significance are not known and to which he has given the name of *Samen-Kornchen.* Young has also described another element, minute bodies, smaller than the lecithin bodies, and whose origin and significance are also unknown.

The very interesting experiments of Nagel[6] have demonstrated the value of the prostatic fluid in maintaining the life and motility of the spermatozoa. It is more important than is generally supposed. He has found that the spermatozoa when separated from the prostatic fluid rapidly lose their motility and die. Mixed with prostatic fluid, however, they maintain their vitality for days and can even resist for a time the effect of strong acids and alkalies. It has also been shown that motionless spermatozoa have resumed their motility when mixed with prostatic secretion even from another individual. The prostatic fluid also acts as a lubricant. The substance in the prostatic fluid which protects and vitalizes the spermatozoa is in all probability the lecithin bodies.

In chronic prostatitis, simultaneous with the appearance of pus cells, especially in large numbers, we notice the diminution of the lecithin bodies. In severe and very chronic cases, the lecithin bodies are often entirely absent and the spermatozoa, if present, are motionless. This disappearance of the lecithin bodies probably explains the sterility of men suffering from severe and long-continued prostatitis. Strangely enough, in favorable cases, the reappearance of the normal lecithin bodies and the disappearance of the pus cells seems to progress *pari passu* with the improvement of the patient.

MICROSCOPIC STUDY OF PROSTATIC FLUID

The microscopic study of the prostatic fluid presents peculiar difficulties. For while macroscopically it is a homogeneous fluid, microscopically it is found to be decidedly heterogeneous. Chemically it is a mixture of proteid and fatty substances and salts of various kinds, especially phosphates and carbonates. On account of this complexity of composition smears made and stained in the ordinary way are not satisfactory, the salts especially interfering with the staining. After numerous experiments with various methods I have found the following plan satisfactory:

Patients are always instructed to come to the office with a full bladder, and the urine is passed just before the massage. The secretion is allowed to fall into a small glass and the macroscopic appearance first noted. Any lack of homogeneity indicates some pathologic condition, and shreds or flakes of pus are often seen. Even to the practiced eye, however, the secretion may appear perfectly homogeneous and yet contain pus cells. A drop of the secretion is placed on a slide, covered with a cover glass and examined with a 1/6 objective. The normal elements are all easily seen and pus cells, if in any amount, can also be seen.

If the pus cells are few in number and not very distinct, the second step is now resorted to. A drop of the secretion is placed on a slide, and on this is placed a drop of solution of methylene blue, which has been strongly acidulated with acetic acid. This, of course, stains only faintly, but it brings out the nuclei of the pus cells beautifully, and if there are any pus cells on the slide they can easily be found.

If now a further study of the cytology and bacteriology of the secretion is desired, the third step is resorted to. The secretion is placed in a centrifuge tube and the tube filled up with normal salt solution. The tube is inverted several times to mix the contents thoroughly, and then placed in the centrifuge for a few minutes. The supernatant liquid is now pipetted off and more salt solution added and again placed in the centrifuge for several minutes. This can be repeated if necessary. A smear made from the sediment can now be stained and examined satisfactorily. This plan is especially valuable for the detection and recognition of the various bacteria.

SYMPTOMS OF CURE

We finally come to what are probably the most important and interesting of all the symptoms; that is, the symptoms of cure. As pointed out before, the subjective symptoms may all be present and yet the prostate be chronically inflamed. As a rule, however, under appropriate treatment, the enlarged, nodular, sensitive prostate gradually becomes more normal in size and consistency and less sensitive to touch. In patients with marked subjective symptoms the improvement in the patient's morbid sensations seems to progress *pari passu* with the improvement in the pathologic conditions in the prostate.

The question as to whether or not in a prostate, once inflamed for any length of time, especially if the deeper structures of the gland are involved, do the pus cells ever entirely disappear, is still *sub judice.* In some cases at least they persist for a long time.

The reappearance, however, of the lecithin bodies in normal amount and the progressive decrease of the pus cells is always a good omen. The spermatozoa are not unfavorably affected by the presence in the prostatic secretion of pus in small amounts, especially if the normal elements of the prostatic fluid are present. This is particularly true as regards the presence of the lecithin bodies. A prostate in which part of the secreting structure has been destroyed by chronic inflammation and the normal parenchyma replaced by fibrous tissue, of ourse, remains in that condition for all time. But the rostate seems to possess that compensatory power with hich Nature has endowed our other organs so that un-ess too much of the glandular parenchyma has been estroyed the secretion is still produced in quantities ufficient for the fulfillment of the normal physiologic unction of the gland.

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[6] Nagel, W.: Handbuch der Physiologie des Menschen, 1906.

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REATMENT OF TUBERCULOUS PATIENTS IN THEIR HOMES AND IN PLACES OTHER THAN SANATORIA

WITH SPECIAL REFERENCE TO THE PSYCHIC SIDE OF THEIR MANAGEMENT *

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When requested to prepare a paper on the home treat-nent of tuberculosis, I felt some hesitancy in acceding, ot because the subject was not of great interest to me, ut because it has been associated by some of the pro-ession with the views of those who believe that pul-onary tuberculosis can be better treated in the patient's ome than in the very best of climates elsewhere.

Such a view is so much opposed to my experience, nd to that, I believe, of the profession as a whole, that would not wish to seem to support it. If the term, owever, as my title implies, is used to describe the reatment of tuberculosis outside of closed sanatoria, hether in the patient's home town or in some especially avorable climate, and deals with obtaining for all pa-ients those advantages which were supposed to be btainable only in special institutions, it is a subject hich interests me deeply and one on which I am glad o have an opportunity to write, for it is certainly one f the most important in therapeutics and must be olved if we are to succeed in suppressing this disease.

Hygienic and dietetic treatment is to-day universally ecognized as an essential part of the management of ulmonary tuberculosis, and whatever advances we have ade, or may yet make, in specific and drug therapy, ygiene, air and diet may be safely stated to be a undamental part of any complete and satisfactory eatment.

These methods were worked out originally in closed natoria by such men as Brehmer, Dettweiler, Trudeau nd many others, and it was long the general impression at they demanded the special facilities of such insti-tions and could not be carried on properly outside of eir walls. Patients in their own homes or living in imatic resorts, but not entering such sanatoria, have o often been allowed to live very much as they wished, ith no properly strict supervision or discipline, and e difference between the results obtained in cases of tients handled in this slipshod way and those system-ically treated in institutions has been used to sup-rt this view.

Being dissatisfied with the manner in which these valuable methods were ordinarily applied in private ractice, and yet convinced of the absolute necessity of eir use, I have for a number of years tried to secure r my patients in private houses the general hygienic rangements and the teaching and disciplinary meas-res of the closed sanatorium, with results which have satisfied me that we can obtain for our patients, outside such places, all their essential conditions and their results. Indeed, in view of the very limited capacity of all the institutions of this sort, the outlook for the majority of the tuberculous, were this not true, would indeed be sad, for but a small fraction of them could possibly get accommodation in such sanatoria. Hence it becomes a duty to encourage the adoption of such methods everywhere, and to urge the profession to acquire that skill in handling pulmonary tuberculosis which has given sanatorium physicians their excellent success; in short, to teach doctors how to manage the hygienic cure outside of closed sanatoria.

This, then, I take it, is the real aim in the home treatment of tuberculosis: a treatment which is equally applicable in or out of climatic resorts, and whose value in no way affects the question of the utility of climatic treatment, which, therefore, need not be touched on here.

SPECIAL CONDITIONS OBTAINED IN SANATORIA

Since, as noted, this treatment was first and most fully developed in sanatoria, it will be well to consider what are the special conditions which are obtained there in order to see if these can be secured adequately outside their walls.

Analyzed, then, to their simplest terms, these are:

1. The personal medical oversight of the patient.
2. Strict discipline and close supervision.
3. Teaching and instruction in methods of life.
4. The systematic and hygienic arrangement of the patient's life.
5. Nursing.
6. Proper housing, location and feeding.
7. Suitable climate.
8. The effect of the example of other patients and of the *esprit de corps*.

Of these eight desiderata, all save the invaluable effects of the last two can be had in all cases, granted a determined and forceful doctor and a reasonably intelligent, earnest and obedient patient, in fairly good circumstances. True, to obtain them in a satisfactory degree will unquestionably call for much work on the part of the doctor, a great interest in his cases, and a strong will; for a chronic disease, such as this is, makes great demands on the patience and perseverance of both physician and patient; but if the doctor is willing to enter closely into the lives and to study the personality of his charges—and only he who is so willing can succeed with them—he can get a complete control of them, and will find pulmonary tuberculosis as interesting and, if early diagnosed, as hopeful as any other disease; nor will he discover any of that monotonous sameness which is supposed to characterize it.

Let us now consider, seriatim, these different conditions which are obtainable in sanatoria.

1. *Personal Medical Oversight.*—That this is essential, all who have handled tuberculosis will recognize; hence these patients must not be left to manage their lives according to their own best judgment, with perhaps occasionally a little general advice, but need to see the physician often and to receive instruction and stimulus from him. Many would suppose that unless the physician lives in the house with his patient, seeing him frequently during the day, as does the sanatorium doctor, personal medical oversight could not be had, but I have found this not to be the case. If the physician is capable of impressing his will and his personality on

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* Read before the Clinical Section of the International Congress Tuberculosis, Washington, D. C., Oct. 2, 1908.

his patients he can get the closest and most detailed supervision and control of their lives by seeing them twice, or at most thrice, a week; when they are once well trained once a week is sufficient. Indeed, by seeing our patients too frequently, as we do if we live in the house with them, we are apt to lose that objectivity in our attitude toward them which is so important, and to lessen rather than to increase our control.

If the patient is well taught the aims and purposes of the treatment, is convinced of the doctor's interest in his case, and knows that he must report to him every occurrence in a written diary of his life, it is surprising how close the supervision can be. The use of such diaries or record-books is a most important aid in the control of our cases, and it is difficult to keep in sufficiently close touch with patients without their use.

I have used record-books now for a number of years and find that they keep the doctor in most intimate touch with the feelings as well as doings of his charges, and that through them he will learn many things very closely affecting their condition, which it is important for him to know, yet of which otherwise he would never hear. The patient writes not merely a physical record of the fluctuations of his temperature, the amount and nature of his food, exercise and amusements, etc., for all of which there should be places in the page, but — and I believe this even more important — a diary of his mental life and of those occurrences of the day which affect not so much his body as spirit.

Such records are of inestimable benefit to the doctor in helping him to understand his patient and to guide him wisely, for in no disease is the effect in mind over body more in evidence than in pulmonary tuberculosis. We can not succeed with it if we treat the physical but neglect the mental side of our charges.

In a small percentage of one's patients, the very nervous and excitable, such as are so often our Jewish patients, or in those lacking the moral backbone to face the facts and fight them, their nervousness can be increased by such record-keeping. By such patients the practice must be discontinued, but in a very large majority the keeping of such diaries proves helpful and interesting to the patient, aside from its value to the doctor, and I have had many people assure me that keeping their records stimulated them to obedience and to more faithful living.

The more intelligent the patient, the better will these books be kept; some patients are able to give us a vivid account of all that happens to them so that we can know exactly all that they felt and did; some are only able to record the bald physical facts of the day, and this poorly enough; while the majority keep a diary which, while not as full as it might be, is a great help to us in following their lives. I devised these record-books to be used by patients in private practice, and I had not supposed that they would be applicable to the class of patients whom we see in our dispensaries, who are usually of a lower grade of mentality. Dr. Joseph Pratt of Boston, however, who has adopted them in his admirable tuberculosis class work, has shown that they can be used with most excellent results in these patients, and through his instrumentality they have been pretty extensively and successfully used in numerous other classes and dispensaries throughout the country.

By using such books, whose entries should be carefully scanned at each visit, and by seeing our cases once or twice a week, we can make the supervision of the patients perfect, and they will become so interested in their own progress that the treatment is deprived of much of the tedium that can handicap it.

2. *Discipline and Supervision.*—Many excellent physicians are poor disciplinarians, neither giving such detailed instructions as are necessary nor seeing that they are strictly carried out. This, however, is a matter of the personality of the physician and does not depend on whether he treats his patients in private or in a sanatorium. Discipline, however close the supervision may be, must rest, save in penal institutions, more on the good will and willing cooperation of the patient than on his fear of punishment. While the doctor must have a strong will and be a good disciplinarian, and while the patient should be afraid to disobey him, the discipline will be hollow and unreal if it depends only or chiefly on fear, or is maintained by spying. It can be satisfactory only when the patient obeys willingly from motives of self-interest and through his confidence in the physician. When such a feeling of confidence toward the doctor exists, and when the patient is made to realize that he and his physician are fellow workers toward the same end, and that by disobedience he is only hurting his own chances; when, moreover, he is made to see that getting well is no child's play, and that if he is to recover he must have the force to deny himself, the doctor need have no fear that his orders will be disobeyed behind his back. No sanatorium can show better discipline than can be obtained with patients thus trained.

3. *Teaching.*—In tuberculosis the relation of the doctor and his patient is, in one aspect, that of teacher and pupil, the latter coming not merely to regain health, but to learn from the former those truths which in after life will enable him to retain the health he has regained. Hence the physician who treats tuberculosis must be, I had almost said first and foremost, a teacher, and, like every good teacher, interested and hence interesting and capable of imparting his knowledge and his enthusiasm.

Granted the ability on the doctor's part to teach, instruction outside of the sanatorium can be most thorough and satisfactory, although, unless the patients are housed together, the individual patient will lose that not inconsiderable part of his teaching which he would receive from the example of his fellows. Many physicians do not believe that their patients should know anything about their sickness; but in tuberculosis, as Penzoldt[1] and many others have insisted, it is essential that the patient should understand something of the nature of the disease he has to fight before he can be expected to deny himself the many pleasures he must forego or bring himself to live a strictly regulated life. While it is by no means desirable that the patient should know too much about the extent of his trouble, he will fight his disease more intelligently and, therefore, better if he knows something of the wonderful way in which Nature opposes the advance of the enemy and how her ability to wage a successful warfare depends on the vitality of the individual cells, whose strength or weakness is so largely under his own control.

4. *Systematic and Hygienic Living.*—While it will take great care to secure, outside of a sanatorium, the system and order of such an institution, they can be obtained if the patient be intelligent and the doctor painstaking. He who makes a listless, half-hearted,

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[1] Penzoldt and Stintzing: Handbuch der Therapie innerer Krankheiten, iii, Jena, 1898.

planless attempt to recover from tuberculosis is sure to fail, but, granted the conditions already dwelt on and a careful oversight by the physician, the individual patient can systematize and live his life as well as those in sanatoria.

5. *Nursing.*—The necessity of trained nursing in pulmonary tuberculosis depends on the nature of the case. In my opinion, in incipient cases a nurse is not necessary at all save during some intercurrent condition, such as an exacerbation of the process or a hemorrhage; but the patient is rather the better for being thrown on his own responsibility and made to think for himself. In advanced cases with much fever, diarrhea, etc., a trained nurse is a necessity and an inexpressible comfort to the sick one, but, save in such cases, her constant presence while the patient is feeling well is a depressing reminder of sickness. Hence it is better to dispense with nurses, save in the cases cited.

6. *Location, Housing and Feeding.*—It is not always asy to secure for patients, especially if in restricted circumstances, either in their own homes or in resorts, acommodations which are as well arranged as to porches, ooms, orientation, ventilation, etc., as those in the best anatoria; but it is surprising what excellent facilities we can obtain for our patients by some study of their omes and rearrangement of their surroundings. If a large southern room, with several windows and a porch pening off from it, can be had, sanatorium conditions an be duplicated; but, if not, by ingenuity in a rearangement of houses and porches, or the building of hacks, excellent results can be obtained. For those in omfortable circumstances the task is easy, but in proortion as the circumstances of our patients are more nd more restricted it becomes more and more difficult, nd there is a point below which their financial state ets an almost hopeless handicap on the proper carrying ut of this treatment.

Among that large class whose finances prohibit their aving their home town much has been done in recent ears in Boston, New York, Philadelphia, Chicago, Balmore and elsewhere, either by removing the patients to he outskirts or by rearranging their homes, and the arious tuberculosis dispensaries and classes in this ountry have done splendid work in this line.

The feeding of a patient, whether in or out of a sanarium, depends on the availability of a good cook and ousekeeper, a good market and a not too empty purse, nd if these can be had, a good and varied table is ways obtainable. The feeding of these patients, hower, is so important that the doctor must take pains satisfy himself as to the existence of these conditions nd not take them for granted.

7. *Suitable Climate.*—It is neither appropriate nor sirable at this time to enter on the much discussed estion of the essentiality or non-essentiality of cliate in the treatment of pulmonary tuberculosis. My wn view is that climate, while it will always be a secdary factor to proper care, discipline and feeding, is invaluable aid in the treatment of this disease; one hich, in all cases which offer possibility of cure, should ver be dispensed with if means permit, and that with oper conditions it will greatly improve the best results at can be had in a patient's own town. Practically all natoria are in unusually favorable country climates, d most persons will admit that, other things being ual, a patient will do better the better the climate in hich he is placed. While we try to place our sanatoria in favorable climates, however, and while those who can afford to get proper conditions there would be foolish not to avail themselves of the added advantages offered by a good climate, the vast majority of pulmonary tuberculosis patients are compelled by financial reasons to find recovery, if it be possible, in their home town. In the last two or three years many workers in this line have shown what can be accomplished in the way of amelioration, arrest, of even cure, in our large cities if the cases be favorable and if the physician be only thorough, painstaking, interested and a good teacher.

8. *Effect of Example and of "Esprit de Corps."*—The one important factor in the hygienic treatment which can not be had when we treat the patient in his own quarters is the effect on him of the example of other patients and of that *esprit de corps* which is developed among them, and both of which are powerful factors in sanatorium results. However intelligent and purposeful, determined and obedient, the patient may be, he will miss much in not having the stimulus which is obtained from living with other patients who, like himself, are seeking to recover health and whose example will constantly urge him on to the proper life. All who have handled many patients together know the great assistance which is obtained from the rivalry between them in taking the cure faithfully, the brace to a weak will of the example of others, the encouragement to the discouraged from the good results in other cases and the mutual assistance of that spirit which animates them all.

True, the single patient is free from the depressing effects of that curse of the pulmonary invalid, symptom-talking, but this is more than counterbalanced by the tendency of the lonely patient to brood over his own troubles and to introspect. The only way in which I have been able to get around this difficulty has been, wherever possible, to place a number of patients together in a properly managed house rather than each in his own house. In such houses they get the benefit of example, etc., though free from the institutional atmosphere which is so distasteful to most American patients, and the brightness and cheerfulness of these houses, if the inmates are properly chosen, is a very great help in the treatment. Therefore, whether in our cities or in resorts, I believe that wherever possible we should try to place our patients together. Unless they will give it a trial, however, it is often hard to convince people that such association with others will not be depressing and dismal; though if we are very careful to place incipient cases only with the incipient and the advanced with the advanced, so as to avoid the discouraging effect which their difference of condition can have on the patients, the fact is just the contrary, such houses being unusually cheerful and bright. It need hardly be noted that the doctor must also display tact in sizing up differences of social condition in his cases, as by placing together patients too widely separated in this way there is pretty sure to be friction, dissatisfaction and trouble.

If the patient must be handled alone in his own house, as will usually be necessary in our cities, or with those who are too fastidious to mix with others whom they consider less elegant than themselves, the difficulty arising from the lack of example can be overcome only by redoubled efforts and more careful teaching on the part of the physician, and by more self-control and intelligence on the part of the patient.

As the result of these considerations I believe that it is evident that, save for the beneficial influence of example and of climate, all the conditions obtained in sanatoria can be secured for patients outside of such institutions. I would here, however, make an exception of our very poorest classes and of our criminal poor. For these, owing to conditions not controllable by the doctor, there seems little hope unless our sociologists and philanthropists step in and change or improve for them those surroundings and habits under which they live and which lie at the root of their sickness. For them the treatment of tuberculosis is primarily a sociologic problem, and the doctor's part in it, however important, is necessarily secondary to that of the civic and social reformer.

Of course, in applying sanatorium methods, as they have been called, the physician who is used to the treatment chiefly of acute diseases will find considerable trouble, for the former demands far more detail work than the latter, and most doctors find it hard to keep alive their interest in a case after the acute symptoms subside and the changes, instead of being visible from day to day or from hour to hour, are to be discovered only from month to month or at even longer intervals.

It is unquestionably troublesome to have to adjust every small detail of the patient's life, and to fill to some degree the functions of the nurse as well as the doctor, and it is to be feared that the majority of practitioners will therefore always find the treatment of tuberculosis tiresome and unsatisfactory; but it is only by such work that we can expect to get good results.

THE PSYCHIC HANDLING OF THE PATIENT

Turning our attention now to the application of these methods in the home treatment of tuberculosis, it is evident that, since a patient has not merely a body but a mind and a soul, there are two distinct aspects in which this treatment can be regarded, the physical and the psychical; the former concerned with the arrangement of the details of the patient's life and surroundings, the nature of his exercise and rest, his dietary, amusements, occupations, etc.; the latter dealing with his mental capacity and his attitude toward his sickness, his spirit, courage and will, and his relation to his physician. The physical part of the treatment is, of the two, the least difficult to carry out and is more generally understood. I have, moreover, very fully treated of it elsewhere,[2] as have many others, and it is to-day familiar to all, so that it would be superfluous here to consider its various details. The psychic side of the treatment is much less fully understood and more frequently neglected; it is the part which will give us the most trouble when we treat patients outside of sanatoria, yet it is essential to the success of the treatment. Hence I shall here confine myself to a consideration of it alone.

It may be approached from two points of view, the one relating to the patient, the other to the doctor, and I shall here dwell on the qualities which each will need if the home treatment is to be as successful as that in a sanatorium.

The qualities needed by the patient are, in the order of their importance, (1) will power and determination; (2) earnestness and purposefulness; (3) cheerfulness and patience, and (4) intelligence and interest.

1. Of these, will power and determination are unquestionably the first: in their absence the lightest case becomes severe, while with them even a desperate one may have hope. When I speak of will power I refer not merely, or chiefly, to that more ordinary type of will which is able to impose its wishes on others, but more especially to that higher type which can turn its will inward and conquer itself, which can force itself to the difficult denial of pleasure for profit, which can obey tedious orders strictly and closely, and which can compel cheerfulness when all around seems dark. When the patient possesses such a will his physician is, indeed, fortunate; but the doctor should never forget that, even when it is more or less poorly developed, it is in the physician's power to cultivate it, and that he can arouse and enlarge a dormant or ill-applied will and direct it into right channels, and this cultivation of the will in a wise direction is one of the doctor's most important and inspiring duties. What more splendid than to awaken will where before it was latent, interest where there was apathy, purposefulness where there was vacillation, and thus to bring victory out of a case that otherwise would be hopeless? We are not seldom made to realize, however, that if the moral backbone of the patient be below a certain level, such induced will and earnestness will exist only as long as the patient keeps in touch with his source of power, and that if this is removed he will relapse into his original weakness and spinelessness. Such patients, whatever their physical condition, are hopeless, this being a good example of the survival of the fittest; fortunately, however, they are few.

2. Next to will and determination I would place earnestness and purposefulness. The light-minded patient, incapable of following a fixed aim persistently, who can never frankly face the facts, who is never in earnest about anything, and who lacks any comprehension of a serious purpose in life, is a difficult problem for the doctor, for such qualities are not easily developed where they are lacking. It has often seemed to me especially difficult to develop earnestness in young girls or in unusually attractive women accustomed to much attention, for too many of them in these days look on life merely as a playground in which to amuse themselves, and can not be brought to regard it as a field for noble, if arduous, work.

3. Cheerfulness is an invaluable quality, while not essential, for many earnest and excellent patients seem to lack it constitutionally, but it can be cultivated to a great extent by the will. The patient who is grateful for every smallest gain and does not magnify every loss; who picks out each speck of sunshine to enjoy and tries to shut his eyes to the dark places; who goes into the fight not whining and believing he will be beaten, but bravely and hopeful of victory, has already taken a big step toward recovery. It is often inspiring to the physician to see how a patient will labor for cheerfulness and for a sunny point of view when his doctor knows so well how many causes he has for discouragement and despondency. Such people are a blessing to the households in which they live and serve as a source of sunshine to all around them. In this connection it should be noted that the families and friends of our patients should be taught and compelled to keep from them all those sad and depressing occurrences which they seem to take such a pleasure in recounting to the sick ones, either by letter or by word of mouth, thus needlessly and harmfully depressing them, the stupidity of people on this score being sometimes beyond comprehension.

Patience, in a disease which runs so slow a course as pulmonary tuberculosis, is most important, and he who can quietly and patiently live each day as it comes, uncomplaining and unfretting, will be a comfort to his doctor and a help to himself.

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[2] New York Med. Jour., January, 1899; December and January, 1902; Ztschr. f. Tuberk., 1902, vi, No. 6.

4. All authors dwell on the importance of intelligence in a patient; it is of scarcely less weight than the qualities already dwelt on, and, is, indeed, almost inseparable from some of them. There are few things harder for the doctor than to sit opposite a patient whom he is trying to interest and instruct in his own case, and to be unable to awaken one ray of intelligence, comprehension or interest in his dull, impassive eyes, or to make clear to him the simplest details of his treatment. Such patients can not be made to grasp the principles of their cure properly or to take that live interest in it which is so important; they not only obtain poor results for themselves but are a dead weight on their physician. On the other hand, the intelligent, wide-awake patient who, even if uneducated, responds to efforts in his behalf by a prompt comprehension and cooperation, who grasps the physician's aims and helps to further them, is not merely doing much to assure his own recovery, but inexpressibly lightens the doctor's work.

This lack of intelligence in the patient is one of the severest handicaps on our tuberculosis dispensaries and classes, when, as is so often the case, their clientele is drawn chiefly from the ignorant foreigners who crowd some sections of our cities and whom it seems impossible to awaken to any understanding of hygienic living or to teach how they must conduct themselves.

In private practice the intelligence of the patient is more usually sufficient, but even here the results are infinitely improved, other things being equal, when the mind is alert and keen.

If the patient is by nature enthusiastic it will be of great assistance in our efforts in his behalf, but enthusiasm is one of those qualities which is born in a man and which can not be cultivated.

SOCIAL AND FINANCIAL CONDITIONS

Aside from these mental qualities, we should note wo conditions which have great effect on the patient's prospects of recovery, i. e., his social position and his nances.

In regard to the former, as is true all through life, he best lies at neither extreme of the social ladder. The ery rich, fastidious patient of the upper ten, who has een spoilt all his life, who has always had his own way, who can not adapt himself to new conditions or be appy unless he can surround himself with all his accustomed luxuries, and who is unwilling, even when his fe is at stake, to give up his favorite indulgences or bend his will to that of another, is handicapped in very much the same way, though from a different cause, as the poor man who, for want of intelligence or means, an not get the proper conditions. The best results can be expected from those having more normal social ideals, ultivated and intelligent but not too much bitten by he society bee. These, neither handicapped by too reat a fastidiousness on the one hand, nor on the ther by a lack of those qualities which the lower classes iss, will prove our most satisfactory patients. In this ass are apt to be professional and scientific men, col- ge professors, and business men, etc., whose pockets, it true, may not be as well filled as their heads, but who t have sufficient means to secure proper conditions nd whose minds are so trained as to enable them to vail themselves of all their opportunities.

A person's education and his hygienic enlightenment are apt to be, up to a certain level, fairly proportionate to his social station, hence those below a certain class make poor patients, owing to their inability to put into practice customs and habits alien to all their past training.

Many men of the intelligent artisan class, however, make excellent patients, for in this country that class contains many with minds used to independent thought. Though such patients are hampered by narrow means, they can yet obtain good results by making use of roofs, porches or back yards, as Pratt has demonstrated, and he has thus restored many such to a partial or complete working efficiency.

If, however, the disease in this class of patients is to be successfully combated a crusade against the hygienic condition of the average American workshop and the filthy spitting habits of the average American workman will have to be begun. At present thousands of this class yearly fall a prey either to the cupidity of short-sighted employers or to the careless habits of tuberculous fellow workmen.

Patients who are below a certain social level, who can neither secure the proper conditions however simple, nor appreciate them even if obtained, such as our slum dwellers and our criminal classes, must be handled, as already noted, by the community in charitable institutions, and should, if possible, never return to city life, where they at once gravitate back to their slums and their vices, and by the rapidity of their relapses scarcely justify the money paid for their care.

The financial condition of the patient is, of course, of the greatest importance, but in these material days this is too self-evident to need much notice. I would only say that patients must be able to spend on board, lodging and incidentals a minimum of $10 or $15 a week if they are to get proper if simple conditions, while for the artisan class $5.00 a week may possibly suffice. Below this point they become proper subjects for public help.

RELATION OF DOCTOR AND PATIENT

If the doctor is to manage his patient successfully, proper relations with him must be established in the beginning; therefore the first interview is unusually important. At this time the patient must be made to realize fully what he has to fight and the mental as well as the physical means with which he is to fight it, and must be shown the necessity of cultivating those qualities on which I have just dwelt. The absolute necessity of his willing and intelligent cooperation with us should be made clear, as well as the impossibility of getting satisfactory results unless he is willing to be obedient and faithful.

If he is rightly handled in this first interview, which should follow his examination, his confidence in the physician's understanding of his case and interest in his welfare will very largely guarantee his obedience. In this first examination and talk the exact details of the life which he must lead should be laid out for him specifically and clearly, so that there can be no misunderstanding.

Thereafter each time he is seen there should be a close and careful inquiry into his daily life, by means of his record-book and by independent questioning, when errors can be corrected, faithfulness encouraged, and the thorough carrying out of our orders seen to. Thus handled, very few will disobey, but if any do so systematically it is much better to give them up, for the doctor need not delude himself into supposing that a patient who three times disobeys specific orders will stop there, and he should not risk his reputation in the hands of a strong-headed, stupid or dishonest patient. If patients are followed up in this way there is no difficulty in keeping in close touch with them and controlling their lives most thoroughly, and guiding their slow progress toward recovery will never be tedious, but on the contrary will prove absorbingly interesting not only to the patient but to the doctor.

QUALITIES NEEDED IN THE PHYSICIAN

Not every doctor is so constituted as successfully to handle tuberculous patients. To do so demands certain qualities which are not so necessary to the doctor treating acute diseases, and he who may be pre-eminently successful in treating pneumonia, typhoid, measles, etc., may fail when he undertakes the management of so long drawn out a disease as pulmonary tuberculosis.

1. *Personality.*—All writers on the subject have dwelt on the importance in the physician in this sort of work of that indefinable quality which is called "personality." From the doctor will often have to come the will, the interest, the cheerfulness and the enthusiasm which his patients need. He must be able to charge them with these qualities as an electric current charges a storage battery, and it will need a strong personality and a large supply of vitality to enable him to fill this rôle.

2. *Will.*—For one who is called on to control others it need scarcely be noted that a strong will and forcefulness are desirable so as to compel obedience if need be; but the doctor's discipline should be as little in evidence as possible, and he should be able so to convince his charge of his interest in the latter's welfare, and so make plain to him the reasons for his orders that he will be obeyed not merely, or chiefly, because the patient fears to disobey, but rather from choice and trust.

3. *Teaching Ability.*—Since apparent recovery from tuberculosis demands a thoroughly trained and instructed patient who can be relied on thereafter to live wisely and avoid harmful influences, the doctor must have teaching ability, and not merely show his patient what he must do, but fix it in his memory by giving him reasons why he must do it, for no principle of pedagogy is better established than that the teaching which gives no reasons for the facts it imparts is lifeless and will soon be forgotten.

The doctor must be able to interest the patient in what he teaches him and hence must put it in an attractive form, for however beautiful naked truth may be, it is unquestionable that the clothing in which she is presented to us can greatly enhance or detract from her charms.

Further, if what the patient learns is to stay with him the rest of his life and keep him from imprudence in the future, it must impress him deeply; and we should never forget that he who recovers without having been taught how to retain his recovered health is pretty sure to relapse.

4. *Enthusiasm and Interest.*—If, by good fortune, the doctor is an enthusiast it will serve to lighten his labor, to turn what otherwise might be work into play, and to increase the interest which he can take in his cases. To be able to feel a lively interest in his patients, not merely as cases but as human beings, is a great assistance to the physician.

A small minority of the physician's charges are unfortunately constituted that it is almost impossib for him to interest or be interested in them. These a a constant drag on the doctor and drain him of h vitality; for such he can usually do but little. Th large majority, even if not unusually interesting at fir sight, will prove so if studied closely enough, while small but blessed minority are possessed of such a pe sonality that they interest the physician from the fir moment, and by their intelligent comprehension an cooperation make his treatment of them a pleasu throughout.

The importance of detailed work on the physician part has been sufficiently dwelt on, and I can only r peat that vague, general directions are useless and th the closest specification of our wishes is essential.

Much more could be written on this question of th bearing of the qualities of the patient and his physicia on the success or failure of the home treatment of pu monary tuberculosis, but necessary limitations restrai me, and I can only hope that what I have said ma make plain the importance of the mental control of ou tuberculous patients.

In closing, let me urge on the general practitione to whom these cases first come, not to regard them a hopeless or to treat them routinely, or to relegate the to that category which he may, indeed, have to trea but in whom there is no outlook or interest, but alwa to remember that, if only they are recognized as ear as modern diagnostic methods permit and handled i the way I have suggested, the large majority will pro hopeful and interesting.

Let them be looked on and studied not merely as cas but as individuals with a personality that will rep study, with qualities which it is in our power to modi for their benefit, and who should appeal deeply to th profession as in their helplessness they come to us fo help.

Thus regarded and thus handled, the treatment our patients outside of closed sanatoria will reward with unexpected results and remove from the minds the profession the false, but painfully prevalent ide inherited from the days when a really early diagno was impossible, of the incurability of pulmonary tube culosis.

61 North French Broad Avenue.

SYSTEM IN RECORDING CASES *

CARL E. BLACK, A.M., M.D.
JACKSONVILLE, ILL.

One can find in medical literature a great many se tences and paragraphs, an occasional page and a fe isolated articles dealing with the subject of case re ords, but there is very little which offers to the stude and practitioner a plan by which he may make recor in an orderly and systematic way and at the same tim preserve them for ready reference. There is no diffe ence of opinion as to the value of such records. A seem to be agreed that it is impossible to arrive at full and correct understanding of our cases without th systematic study incident to making records of th cases as they come before us from day to day.

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* Because of lack of space, this article here appears in abbr viated form. The complete article, including the full scheme classification and details in regard to its application, may be o tained in the author's reprints, a copy of which will be sent THE JOURNAL on receipt of a two-cent stamp.

It has long been the custom to keep records in large hospitals, and the greater part of the statistical basis for our discussions is from hospital records. It has recently been truly said by one of our American teachers, "There is no doubt that our present statistics are drawn too much from hospital work and that some valuable points might be developed were our private records as available as those concerning patients treated in the hospital."

It seems almost superfluous to enumerate the reasons for keeping case records in private practice as well as in hospital work. A comparison between private patients and hospital patients shows considerable difference in them in several important ways. Patients are not usually admitted to the hospital wards until they are seriously ill. A large proportion of such serious illness is due to the oversight or neglect of conditions which would have been easily cured if they had been observed early. For this reason the ward of the hospital presents some conditions which are rarely met in private practice and is a comparatively poor place to study initial symptoms of disease. This is better done in private practice. Disease is modified by the environment of the patient, and it is only by observing a large number of patients of similar environment that we can fully understand all the symptoms presented. To know a disease in its entirety we must have opportunity to make systematic study of it under varying conditions.

Those members of the profession who write understand fully the value of case records; but the importance of such records is not so plain to the great body of practitioners, who are inclined to say that they have no time for taking case records and no use for them if they are made. Case records are not kept solely for the purpose of teaching and writing, but should be kept for systematic and orderly study of the serious daily work of the general practitioner. There is an important work of observation and record-making remaining to be done by the physician in the country and in the small towns. Each environment develops its own modifications, which should be carefully studied and recorded. These practitioners are neglecting a duty which they owe to the sick as well as to their profession. The field of medicine has become too large and the plans of treatment too varied for any man to carry all in his head. Each one should have a plan by which he can easily review, for the purpose of comparison, all of the cases which he has had of a given kind. This is particularly true of the family practitioner, and yet he is the one who is least inclined to record his observations. The general practitioner sees such a variety of cases during the year that, in order to do his best in understanding each case, he should be able to review the similar ones which he has previously had. If railroad companies, insurance companies, lodges, associations and corporations find minute records of their members or employés so valuable, are not such records equally valuable to the practitioner of medicine who is devoting his whole life to that business?

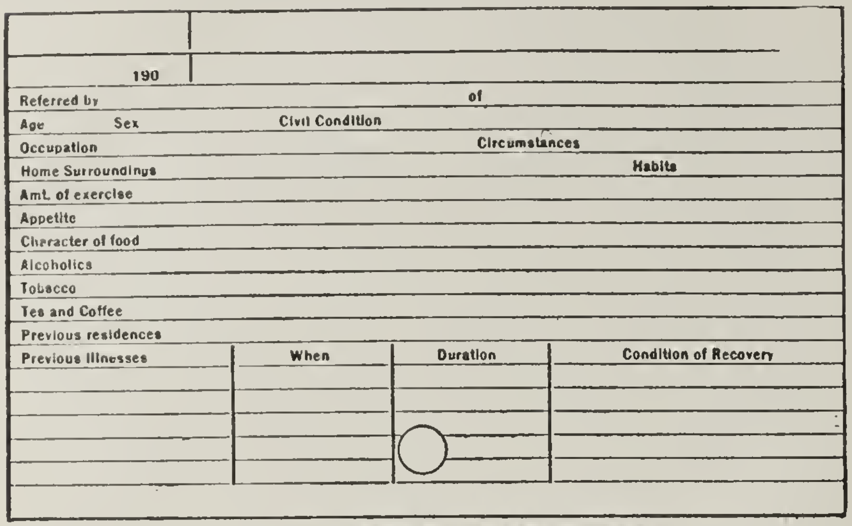
THE ESSENTIAL REQUIREMENTS OF A CASE-RECORD SYSTEM

There is a demand in the profession for some plan of ase record which will be portable, brief, orderly and ystematic. One reason why so few men keep records of heir cases is that they have never been presented with a well-digested plan by which such records can be kept nd made accessible for immediate reference. There are few physicians who have not at some time in their careers tried to keep records of their cases, but after a few months or years have abandoned record-keeping. Why is this true? Usually because the plan which they adopted was unpractical. Suppose a physician should keep records of cases until he has accumulated a large number. Perhaps he has made histories of 500 cases of one particular disease, extending through many years and contained, with hundreds of other cases, in books, drawers or boxes, according to the plan used. To make use of these cases, even for the preparation of a paper, he is confronted with the formidable task of going over his whole list in order to pick out those of the particular disease in which he is at that moment interested. Consequently many men who have recorded cases for years have no practical way in which to make daily use of their records. The object of this paper is to describe a method which seems to have in it the essentials of an orderly and systematic plan by which records made at the bedside or in the office are available for reference at any time without search through a large accumulation of records on other subjects than the one desired.

There are several essentials in making case records. Such records must be made by the doctor himself, and for this reason the plan adopted must be portable and convenient in order that he may always have with him the material on which the record is to be written. The record must be concise, and printed outlines may be used, although there is considerable difference of opinion as to the value of such outlines. With the average man records will be better taken and more orderly and more useful for future reference if outlines are used. Any plan to be successful must be practical and available for every-day use, at the bedside, at the office, at the hospital or on the street. In the plan presented the size of the card is not material, but I use a 3x5 card because it can be readily carried in any pocket and is not bulky. Only the number of cards necessary for one day need be carried. It is the size used in all libraries and was adopted by the American Library Association after long discussion. The only disadvantage which can be urged against this card is that it is too small for the amount of information which should be recorded and necessitates several cards and rewriting the patient's name on each. The first difficulty is obviated by multiplying the number of cards, which one will find a real convenience as it allows the various parts of the examination to be separated. This, combined with portability and convenience, overcomes the second objection. Only one size of card should be used. It is a great mistake to have one size for one purpose and another for other purposes. As one's work develops various combinations and readjustments will be found desirable and can readily be made if the cards are all of one size.

In the plan presented the business account is taken care of incidentally on the record card, but this is a matter of individual preference and the account can be kept entirely separate either in books or on other cards. This provision was adopted because it saved rewriting the patient's name and address. It has been the constant aim to reduce duplicating to the minimum and yet preserve the essentials. The plan adopted should eliminate the necessity for copying or making notes which are later to be written out in full. The original record should consist of orderly notes taken in a form ready for filing at the time of making the observation.

The one point on which many plans have failed is that of portability. In the enthusiasm of the moment the beginner will overlook or ignore this point and later find his work interrupted and finally ruined and abandoned because his card, sheet or book is not of such dimensions as to make it convenient for constant carrying in the pocket without being too bulky and cumbersome. Too much stress can not be laid on this point, which to the beginner often appears insignificant. The average man begins his record-taking when his time is not all occupied. In a few years he finds himself more and more busy and his time has a real market value which he must economize carefully. A busy day, a busy week and a busy month will go by with no records taken because the system pursued required more time than it was possible for him to give to it. Often a more portable and convenient plan would have saved the day. Many fail because they record too minutely in the beginning and are unable to keep it up. Records should deal with essentials and all unimportant details should be scrupulously avoided. Above all documents, a case record should be brief and to the point. It should be cleared of all that is superfluous in both words and matter, if it is to be continued year after year in a systematic and useful way.



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Referred by of

Age Sex Civil Condition

Occupation Circumstances

Home Surroundings Habits

Amt. of exercise

Appetite

Character of food

Alcoholics

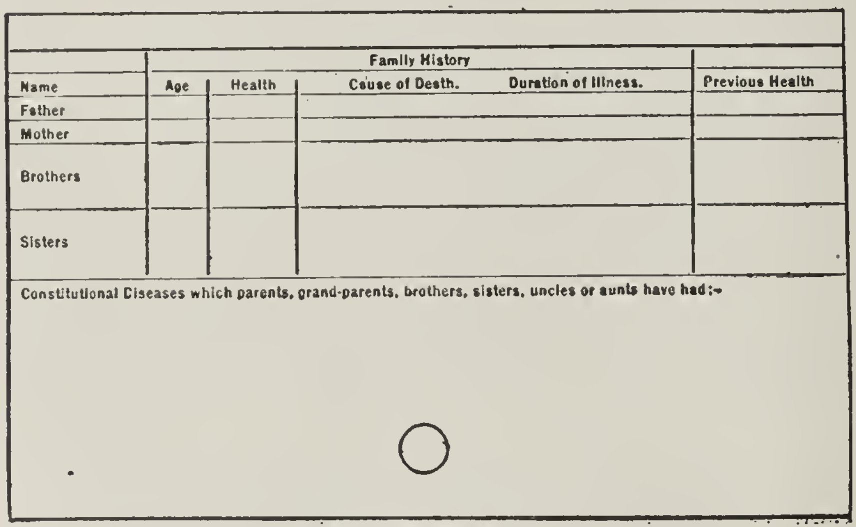
Tobacco

Tea and Coffee

Previous residences

Previous Illnesses	When	Duration	Condition of Recovery

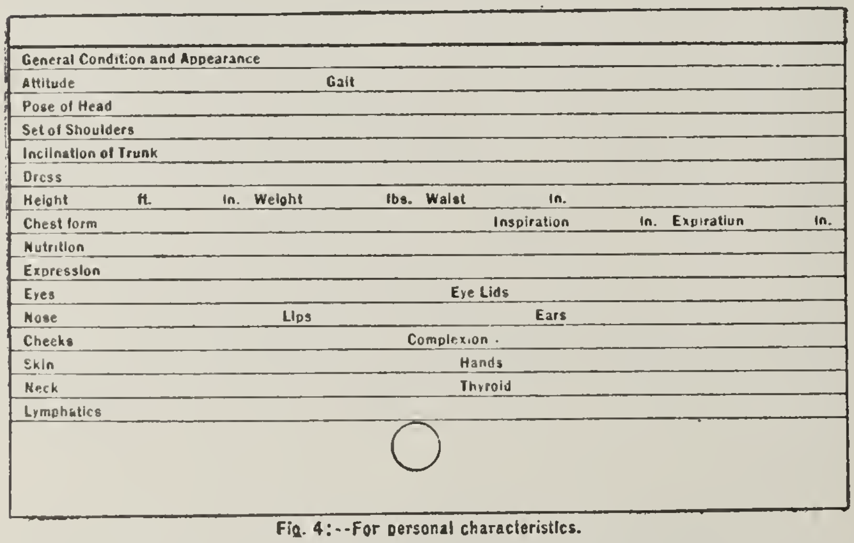
Fig. 1:--For Environment, habits, and previous illnesses.



	Family History				
Name	Age	Health	Cause of Death.	Duration of Illness.	Previous Health
Father					
Mother					
Brothers					
Sisters					

Constitutional Diseases which parents, grand-parents, brothers, sisters, uncles or aunts have had:-

Fig. 2:--For Family history.



General Condition and Appearance

Attitude Gait

Pose of Head

Set of Shoulders

Inclination of Trunk

Dress

Height ft. in. Weight lbs. Waist in.

Chest form Inspiration in. Expiration in.

Nutrition

Expression

Eyes Eye Lids

Nose Lips Ears

Cheeks Complexion

Skin Hands

Neck Thyroid

Lymphatics

Fig. 4:--For personal characteristics.

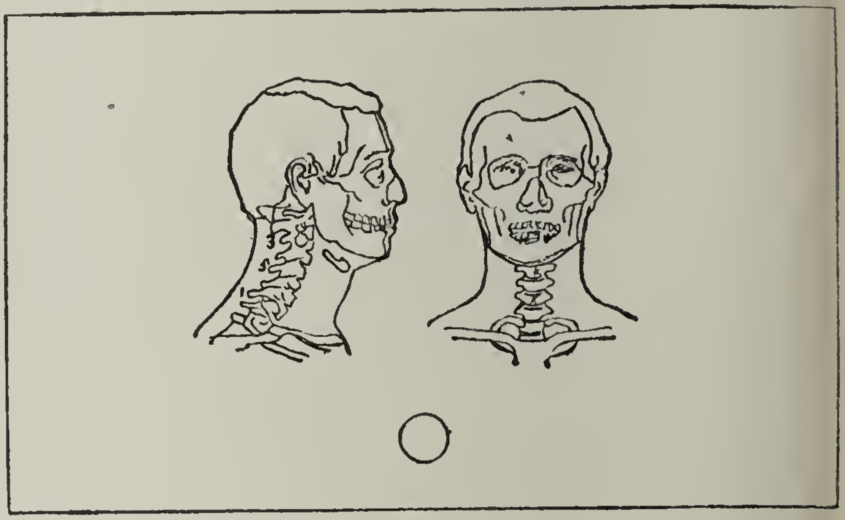


Fig. 7.

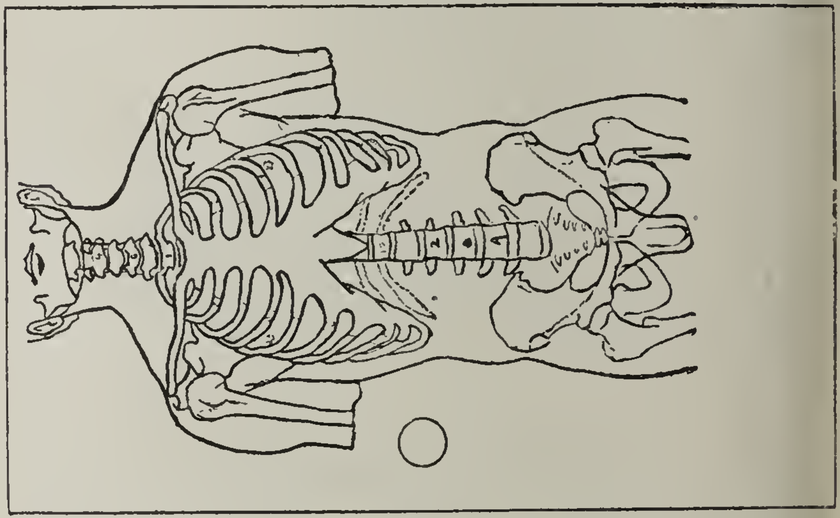


Fig. 8.

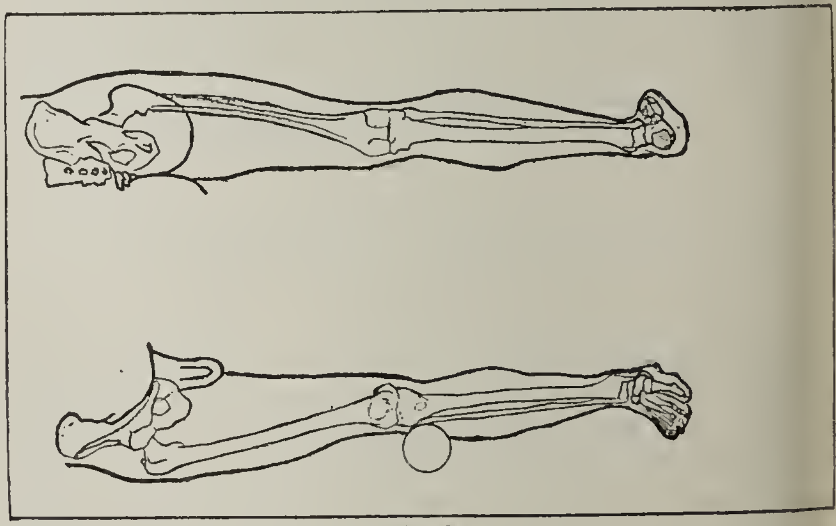
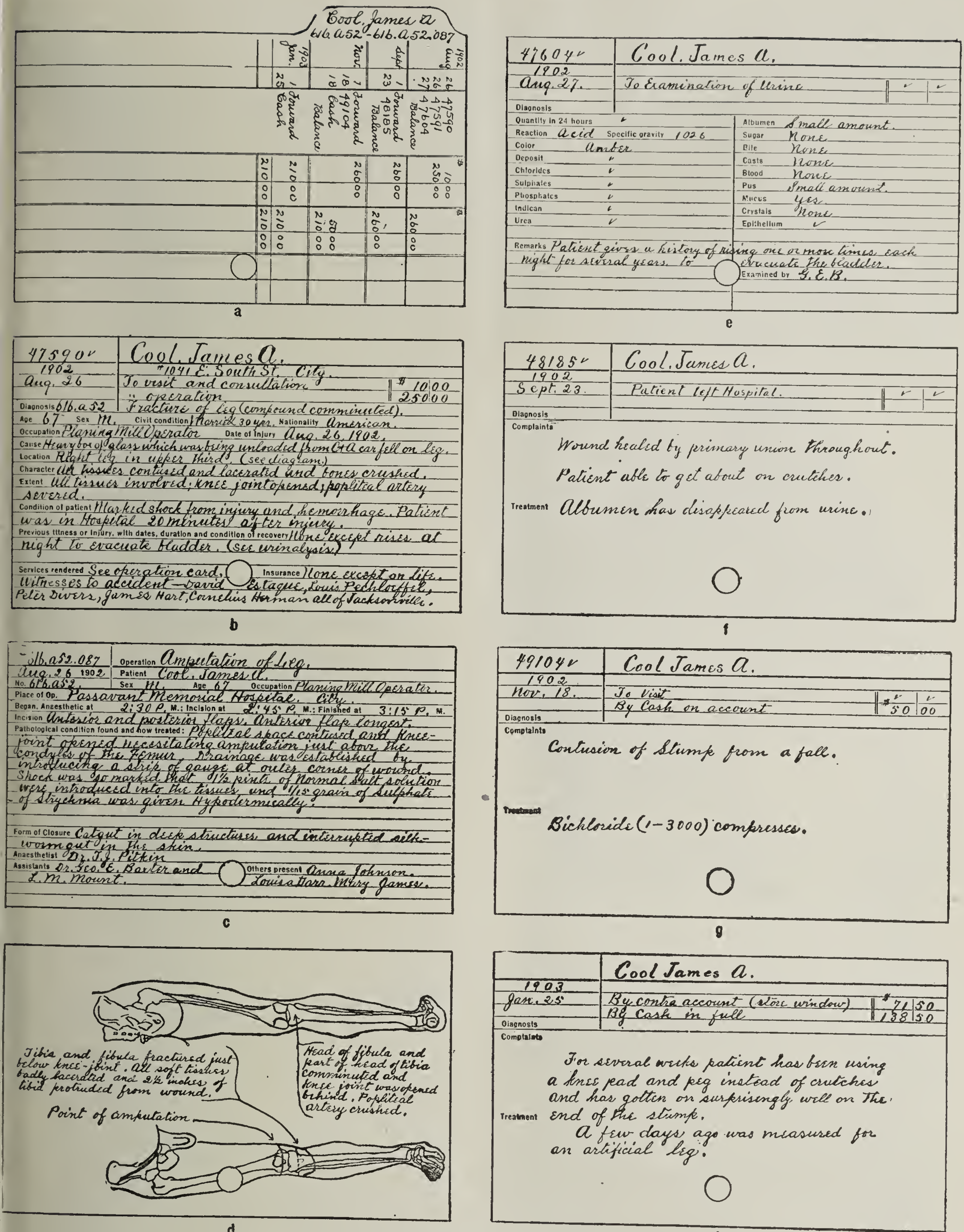


Fig. 9.

There are various objects to be attained by taking records, and the form and the extent will vary greatly with the purpose of the observer. This paper is written from the standpoint of the practical working physician who needs his records for two principal purposes: first, to improve his method and character of observation; second, to preserve these observations for ready reference.

Many succeed as to the first, but the great majority fail with the second. It is believed that the plan herein presented provides a convenient and concise method with full provision for elasticity and completeness. It comprises two distinct parts, an alphabetical file under the name of the patient, and a classified list of cases under the diagnosis or probable diagnosis.



Cool, James A
616.a52-616.a52.087

1902 Aug.	26	47590	$ 10 00	
	26	47591	250 00	
	27	47604 Balance		$ 260 00
Sept.	1	Forward	260 00	
	23	48185 Balance		260 00
Nov.	1	Forward	260 00	
	18	49104 Cash		50 00
	18	Balance		210 00
1903 Jan.	1	Forward	210 00	
	25	Cash		210 00
			210 00	210 00

a

47590✓ Cool, James A.
1902 #1041 E. South St. City.
Aug. 26 To visit and consultation $ 10 00
" operation 250 00
Diagnosis 616.a52 Fracture of leg (compound comminuted).
Age 67 Sex M. Civil condition Married 30 yrs. Nationality American.
Occupation Planing Mill Operator Date of Injury Aug. 26, 1902.
Cause Heavy box of glass which was being unloaded from C+A car fell on leg.
Location Right leg in upper third. (see diagram.)
Character All tissues contused and lacerated and bones crushed.
Extent All tissues involved; knee joint opened; popliteal artery severed.
Condition of patient Marked shock from injury and hemorrhage. Patient was in Hospital 20 minutes after injury.
Previous illness or injury, with dates, duration and condition of recovery None except rises at night to evacuate bladder. (See urinalysis.)
Services rendered See operation card. Insurance None except on life.
Witnesses to accident—David Estaque, Louis Pechloffel, Peter Divers, James Hart, Cornelius Herman all of Jacksonville.

b

616.a52.087 Operation Amputation of Leg.
Aug. 26 1902 Patient Cool, James A.
No. 616.a52. Sex M. Age 67 Occupation Planing Mill Operator.
Place of Op. Passavant Memorial Hospital. City.
Began. Anaesthetic at 2:30 P. M.: Incision at 2:45 P. M.: Finished at 3:15 P. M.
Incision Anterior and posterior flaps. Anterior flap longest.
Pathological condition found and how treated: Popliteal space contused and knee-joint opened necessitating amputation just above the condyles of the Femur. Drainage was established by introducing a strip of gauze at outer corner of wound. Shock was so marked that 1½ pints of Normal Salt solution were introduced into the tissues and 1/15 grain of Sulphate of Strychnia was given Hypodermically.
Form of Closure Catgut in deep structures and interrupted silkwormgut in the skin.
Anaesthetist Dr. T. J. Pitkin
Assistants Dr. Geo. E. Baxter and L. M. Mount.
Others present Anna Johnson. Louisa Darr. Mary James.

c

Tibia and fibula fractured just below knee-joint. All soft tissues badly lacerated and 2½ inches of tibia protruded from wound.
Head of fibula and part of head of tibia comminuted and knee joint was opened behind. Popliteal artery crushed.
Point of amputation

d

47604✓ Cool, James A.
1902
Aug. 27. To Examination of Urine ✓ ✓
Diagnosis

Quantity in 24 hours	✓	Albumen	Small amount.
Reaction	Acid Specific gravity 1026	Sugar	None
Color	Amber	Bile	None
Deposit	✓	Casts	None
Chlorides	✓	Blood	None
Sulphates	✓	Pus	Small amount.
Phosphates	✓	Mucus	Yes.
Indican	✓	Crystals	None
Urea	✓	Epithelium	✓

Remarks Patient gives a history of rising one or more times each night for several years to evacuate the bladder.
Examined by G. E. B.

e

48185✓ Cool, James A.
1902
Sept. 23. Patient left Hospital. ✓ ✓
Diagnosis
Complaints
Wound healed by primary union throughout.
Patient able to get about on crutches.
Treatment Albumen has disappeared from urine.

f

49104✓ Cool James A.
1902
Nov. 18. To Visit ✓ ✓
By Cash on account $ 50 00
Diagnosis
Complaints Contusion of Stump from a fall.
Treatment Bichloride (1–3000) compresses.

g

Cool James A.
1903
Jan. 25 By contra account (store window) $ 71 50
By Cash in full 138 50
Diagnosis
Complaints
For several weeks patient has been using a knee pad and peg instead of crutches and has gotten on surprisingly well on the end of the stump.
Treatment A few days ago was measured for an artificial leg.

h

Fig. 10.—Cards illustrating the elements of a case record, with account.

The complete paper contains twelve illustrations of card rms and a completed record of a case, with full description the various forms which I have used for a number of ears, and which have been fairly satisfactory. The forms d the size of the card can be varied without interfering in the least with the system of records illustrated.

From day to day, in the office, at the hospital, or at the bedside, the record is written on cards such as those shown in Figures 1, 2 and 4, which are filed in chronological order under the patient's name.

For the convenience of those who are called in cases of accident and who subsequently make out reports to railroad companies, or accident insurance companies, the card shown in Figure 10 b provides for the data necessary for these purposes, although a blank card may be required for elaborating one or more points. I have used this form for a number of years and rarely find more cards necessary. In accident cases as well as cases of disease, diagrams as illustrated in Figures 7 to 9 are stamped on the back of the card, and the description on the diagram supplements the record as to the location and extent of the disease or injury. The diagrams illustrated, Figures 7 to 9, are made with rubber stamps. These stamps are from Keen's charts, are eight in number and provide for every part of the body. For those in special lines of work other outlines will be found desirable, as, for example, the pelvis, the abdominal contents, the larynx, etc. A few words describing a diagram will be clearer than a whole page of written description alone. They save time in recording and contribute greatly to accuracy. The rubber stamps will be found very convenient.

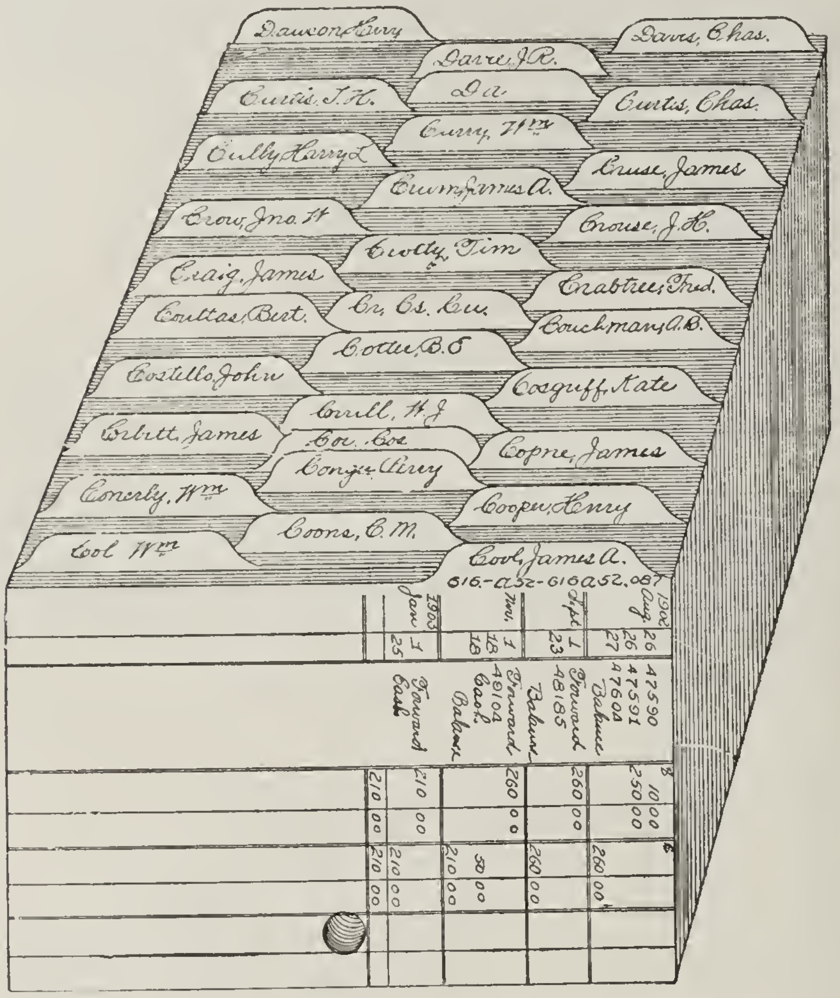


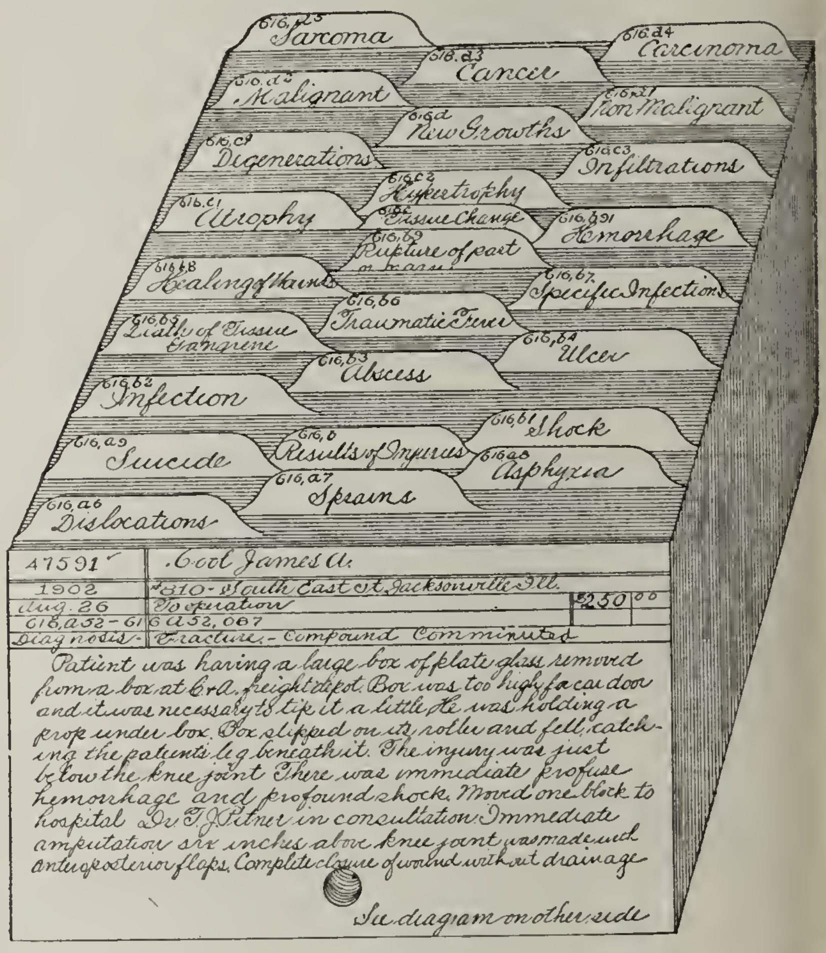
Fig. 11.—Records filed alphabetically by patients' names.

To illustrate the plan in practical use we will suppose a man injured in such a way as to necessitate the amputation of the leg. Figure 10 is a reproduction of the whole record in such a case, showing its history and result, with the day and ledger accounts. Figure 11 illustrates a section of a drawer containing a number of case histories. While the same case is shown in Figures 11 to 12 as in Figure 10. Figure 12 shows the narrative form, while Figure 10 shows the diagrammatic form. The selection of the form is entirely a matter of personal preference. In Figure 10 Card *d* as shown is on the back of Card *c*. Card *d* gives both anterior and posterior view of the leg and indicates the point of amputation as well as point and extent of injury. Card *c* is the urinalysis card. In explanation of the number at the upper left hand corner of the record card (See No. 47590, Fig. 10 b), which are also used as case numbers, it should be explained that I use a journal in which all entries appear in chronological order. This is not an essential part of the plan, although it is a great convenience to the bookkeeper. Cards *g* and *h* were made at dates widely apart and show how the account was finally closed and also contain notations as to the patient's condition at those dates.

This completes the record of the case and provides for the necessary details up to the point where most records stop.

For practical purposes of reference study, if we stop here, we will make little use of our case records. They are so much ancient history which is very difficult to consult. If a physician has accumulated 1,000 or 5,000 complete records of cases filed alphabetically, how will he study his cases of fracture, or amputation, or those cases of fracture which required amputation? The usual plan would be to remember the name of such patients and search through the records for them. If the records are in books there is the additional difficulty of consulting as many indexes as there are books.

To be available for immediate reference it is not sufficient to have records filed under the names of the patients; they must also be filed under the titles of the disease or injury. It is the chief object of this paper to present a practical working plan for such filing of our records.



47591	Cool James A.		
1902	#810 - South East St. Jacksonville Ill.		
Aug. 26	To operation	$250	00
616.a52 - 616	a52.087		
Diagnosis -	Fracture - Compound Comminuted		

Patient was having a large box of plate glass removed from a box at C&A. freight depot. Box was too high for car door and it was necessary to tip it a little. He was holding a prop under box. Box slipped on its roller and fell, catching the patients leg beneath it. The injury was just below the knee joint. There was immediate profuse hemorrhage and profound shock. Moved one block to hospital. Dr. T. J. Pitner in consultation. Immediate amputation six inches above knee joint was made with antero-posterior flaps. Complete closure of wound without drainage

See diagram on other side

Fig. 12.—Records filed in classified index of diseases and injuries.

More than ten years ago I adopted Dewey's decimal classification, and since have used it for filing all case records. The plan has been to file the original record alphabetically under the name of the patient (Figures 10 and 11) and to have a copy of the record made which is filed in a classified index, as illustrated in Figure 12, which shows a section of a drawer of records filed under the disease or injury. A blue card is used for the disease and a salmon card for the operation.

The plan which I use of having the record made in duplicate is complete and satisfactory, but it entails much more labor than is necessary and, in fact, can be employed only by one who keeps an assistant for this work. A much simpler plan consists in posting the charges for services to the ledger card, as in Figure 11, and then filing the original cards under the diagnosis as in Figure 12. The classification numbers (616.a52, Fracture—Compound Comminuted and 616.a52. 087, Operation for Compound Comminuted Fracture) on the original record (Figure 12) and on the ledger card (Figure 11) are cross-references and show at once where the original records are filed in the classified list of diseases, injuries and operations (Figure 12). The ledger card contains the class under which the case record was filed (Figure 11. No. 616.a52) and shows just where to look for the original record. (Figure 12.)

In practical use the original record cards are filed with the ledger card (Figure 11) and remain there until the case is completed, when it is transferred to the classified cases (Figure 12).

After the account is paid the ledger cards are transferred and become an alphabetical index by patients' names to the records.

By either plan the records are classified at once and all records of each disease or injury are found together, are kept up to date, and are immediately accessible for reference, and study and enable one to compare symptoms, methods, findings, treatments and results. Such a plan is of great practical value for both the clinician and the writer of articles and books by enabling them to consult the records of any case or group of cases without the necessity of a tiresome search.

The most important thing connected with this plan was the working out of a few modifications of the Dewey decimal classification. This classification consists of two parts: first, a division of all knowledge arranged in ten classes, each class being assigned one hundred numbers; second, a relative index. An outline of the classification is as follows:

000	General Works.
100	Philosophy.
200	Religion.
300	Sociology.
400	Philology.
500	Natural Science.
600	Useful Arts.
700	Fine Arts.
800	Literature.
900	History.

Each of these classes is subdivided into ten divisions, one of which, the subdivision of 600, Useful Arts, will illustrate the system:

610	Medicine.
620	Engineering.
630	Agriculture.
640	Domestic Economy.
650	Communication, Commerce.
660	Chemical Technology.
670	Manufacture.
680	Mechanic Trades.
690	Building.

Medicine is in the first division of the sixth class of knowledge and is number 610 in that class. Wherever 610 to 619 inclusive appear in the classification they ndicate that the subjects are medical. Medicine (610) s separated into ten subdivisions, as follows:

610	General Works.
611	Anatomy.
612	Physiology.
613	Personal Hygiene.
614	Public Health.
615	Materia Medica and Therapeutics.
616	Pathology, Diseases and Injuries, Treatment.
617	Surgery.
618	Diseases of Women and Children.
619	Comparative Medicine, Veterinary.

In working out the subsections of each of the ten subivisions of medicine, decimals are used.

The following comprise the general headings of the ubsections as given in the complete paper and illustrate he plan of the classification :[1]

OUTLINE OF CLASSIFICATION OF MEDICINE

616	*PATHOLOGY, DISEASES AND INJURIES, TREATMENT.*
616.a	INJURIES
616.b	RESULTS OF INJURIES. SURGICAL PATHOLOGY
616.c	TISSUE CHANGES
616.d	NEW GROWTHS
616.e	FOREIGN BODIES
616.f	NERVE DISTURBANCES
616.g	SPECIAL INFECTIONS
616.h	FUNCTIONAL DISTURBANCES
616.k	ANOMALIES
616.08	TREATMENT
616.081	CLIMATIC
616.082	HYGIENIC
616.083	DIETETIC
616.084	MECHANICAL AND ELECTRICAL
616.085	DRUGS
616.086	SPECIFICS AND CURES
616.087	OPERATIVE
616.088	SERUM
616.089	PROPHYLACTIC
616.1	DISEASES OF THE CIRCULATORY SYSTEM
616.2	RESPIRATORY SYSTEM
616.3	DIGESTIVE SYSTEM
616.4	LYMPHATIC SYSTEM. DUCTLESS GLANDS. BREASTS
616.5	DISEASES OF THE SKIN
616.6	GENITOURINARY SYSTEM
616.7	ORGANS OF LOCOMOTION
616.8	NERVOUS SYSTEM
616.89	MENTAL DISEASES
616.9	GENERAL DISEASES
617.5	THE BODY BY REGIONS
617.7	DISEASES OF THE EYE
617.8	DISEASES OF THE EAR
618.1	DISEASES OF WOMEN
618.2	OBSTETRICS .
618.9	DISEASES OF CHILDREN

In order that the classification may be completely useful, and especially that those not familiar with indexing may make practical use of this plan, a complete index to the classification in dictionary form is appended in the complete paper. The following illustration is taken from this index:

INDEX TO CLASSIFICATION.

Abdomen	617.55
Abdominal hernia	617.55.b93
Abortion	618.39
Abrasions	616.a3
Abscess	616.b3
Absence of parts, transposition or displacement	616.k8
Accessory cavities of the nose	616.212
Accessory nerve, spinal portion	616.828
Actinomycosis	616.974
Acute arthritis	616.72.b21
Ague	616.937
Anemia	616.15.gl
Aneurism	616.13.c75
Angioneurosis	616.13.c78
Animal parasites (general diseases)	616.961
Animal parasites in skin diseases	616.562
Ankle joints	616.7283
Anomalies	616.k
Anthrax	616.971
Antrum of Highmore	616.213
Anus	616.351
Aorta	616.131
Aortic valve	616.121.g22
Appendages of the skin	616.55
Appendix	616.3452
Arachnoid	616.813
Arteries	616.13
Arteries inflammations of	616.13.b2
Arthritis	616.72.b2
Arthritis, acute	616.72.b21
Arthritis, chronic	616.72.b22
Arthritis, rheumatoid	616.72.b724
Arteriosclerosis	616.13.c78
Ascending colon	616.3471
Asphyxia	616.a8
Atresia, Dilatation, Stricture	616.b8
Atrophies of skin	616.54
Atrophy	616.c1
Auditory canal	617.862
Basal ganglia	616.833
Base of brain (subcortical white matter)	616.832
Beriberi	616.918
Bile passages	616.362
Bladder	616.62
Exstrophy of	616.62.k2
Functional disorders	616.62.h
Sacculated	616.62.g6
Blood, diseases of	616.15
Structural diseases of	616.15.g5
Body by regions	617.5
Bones (except spine)	616.71
Face	616.713
Fragilitas ossium	616.71.g6
Inflammation	616.71.b2
Larynx	616.714
Lower extremity	616.719

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[1] Surgery and surgical treatment are included under the region f the disease.

Clinical Notes

CLINICAL OBSERVATIONS ON BLOOD STAINS

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The object of this paper is to call attention to some of the chemistry of the methyl alcohol stains in common use for the staining of blood, and to point out the practical value of the study to the general practitioner who makes his own blood examinations.

Since Wright's modification is that in most common use, the discussion will be confined to it in the first part of the paper, though the remarks apply equally well to the Hastings modification and to the Harlow stain, which will be taken up in some detail later.

None of the polychrome methylene blue and eosin mixtures are stable. They are mixtures of polychrome methylene blue, which is both neutrophilic and basophilic, and of eosin, an oxyphilic stain. The specificity of the stain depends alone on the balanced combination of these two components, and this, in turn, depends on the reaction. Methyl alcohol is used for the solvent in all of these staining fluids, this chiefly for its fixing properties.

Methyl alcohol is of itself unstable. In the presence of but little light or air, it is in part changed to formaldehyd, and this, with a bit of moisture is converted into formic acid. It makes some difference what methyl alcohol one uses. The "absolute methyl alcohol, acetone-free," is not so good for making up a staining solution as is the "reagent methyl alcohol" to be had from Merck. Absolute methyl alcohol readily changes in part to formaldehyd and formic acid even in the absence of any amount of light, air or moisture; whereas the "reagent" alcohol is far more stable.

It has been the ordinary experience of every one who has had much blood work to do, that an old stain always stains too red; this, for the reason pointed out above, that the old staining mixture becomes acid. In the presence of a trace of acid the oxyphilic component of the stain is accentuated, while the avidity of the methylene blue is depressed and *vice versa*. Again, different bloods react differently to the same staining fluid under the very same technic. A normal blood, for instance, will stain very well with a certain staining solution, while a smear from pernicious anemia will not stain at all well, or it may be impossible to demonstrate the granules of the myelocytes in a case of myelogenous leukemia.

In Professor Dock's clinic at the University of Michigan, in 1906, the first work, to my knowledge, on the reaction and titration of these stains was done. At that time there were six cases of pernicious anemia in the clinic and three of myelogenous leukemia. Not one of these bloods would stain satisfactorily with the staining fluid (Wright's) that we used with most satisfactory results on fairly normal bloods. As a result of this experience, it was determined to discover, if possible, the cause. Reasoning from the chemistry of methyl alcohol, it was decided to alter the reaction of the stain and see if in that way good stains might not be had.

A little potassium hydrate by alcohol was dissolved in a few cubic centimeters of methyl alcohol in a test-tube, and to another few cubic centimeters of methyl alcohol a few drops of glacial acetic acid were added. Note that in this procedure no water was introduced. If the staining fluid to be altered did not stain the basophilic elements and the neutrophilic granules of the polymorphonuclear leucocytes well, a few drops of the potassium hydrate solution in alcohol was added to the staining solution. The bottle was then shaken, and, after thorough mixing, a blood smear was stained. If the stained smear was not satisfactory, for instance, if the neutrophilic granules did not come up well, a few more drops were added, and the procedure repeated until the neutrophilic granules did come up as desired. If too much alkali were added to the staining fluid, as evidenced by poorly defined oxyphilic elements and undue accentuation of the blue, a little of the acid in alcohol was added, and the whole titrated back as described above. A stain may be considered satisfactory if the neutrophilic granules of the polymorphonuclear leucocytes stain well. In a myelogenous leukemia smear, the best criterion is the neutrophilic myelocyte. The granules must be clearly defined and of good color. By this procedure good stains may always be had from any staining fluid on any blood.

The staining fluid was then put into a clean dark bottle and a good cork fitted tightly. A dark bottle with a good cork is in every way to be preferred to a bottle with a glass stopper, even though the glass be amber. A staining fluid will keep in perfect condition indefinitely if kept in this manner, unless it is allowed to get low in the bottle, so that a large amount of air is admitted. In the latter case, after a time, the same changes will be noted that are to be found in all old staining fluids.

After these experiments were completed, we made up some of the Wright powder. Three batches of the powder were made up, and in only one of them were the directions carefully followed. In one of the batches 15 per cent. more eosin was used than the directions called for, and in the other 20 per cent. more of the methylene blue was used. Solutions of the two powders containing excesses of one of the components were made, and the staining solution titrated as described. We obtained perfect stains from each of these powders—in fact, better stains than could be had from the powder that was accurately made, before it too was titrated.

Staining solutions were then bought from Bausch and Lomb, Eberbach & Company, and from the Leitz Chicago office. None of these staining fluids gave satisfactory stains before manipulation. By titrating we obtained good stains from each.

One batch of Hastings' stain was imperfectly made up, and from this good stains were had after manipulation.

In the fall of 1907 work was started on the Harlow stain. This stain is of two parts, one a 1 per cent. solution of eosin, water soluble, in methyl alcohol, and the other a 1 per cent. solution of ordinary methylene blue, or of Ehrlich's rectified, in methyl alcohol. The smear is stained first for one minute with the eosin mixture, and the stain poured or thrown off. Then the methylene blue solution is put on for one minute, after which it is washed in distilled water, dried and mounted as usual. In the Harlow stain, the methylene blue is polychromed on the smear by the little eosin remaining on the glass after most of it has been poured or thrown off. The stained smear has the same general appearance as the Wright stain, except that the reds have somewhat of a blue tint. An old Harlow stain incurs the same difficulties that does an old Wright stain; it does not stain well the nuclei and the neutrophilic granules. In titrating this stain, both solutions were altered. Changing the reaction of the eosin solution had no effect on the resulting stain. Changing the reaction of the methylene blue solution gave all the good results that were obtained from the manipulation of the Wright stain. The Harlow stain can be as easily and as satisfactorily altered as can the Wright stain to suit any individual blood. The Harlow stain is in some ways to be preferred to the others, in that it stains the granules more decidedly. There is with it never a question as to the nature of a granule. On the other hand, in working with a blood in which there is very slight polychromatophilia it is not so satisfactory.

SUMMARY

1. The changes found in old methylene blue and eosin staining mixtures are due to a change in the reaction of the methyl alcohol.

2. A staining fluid which is too acid will stain too red. The red corpuscles and the granules of the eosinophilic cells stain well enough, but the neutrophilic granules of the polymorphonuclear leucocytes and the nuclei do not stain well.

3. A staining fluid which is too alakaline will stain blue. The nuclear elements stain well, and in a certain number of cases the neutrophilic granules stain fairly well, but the red blood corpuscles do not color properly.

4. All staining fluids made up with methyl alcohol hould be kept in clean dark bottles and tightly corked. If the bottle has been thoroughly steamed out and dried before the staining fluid is put into it, much of the difficulty will be avoided. A bottle that has been well oated with a layer of asphaltum paint is best. A ood cork is to be preferred to a glass stopper.

5. By titrating with potassium hydrate, or glacial cetic acid, in methyl alcohol, the stain can at any time e brought up to the desired standard or reaction for ny blood.

6. The procedure is equally efficacious with Wright's, Iastings' or Harlow's stain.

7. In working the Harlow stain, change the reaction nly of the methylene blue.

8. Judge the stained smear, using the neutrophilic ranules of the polymorphonuclear leucocytes as your riterion. If these do not stain well, something is rong with the staining solution or the technic.

9. Use a methyl alcohol of known purity.

LYMPHATIC LEUKEMIA

CASE TREATED BY THE STENGEL-PANCOAST METHOD

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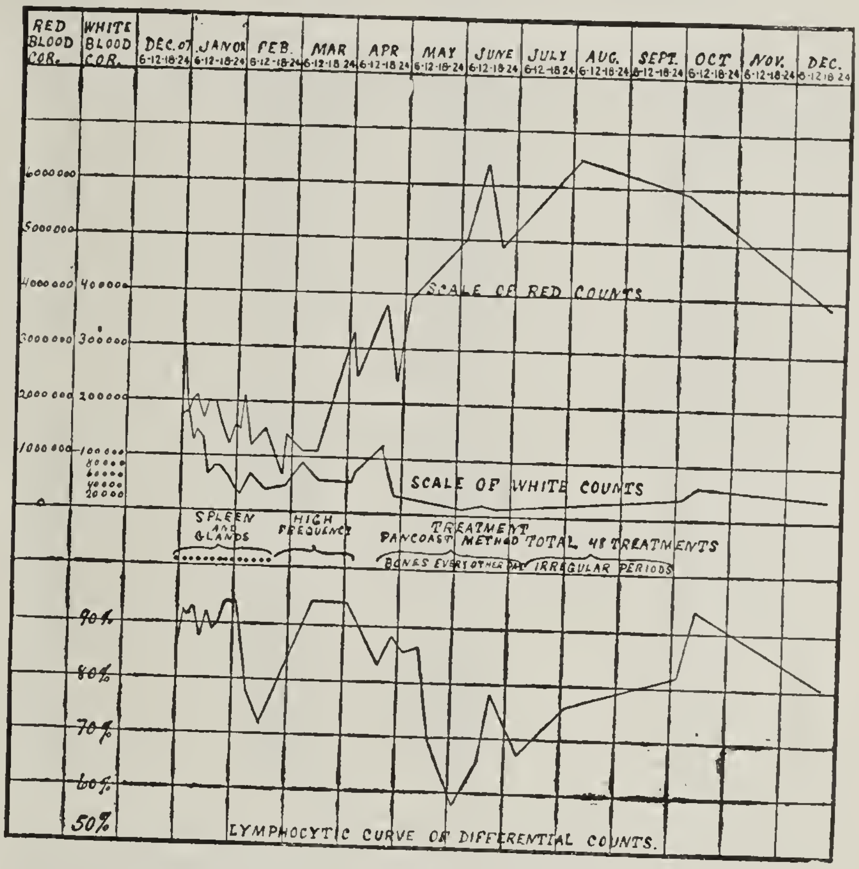
The report of a case of chronic lymphatic leukemia eated by the Roentgen method of Pancoast seems orthy of record, despite the already long list of deiled reports of cases treated by the older technic. Relts of Roentgen treatment in leukemia by the older ethods have not been satisfactory, as the small perntage of permanent cures testify. The striking initial op in the leucocyte count and the decrease in size of the spleen and lymph glands has unfortunately not been permanent and the brilliancy of this early symptomatic cure has been replaced by subsequent relapse and failure. Analysis of completed case records[1] shows a fatal result in 85 to 90 per cent.

Manifestly such final result is neither satisfactory nor encouraging, and here and there voices have been raised against the Roentgen ray as having failed of its promised benefit. But, as Stengel and Pancoast point out, an agent capable of such powerful initial changes must have inherent virtues, and they prefer to believe that the hitherto unsatisfactory results were due to irrational and improper methods rather than to deficiencies in x-ray possibilities. Assuming the pathologic lesions of leukemia (regardless of type) to be primarily in the bone marrow, the effect of exposing the lymphoid tissue by the older methods was as follows: Lymphocytes or myelocytes were destroyed, liberating at the same time leucolytic substances, which in turn affected the bone marrow. The result desired was, therefore, brought about by an indirect and circuitous method, instead of by a direct attack on the essential lesion. The spleen was avoided, at least until the patient was improved.



Five cases are reported by Pancoast and Stengel, all of the splenomedullary type, but details are not given. In a personal communication to one of us, Pancoast states that he has also used the method in lymphatic cases. Pancoast and Stengel claim for this method equal or superior final results and the avoidance of toxemia.

Briefly, the new method is to map out the bone marrow of the body into about eight districts or regions and to expose these consecutively and in rotation, repeating until desired results are attained. Certainly nothing seems more rational than attacking a pathologic process direct when this is possible, as it is here. Judgment of the method will, of course, be delayed until sufficient final results can be analyzed, but the unsatisfactory nature of treatment by the older method contains nothing to recommend its continued use when the probability of a better is offered.

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[1] Stengel, Alfred, and Pancoast, Henry K.: Treatment of Leukemia by the X-ray, The Journal A. M. A., April 25, 1908, L. 1317.

CASE REPORT

Patient.—Male, aged 47, watchman and porter; came under observation in December, 1907; referred by Dr. J. H. Jacobson. The father and mother were dead of unknown causes. The remaining family history presented nothing (in so far as the patient was aware) of interest in connection with the case.

History.—The patient was well as a child and enjoyed fair health during the greater part of his life. An attack of so-called "influenza" at 20 was passed through without complications or sequelæ. Six years ago (the patient being then 41) a slight left-sided facial paralysis occurred, which entirely disappeared at the end of two weeks. Venereal infection was denied. The patient was a moderate user of alcohol and tobacco.

Present Illness.—It is difficult, if not impossible, for a definite onset to be described. The "swelling" of various parts of the body dates back three or four months from the time of first observation, but prior to this there were cough, expectoration and weakness. In December, 1907, there were pronounced weakness, dizzy attacks, hoarseness, stiffness in legs, dyspnea, constipation and nervousness.

TABLE OF BLOOD FINDINGS

Date.	Reds.	Whites.	Hb.	Lymphocytes. Per cent.	Poly. Neutrop. Per Cent.	Large Mononuclear. Per Cent.	Eosinophile.	Mast.	Nucleated Reds.
Dec. 30, 1907........	1,688,000	842,000	25	85.5	10	2.5	1.0	1.0	1
Jan. 3, 1908.........	1,840,000	195,200	24	92.3	7.0	0.3	0.3	0.0	
Jan. 5, 1908.........	2,072,000	128,800	30	91.5	7.0	1.0	0.5	0.0	
Jan. 8, 1908.........	2,120,000	145,600	25	93.0	5.0	1.0	0.3	0.6	
Jan. 12, 1908........	1,720,000	130,000	25	87.5	9.5	2.0	0.5	0.5	
Jan. 15, 1908........	2,000,000	68,000	25	92.0	5.0	3.0	0.0	0.0	
Jan. 19, 1908........	2,008,000	82,400	24	89.0	7.5	3.0	0.0	0.5	2
Jan. 22, 1908........	1,620,000	79,200	22	90.5	7.5	1.0	0.8	0.2	
Jan. 26, 1908...	1,224,000	60,800	..	94.0	2.0	3.0	1.0	0.0	
Jan. 29, 1908........	1,552,000	43,600	20						
Feb. 2, 1908.........	1,496,000	32,000	20	94.0	4.0	1.0	1.0	0.0	
Feb. 4, 1908.........	2,164,000	39,600	25	90.0	2.5	4.5	2.0	1.0	2
Feb. 8, 1908.........	1,200,000	66,000	20	78.0	14.5	6.0	1.0	0.5	
Feb. 16, 1908........	1,512,000	41,200	..	72.0	19.5	7.0	1.0	0.5	
Feb. 25, 1908........	736,000	.....	14						
Feb. 27, 1908........	1,392,000	46,800							
March 6, 1908.......	1,080,000	99,200							
March 14, 1908......	1,080,000	59,200	..	94.5	1.0	4.0	1.0	0.0	1
April 3, 1908........	3,280,000	58,400	40	94.0	4.5	1.0	0.5	0.0	
April 5, 1908........	2,536,000	73,600							
April 20, 1908.......	3,840,000	26,400	..	83.0	14.0	3.0	0.0	0.0	
April 27, 1908.......	2,376,000	32,000	..	88.0	8.0	2.5	1.5	0.0	
May 3, 1908..........	3,920,000	36,800	55	85.5	12.0	2.0	0.5	0.0	2
May 11, 1908.........	....	.....	..	86.5	12.5	1.0	0.0	0.0	
May 18, 1908.........	....	.....	..	70.0	24.0	5.0	0.0	1.0	
May 25, 1908.........	....	.....	..	64.0	30.0	3.0	2.0	1.0	
June 3, 1908.........	5,000,000	12,800	95	57.0	39.0	4.0	0.0	0.0	1
June 14, 1908........	5,536,000	19,000	..	66.0	30.0	4.0	0.0	0.0	
June 22, 1908........	6,464,000	16,000	..	78.0	20.0	2.0	0.0	0.0	
July 7, 1908....	4,928,000	15,400	..	67.2	29.0	3.8	0.0	0.0	
Aug. 4, 1908	6.526,000	25,800	96	76.0	19.5	0.0	4.0	0.5	1
Oct. 3, 1908	5,952,000	41,600	..	82.0	13.0	4.5	0.0	0.0	1
Oct. 12, 1908........	5.728,000	61,200	..	94.0	3.0	1.0	0.0	0.0	
Nov. 22, 1908	3,936,000	40,200	..	80.6	15.6	3.3	0.0	0.3	

Examination.—The patient was short and stocky, 5 feet 5 inches in height, weight 155 pounds, not emaciated, skin and mucous membranes pale, panniculus moderate, musculature flabby, no skin lesions. Bony structure symmetrical. General glandular enlargement in all parts of body, especially marked in cervical region, in which there was a massive glandular "collar," nearly obliterating the neck depression between the jaw and the thorax. Numerous lymphomatous nodules on abdomen and back. Tonsils enlarged and lymphoid tissue of tongue and pharyngeal ring markedly increased. Muscles of calves and thighs sensitive to pressure. Sternum sensitive. Slight edema of ankles. Pupils slightly dilated, margins smooth, equal on both sides, reacting to light and in accommodation.

Thorax: Large, symmetrical, breathing slightly dyspneic. Dulness over right front just below clavicle, corresponding to a glandular mass at this point above and below the clavicle. Breath sounds, exaggerated vesicular over this area with an occasional dry, rubbing-like sound. Few moist râles scattered over both lungs.

Heart: Apex beat moderately strong in the fifth interspace in mammary line, movable, no thrill, dulness slightly increased to left. Right edge of cardiac dulness merged with substernal dulness, probably due to enlarged mediastinal glands. Distinct and moderately loud systolic murmur at apex transmitted to left as far as anterior axillary line, apical first and second sounds moderately strong. Both second sounds at base weak with slight relative increase of pulmonic. Pulse equal on both sides, weak, regular, systolic blood pressure 105.

Abdomen: Large, slightly tender, especially over right hypochondrium. Liver easily palpable two inches below costal margin and very sensitive. Spleen enlarged downward to umbilicus, upward to seventh interspace. Surface smooth, somewhat tender, no ascites.

Tibiæ: Not tender. Patellar reflexes present, but weak.

Sputum: Profuse, no tubercle bacilli or elastic tissue fibers.

Urine: Twenty-four hour amount varied from 1,200 c.c. to 3,200 c.c. Average specific gravity 1020, acid, clear. Serum-albumin persistently present. Albumoses absent. No glucose. Slight aldehyd reaction. Cammidge's pancreatic reaction negative. Indican and diazo reaction negative. Sediment shows no casts, few leucocytes and a moderate amount of epithelium.

Blood: Pale, flow poor, hemoglobin 25 per cent. (Fleischl), red cells 1,688,000, white cells 342,000.

Treatment.—Roentgen ray exposures were instituted, Dec. 31, 1907, by the older methods, viz., treatment limited to the spleen and glands. Owing to the marked anemia, especial care was taken to avoid, as far as possible, any toxic effects. Treatments were given with tubes of Walter, 6 penetration anode distance from surface twelve inches and a curren strength of 1 milliampere through the tube. During this firs series treatments were limited to ten minutes and were give every third or fourth day. From Dec. 31, 1907, until Feb. 20 1908, fourteen treatments were given. The white count in thi period dropped from 342,000 to 42,000, and the red count de creased to about 700,000 with a hemoglobin percentage of 14 The patient at this time was in an extremely critical condi tion, dyspneic and weak. There was at this time no increase in the albuminuria or other definite signs of a Roentgen ray intoxication, but the treatments were stopped and with a hop of improving the general condition, high frequency treatment instituted. The apparatus employed consisted of a high po tential condenser of rather large capacity discharging across spark gap in series with a solenoid. Shunt wires were take from the solenoid to the couch and patient, as with the ordi nary D'Arsonval apparatus. The large capacity of the con denser lowered the frequency, while at the same time th length of the spark was reduced, enabling the patient to b placed much nearer the condenser plate, i. e., the dielectri thickness was greatly decreased, thus greatly increasing th condenser effect and allowing stronger currents to be utilize Fifteen-minute treatments were given daily until March 6, an then at irregular intervals until April, at which time the pa tient's general condition was very much improved. During thi period of high frequency treatment the patient was in a ho pital under careful observation, and it hardly seemed probable to us that the improvement was spontaneous, following the discontinuance of the *x*-ray and removal of a possible intoxicating influence. We are unwilling, however, to ascribe it definitely to the high-frequency current, yet the intense influence on metabolism observed in treating anemias by the high-frequency current leads us to the belief that it was not entirely without value. On April 21, 1908, Roentgen treatment was again instituted by the Pancoast method, according to the technic described by him.

Blood Examination.—The blood findings are here tabulated and charted. All blood examinations were made by one of us, so the personal factor is uniform throughout. Wright's stain was used. In all differential counts, only normal cells were considered. All degeneration forms were excluded. In December, 1907, before the institution of the *x*-ray treatments, the percentage of degenerated leucocytes was 29.6 per cent., while in July, 1908, the percentage was 58.6 per cent. The transitional forms of Ehrlich were counted as large mononuclears. The beginning of *x*-ray treatment was followed by the usual drop in the white-cell count, and at no time did they return to the original high number. The lowest point, 12,000, was reached in June, but ordinarily the white count varied from 20,000 to 40,000. The red cells increased in number and in hemoglobin from the beginning of the high-frequency treatments following the critical condition of the patient described above. Attention was especially directed toward the ehavior of the lymphocytes in the differential counts. The riginal percentage was about 90. During the larger part of he bone treatment it was, generally speaking, below this, eaching its lowest point (57 per cent.) in June. It again eached 94 per cent. in October, however. Thus, the leukemic icture has not been lost.

Urine.—This constantly showed nucleo-albumin during the irst months of treatment, but not previously. In December, 907, when the patient first came under observation, the uric cid amounted to 2.37 gm. for the total twenty-four hours rine. On Jan. 15, 1908, following the decided drop in leu- ocyte count, the amount was 4.09 gm. for the twenty-four our amount. In October, 1908, the amount was 2.16 gm.

Course of Disease.—The general condition improved remark- ly after the beginning of the Pancoast method. The splenic umor practically disappeared, likewise the glandular enlarge- ent; strength returned, and the patient felt quite well. That he was symptomatically cured, but with a persisting lym- ocytosis. Therefore, he was not cured, and, unfortunately, the tient's removal to another state has prevented our further servation. We believe that the treatment of the bones by is newer method has undoubtedly been of great value, and, th its originators, recommend its further trial in place of e older exposures to spleen and lymph glands.

237 Michigan Street.

NEW PHYSICAL SIGN FOUND IN THE PRESENCE OF INFLAMMATORY CONDITIONS OF THE LUNGS AND PLEURA

A PRELIMINARY NOTE

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This sign, which so far as I am able to learn, has been described hitherto, except in case of the pleura, sists of a rigidity of the muscles of the chest wall, ticularly of the intercostals. By making gentle pres- e with the tips of the fingers over the intercostal ces the experienced touch will detect a resistance on part of the muscles that overlie the inflamed parts ich is like that noted in the muscles of the right er quadrant of the abdomen in appendicitis, in the t hypochondrium in the hepatic colic or the general dity of the abdominal muscles when general peri- itis is present.

Special Article

IMPRESSIONS OF PARIS

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1. TEACHERS AND STUDENTS

(Continued from page 703)

THE STUDENTS

As elsewhere the Paris medical students are in three groups—good, indifferent and bad. A casual visitor to the laboratory and the hospital gets only a general impression, and that given to me was of a very industrious hard-working set of men. From the start the student knows that success depends on his brains, or on a facility to use them in a certain way. One word is stamped on his consciousness—*concours*, the public examination for positions of all sorts so characteristic, as I have said, of the French system. He is early made to realize that every single step in his career until he reaches an *agrégé* professorship depends on how he conducts himself at the *concours*. This must have a very steadying effect on a young fellow.

One advantage the French medical student has over all others. To the hospitals of Great Britain and Germany the medical student is admitted as a right; in the United States he is too often only tolerated and not always admitted to the wards! In Paris the hospital is his home. The first thing the young P. C. N. does after passing the examinations which entitle him to study medicine is to visit a hospital. Attendance during the first year is not compulsory, but the practice is universal. The hospital is everything; the medical school is—well, quite a secondary consideration. No matter what may be the leanings of the young man, whether toward science or toward practice from the start, he has his eye on one thing—the interneship—through which portal for more than one hundred years all the famous men of the profession of France have passed. *The* great prize of the student's life, the *internat*, is the pride of the student body, and, indeed, past and present, it is the pride of the profession of the country, since it embraces its select and elect.

To us, with our new graded courses and rigid system, to demand hospital work of first and second-year students seems topsy-turvy and antiquated. There is a movement against the practice, I hear, in France, but not a strong one, and in the new proposals of an additional year to the curriculum I see that hospital attendance is to go through the entire five-years' course. It is interesting to hear what may be said in its favor. Bouchard, President of the Institute of France, controlling member of the Superior Council of Education, Professor of General Pathology in the Faculty and its dominant member, wrote last year a brochure, *Questions relatives à la réforme des études médicales.* Listen to this, you hide-bound advocates of graded courses: "That which the student should learn in his first hour is medicine. . . . From the moment of his matriculation the student should seek to comprehend the thoughts, the occupations, the duties and the responsibilities of a physician. He should accustom himself without delay to think and to feel medically. When he enters the medical school his place is at the hospital as much as at the amphitheater or in the laboratory. It is at the hospital particularly where he will get his moral and intellectual education, and where his senses will be sharpened by observation. His destiny is to consecrate himself to the sick man, and to this sick man he should become attached at the very outset of his student life. Nor need it hinder him in the pursuit of other studies. But, whatever you do, keep him not away for two years from the hospital, and do not let him pass too abruptly from the rabbit and the guinea-pig to man."

How much truth there is in this! And how words of this sort will go to the heart of my friend John Chiene of Edinburgh, and to many, indeed, who feel strongly with Professor

Bouchard that the medical student cannot begin his practical life too soon. Is there not an unfortunate cleavage between the scientific and the practical (i. e., hospital) side of the student life, and has there not arisen in some quarters an antagonism between the science and the art? Now I must own to just a wee qualm when I see these happy first-year students flocking to the hospital wards. Have we been wrong, after all, in this persistent advocacy of a sharp division between the two great groups of studies? But hear Bouchard out.

Three hours in the morning at the hospital, three hours in the afternoon in the dissecting room and two hours for special lectures on embryology or histology comprise his program for the first year. The student's first hour in the hospital would be with an assistant who would begin to teach him a few practical points in dealing with patients, and afterward he could follow the chief and pick up what he could.

Much as I love hospital work and much as I believe in the life of the student in the hospital, I do not think that, with our present congested curriculum, it is an advantage to begin clinical work at once. It may be good for the medical student morally, but I am sure it is bad for him intellectually, and he gleans a heterogeneous accumulation of isolated half-understood experiences, instead of an orderly sequence, in which the acquired knowledge of the laboratories is brought to bear on the problems of disease. And the conditions have changed so much. The old apprentice system had many advantages and we lost a very precious article when that was abandoned; so, too, this plan of turning first and second-year students into the wards and the clinical amphitheater is good, very good; but does it foster an orderly intellectual development so important in the education of a modern physician? I believe not. A more excellent way is in a due sequence of studies which reserves the complicated problems of disease until after the scientific branches have been mastered. Whatever one may think of the system, the fact remains that the student here begins his medical career with the hospital attendance. Indeed, in the preliminary year the men have an eye on the hospital. One of them said in my hearing, "Oh, our Professor at the Jardin des Plantes did not come this morning. I went over to the Pitié [a hospital near by] to see what was going on."

Officially the medical student in the hospital is known as a *stagiaire* (from *stage*, the word used to designate the hospital period) and he serves as such in his second and third years. To the official clinic of the faculty and to certain services of the hospitals the *stagiaires* are assigned in groups of twenty. They are expected to be on attendance at 9 a. m. and they make the visit with the chief and do part of the work of clinical clerks and surgical dressers, a certain number of beds being assigned to each. The students have a choice of service, according to the standing in the examination at the end of the first year. The roll is called, and they seemed to be looked after pretty sharply.

The plan of bedside teaching varies somewhat with different men—on the whole, it is not quite so Socratic or so systematic as in the English and Scotch schools. The new cases are first discussed, and quite elaborate notes are read with diagnosis and suggested treatment. and this is criticised by the teacher. For example, at the Hôtel-Dieu, one morning a *stagiaire* read the elaborate notes of a case of rheumatic fever (with a preliminary caution from the professor to read clearly and with a loud voice as if he was at a *concours*). The report was praised, but the writing was condemned. Then the assistant gave his account of the case, which had a cardiac complication (muffled heart sounds, an extension of the area of flatness) and a discussion took place as to the possibility of a myocarditis. The patient had had a sore throat for a few days before the articular symptoms and this point was dwelt on fully and Lasègue's work on rheumatic angina was referred to at some length. When the patient's chest was exposed there were the marks of eight leech-bites, and the professor's keen eye at once detected that at least three of these were a good deal below the precordia. "Who put those on?" was the sharp question. The head nurse immediately came, but she was not the one wanted, and one of her juniors was sent for, and she was asked if she knew where the heart was situated. She said she had put the leeches where she was told, and then the externe who had given the order was questioned. It was all done sharply and quickly, but good-naturedly, and meant discipline. The notes were carefully prepared and of the new cases the *stagiaire* gave the diagnosis which was discussed by the professor first with him and then with one of the assistants.

Another morning a student read a very full report of a remarkable case of multiple erythematous lesions with purpura in a man who had a balanitis and (apparently) non-venerea sores. The diagnosis was by no means easy and the differential points were very well given. On another day a case of lead paralysis with great atrophy of the small muscles o one hand was very fully discussed.

One difficulty, almost insuperable in ward teaching, is the crowding and congestion which make it profitable only to the inner ring. Twenty should be the limit. I counted fifty-five one morning in a ward at the Hôtel-Dieu.

EXTERNES AND INTERNES

The whole work of the hospitals is done by two groups o students known by these names. There are no house surgeons, no house physicians. In the Paris hospitals the externe number about 1000, the internes about 250. Both are appointed by *concours* or examination. A student is allowed t compete in the externe *concours* in his second year; the examination is not severe, consisting of elementary questions i anatomy, elementary pathology and minor surgery. The appointment is for three years and the externes act as assistant in the wards and in the out-patient departments; a good dea of the important work of the hospital is done by them.

The interne is a special French product, unlike anythin else in the medical world. He is still a student, yet he has al the responsibility of a practitioner and he is house surgeon house physician, clinical assistant, laboratory assistant, specia research student rolled into one. He lives in the hospital for four years, a sufficient length of time to give him an exceptionally good education and a large experience. He come into delightful relations with his chiefs, he lives in charmin comradeship with his fellows, and if there is anything i him he finishes his term with an admirable bit of origina work which appears as his thesis for the M.D. He can no take his degree while an interne.

A first-class interne is about the best hospital product wit which I am acquainted, and it is no wonder that as a bod the *internat* is looked on as the special glory of French med cine. The internes do all the work of house physicians an house surgeons and have full control of the patients under th direction of the chiefs. They are paid from $120 to $200 year and have very comfortable quarters. The examinatio is held by a jury of ten members of the hospital staff. variable number of vacancies occur yearly, as high, I see, a 81 in 1898, and as low as 50 or 55. In 1901 there were positions, for which 571 men inscribed their names. Out o these only 266 read their written papers and only 183 we admitted to the oral or final examination. A certain numbe of provisional internes are also chosen, who act as substitute Every year there are certain prizes offered, with one of whic is associated the privilege of an extra year in the hospita It is no wonder that we look on the Paris theses (and thos also of the other French schools) as containing some of th most valuable literature of the profession. Take an example- the splendid volume on aphasia by Moutier, which appeare last year (and which contained all the proofs of Pierre Marie new views on the subject) represented the work done for h thesis.

When his term is finished an ambitious interne will try th *concours* for the position of head of one of the faculty clinic or, if his tastes lie in the direction of the laboratories, for o of the many positions vacant every year in connection wi them. If he decides to stay in Paris in a few years he w get ready for the great hospital *concours*—for the positions physician, surgeon or specialist—and then he will contest f an *agrégé* professorship, which is as far as his individual efforts can carry him. The final lot, the professorship, is in the lap of the gods, and in the disposing of it, as is well known in Paris and elsewhere, brains are only one factor.

THE HOSPITAL CLINIC

It is fully recognized in Paris that you can not separate the interests of the medical school from those of the hospital, nor either from the interests of the public. The professors of clinical subjects in the university have special wards assigned to them, and each one has a head of the clinic and a head of the laboratory connected with it. The laboratories are provided by the hospitals and every possible arrangement is made to facilitate the teaching of the students and the scientific work in the wards. More of this, when I speak of the hospital organization. There are four professors of clinical medicine—Dieulafoy, Landouzy, Debove and Hayem—each with his head of the clinic and of the laboratories, the interne, five or six externes, twenty *stagiaires*, and usually a group of outside followers. The visit is made at 9 daily, and, as elsewhere, some are punctual, others irregular; but while waiting for the professor one can wander about the ward and see how the patients are progressing. The teaching is chiefly in the wards; the amphitheater is secondary and is very unlike what we regard as a clinic. After the visit the professor adjourns to the amphitheater and gives a set lecture on a case or cases which ave been under observation in the wards. The patient may or may not be brought in—usually is not. Corvisart, with hom began set clinical instruction, adopted the plan, and it as ever since been the Paris method.

In an interesting book sent me by my friend Friedel Pick of rague, Joseph Frank, son of the greater Peter, of Vienna, describes a visit to Paris and Great Britain in 1803; and his ccount of the clinic at the Charité might have been written o-day. The clinical lecture is usually a finished bit of work nd could be taken down verbatim and published with as ew corrections as a speech by Lord Rosebery. The method as its advantages when there are no didactic lectures in edicine, but it lacks the interest of an active clinic with the atient and the students and the vigorous discussion. Of ourse, everything depends on the man, and it affords a good pportunity to bring forward systematically the subjects which re discussed more briefly at the bedside.

Landouzy, the dean, and Dieulafoy are very popular teachers nd their wards and lecture-rooms are always thronged. I was lad to find as Professor Landouzy's head of clinic Dr. Saloon, who so skillfully translated my "Practice of Medicine" nto French. The Laennec, where Landouzy has his clinic, is n old hospital, but full of interesting cases, and the thorough outine ward work must enable good men to get up a firstte clinical education.

One of Landouzy's clinics was on a most interesting and nusual subject. Tuberculosis (*bacillose,* they often call it) s been a favorite study of the professor for years, and many ho read these lines will have heard his brilliant address last ar at the International Congress on Tuberculosis. A young oman of twenty had been in the ward with lesions of both ices. In front of the neck was the scar of a tracheotomy ound for croup at four. She had had pleurisy with effusion the age of fourteen. The point of special moment in the e was the possibility of infection through the tracheotomy und. Professor Landouzy had collected a number of cases which this sequence of events had happened, and he stated at very few persons with tracheotomy wounds lived beyond e twenty-first year—most of the subjects were carried off by berculosis. Another interesting observation he had made was frequency with which individuals with severe smallpox tting had tuberculosis; he believed that the infection dated m the attack of variola.

An excellent point at all the clinics is the opportunity orded to the assistants to help in the teaching. On a ednesday at the Hôtel-Dieu at 10:30, after the morning it, the professor and assistants and students go into the phitheater and two of the assistants lecture, half an hour iece, either describing to the class some special laboratory technic, the subject for demonstration the next day, or a special case is considered. For example, on November 27, the associated symptoms of senile pneumonia and the Widal reactions were fully discussed by two of the assistants; on December 2 the psychology of a progressive dement, a musician, was analyzed, and the patient exhibited; while the head of the clinic, Dr. Crouzon, described the technic of cytodiagnosis in spinal and cerebral affections. This is first-rate experience for the men and the practice of the *concours* gives them an enviable facility of diction.

I "assisted" (to use one of Professor Dieulafoy's kind words with which he introduced me to his class) at the longest clinic I have ever known on a single patient. Now and again it happens that a teacher will find a case of such interest that two days are taken for its discussion, but to go on for five successive Saturdays, and to hold large audiences of students and physicians, and to have interest wax not wane, is a *tour de force* of a master of the amphitheater. And such indeed is Professor Dieulafoy, a pupil of Trousseau and his successor, and author of the most popular French text-book of internal medicine. The Trousseau amphitheater is not very large and by 10:30 on Saturdays there is "standing-room only," and not always that! The audience is largely made up of physicians and one is surprised to see so many women—one morning I counted twenty-five. The subject of this memorable clinic was a woman, looking about thirty-six years of age, who five years ago had had an illness with cerebral symptoms and fever. Following this she began to have epileptic fits; she then developed complete left-side paralysis of the facial, partial paralysis of the third and paralysis of the sixth in the opposite side. The history and the attacks were the subject of the first lecture, at the end of which a written statement was read summarizing the main features; the second lecture dealt with the diagnosis of the type of epilepsy; the third with the situation of the lesions which would explain the symptoms; a positive diagnosis was made of a basilar meningeal lesion; the fourth lecture considered the nature—tuberculosis and coarse gummata and specific arteritis were excluded and a diagnosis was reached of a chronic syphilitic meningitis; while in the last lecture the prognosis and treatment were considered in full and the patient's rapid improvement under specific treatment was held to bear out the diagnosis of the nature of the trouble. The patient was brought in for a short time each day. Dieulafoy is an extraordinarily dramatic lecturer—all the accessories of facial expression and of movements of hands, arms and shoulders are used. A rapid utterance, the short interrogative method, the appeal to the patient, the choice language, a pleasing voice, a keen sense of humor—all combine to make the Saturday clinic at the Hôtel-Dieu a great treat.

Professor Raymond, at the Salpêtrière, Charcot's successor, has one of the most popular clinics, and in his hands the traditions of the great master are fully sustained. The extraordinary wealth of material makes it possible to bring together large groups of cases illustrating special diseases. On two successive clinics, cases were shown illustrating the relationship of Friedreich's ataxia, Marie's heredo-cerebellar ataxia and the family forms of spastic paraplegia. On another day two members of different families, the subjects of hereditary optic atrophy, were demonstrated. The Charcot clinic is one of the best organized in Paris, and, under Professor Raymond's direction, maintains its reputation as the leading school of neurology in Europe. The men in attendance are almost all postgraduates and the general arrangements for study and research are admirable.

On the whole I have the impression that the Paris medical student gets very close to the patient, and, if diligent and successful in becoming successively externe and interne, he certainly has opportunities of an altogether exceptional character. I am not so sure about the ordinary *stagiaire,* who seems rather out in the cold. Many reforms are under discussion. It is urged, and rightly I think, that there are too many theoretical lectures, but that is a point which has already been settled by the students—who simply do not attend them. The audiences in the lecture-rooms of the medical school are largely graduates and casual visitors. With the introduction of a five years' course it should be possible to plan a model curriculum. The number of highly trained and enthusiastic young teachers is very large, and the arrangements for clinical instruction are excellent. Above all, the French realize that the only teaching of value in medicine and in surgery is at the bedside, and they may be able to work out a scheme in which, under modern conditions, the science and the art, the art and the science, will go hand in hand throughout the five years of the curriculum.

(To be continued)

Therapeutics

CONSTIPATION

That ever-troublesome condition can not be too frequently discussed, as not only the laity, but the profession seem to fail to recognize its importance as a predisposing and primary step to more serious conditions. The layman and the layman's parents allow the condition to develop, and the physician gives either drugs, or a little advice and drugs, when he should give very few drugs and very much advice.

Dr. B. K. Ellis, of Greeley, Colo., in the *Therapeutic Gazette*, September, 1908, offers many valuable suggestions for the management of constipation. He well says that "a careful analysis and accurate diagnosis of each causal factor is essential to the intelligent treatment of this symptom" or condition. As has been so frequently pointed out, he says "the consumption of highly seasoned foods and a close attention to social or financial duties with the consequent neglect of the calls of Nature are largely the starting point of chronic constipation." If the reflex indication which fecal matter in the rectum gives is neglected, such reflexes either become less and less acute, or finally may be lacking, and fecal matter accumulating dilates the rectum. Then it is only by strenuous muscular effort, or by excessive dilatation with enemata, that movements are obtained.

Constipation may be caused by the taking of food that is so completely digested as to leave insufficient residue to act as a stimulus to intestinal peristalsis. On the other hand, large amounts of indigestible substances may be taken and, dilating the walls of the intestine, in time cause atrophy and consequent constipation. Either of these conditions being diagnosed as an etiologic factor in the constipation, the proper treatment suggests itself.

If the contents of the upper intestine are rapidly digested and peristalsis is abnormally slow, the water from the intestine may be too completely absorbed, the intestinal contents become less fluid, and sluggish passage of the contents of the gut is the consequence. Also, if large amounts of liquid are passed by the kidneys, or if the person sweats profusely and insufficient water is taken into the system, the water from that reason is absorbed from the intestines and constipation is the result.

If constipation is the only condition present it should be readily corrected if the causes are once known and the antidote ordered. If constipation is a symptom of another condition, or a coincident condition added to the disease or condition that is present, its treatment may not be, of necessity, the best for the constipation, but must be, perhaps, modified by the treatment necessary for the disease or concomitant conditions.

The most important part of the treatment is the correction of the dietary of the patient, and generally the patient needs food that leaves more cellulose for t intestinal muscles to act on. This means plenty vegetables. Fruits should be given freely, except t astringent fruits. The amount of water taken depen on the patient's habits and the condition of the circul tion. A patient who is muscularly active should dri more water than the one whose life is sedentary. glass of cold water drunk in the morning while dressi is a great help to a physiologic movement of the bow directly after breakfast. The morning coffee is also stimulant to peristalsis.

The patient should go to stool every morning at t same hour whether the desire is present or not, a should attend to the matter at hand, and, as Ellis sa should not read for diversion.

Abdominal massage, calisthenics, regulated exerci walking, rowing, riding, golf playing, or any other mu cular exercise that seems advisable should be ordered f the patient of sedentary habits, and it must be urg on him that if the habit of constipation is not n cured the future promises intestinal indigestion, d pepsia, imperfect action of the liver, imperfect bi nervous irritations, kidney irritations, and early card vascular-renal disease, i. e., arteriosclerosis, weakeni of the heart, and chronic interstitial nephritis.

Also it is certainly the fact that a patient who h been long constipated and suffering from more or l chronic toxemia, as shown by dull headaches, sall skin, coated tongue and poor digestion can not possi withstand acute diseases, or operations that may necessary, as well as a patient who has not had a lo habit of constipation. In other words, a daily nor movement of the bowels is an asset so far as fut health emergencies are concerned, the same as is a he that has not been damaged by tobacco.

Before any severe exercise or any abdominal mass is ordered, or advised, a careful abdominal examinati should be made and the physician assured that there no inflammatory conditions present, as chronic app dicitis, gall-bladder disturbances, pelvic or other d turbances.

Ellis applies "manual massage to the abdomen fr fifteen to twenty minutes, beginning with light, cir lar stroking of the abdomen about the umbilicus, fi having lubricated well the parts with olive oil; th strokes are gradually widened and pressure increa until the course of the colon is being massaged dee all fecal masses broken up and moved down toward rectum." When massage is deemed inadvisable or convenient, faradic electricity may be used. Ellis pla "a large electrode over the lumbar or sacral spine a the other is moved over the abdomen, stroking fr right to left." He advises "the interruption of the c rent from two to six times a second, and the durat of the seance and strength of current depend on results and sensations of the patient."

If ordinary means and methods fail to cure the c stipation, it will often be found that the anal sphin is very tight and does not relax properly, so that, w fecal matter is in the rectum, its evacuation is alm impossible. With this condition of the sphincter p ent the rectum is often found greatly dilated. Forc dilatation of the sphincter ani under an anesthetic, its gradual dilatation with bougies or water bags, generally advisable.

A not infrequent, though often undiscovered caus constipation is overdevelopment of the semilunar va or the valves of Morgagni. These hindrances to the passage of fecal matter, situated just above the external sphincter, are amenable only to surgical intervention, which procedure, however, is easily accomplished with satisfactory results.

If the patient has a habit of using daily large rectal enemas, almost irrigations, or taking large quantities of water and retaining it for a time, dilatation of the rectum and of the sigmoid flexure, and even of the descending colon, has occurred. In these cases help may be obtained by a daily diminution of the bulk of water used.

The best medicinal treatment of constipation consists in the administration of the fluid extract of rhamnus purshiana (cascara sagrada) or some form of aloes or aloin (generally best combined with belladonna and strychnia). Sometimes podophyllin may be used separately or combined with other laxatives. There are no other laxatives or cathartics so likely to cure constipation as these drugs. Whichever one of these is used, it should be given, week by week, in gradually diminishing doses. Whether they should be given in small doses three times a day, or larger doses once a day depends on the conditions. Generally, the patient not being sick and not willing to be bothered, and with the intent of having a stool after breakfast, and the medicine requiring a certain length of time to act, directly after supper or at bedtime, in one dose, is the best treatment. However, even with the best possible care, when these drugs are given, some patients require a dose daily for months and even years, and can not obtain a stool without it. This is generally not due to the action of the pill on the mind, as the substitution of an inactive tablet will prove.

Perhaps the next best laxative is phenolphthalein, the new synthetic cathartic. This drug seems to be harmless, and seems to act well, and, if given in tablet, should be crushed with the teeth before swallowing, as it apparently acts better when well granulated.

In the simple constipation that is now being discussed it is inadvisable to resort regularly to enemas of any kind or to more brisk cathartics than those above mentioned or to saline cathartics.

Unfortunately, the drug of most promise in constipation, cascara sagrada, as obtained from the drug stores is many times worthless, so far as laxative activity is concerned. On the other hand, some cascara preparations offered to the profession contain other ingredients than cascara, and consequently being more active are supposed by the physician to be more satisfactory, but the patient is really getting a more active drug than he physician desired. The physician should, therefore, be very careful to select and to obtain the best possible pure cascara sagrada preparation for each patient, and fter finding the amount of this preparation that the atient needs for laxative effect, should gradually reduce he dose week by week until the patient is cured.

TAPEWORM

The frequency with which treatments to eradicate a apeworm from the intestine are unsuccessful is well nown. The cause of this is generally because the in- stines have not been thoroughly cleaned; in other ords, the intestines, for the best action of the anthel- intic, should be as nearly empty as possible not only of food and the products of digestion, but also of the rge amount of mucus which irritation from the para- te has caused.

Consequently, before the anthelmintic is administered, at least two days should be devoted to the preparation of the patient for the treatment. The patient should give up his business and attend to the matter in hand. The diet should be liquid; milk, not more than a quart, beef tea and coffee if he desires. During these two days he should receive a small dose of salts three times a day so that the upper part of the intestines may be thoroughly cleaned. The following is satisfactory:

℞.

	gm. or c.c.		
Magnesii sulphatis	60		℥ii
Spiritus chloroformi	12	or	fl.ʒiii
Aquæ, ad	180		ad, fl.℥vi

M. et Sig.: A tablespoonful, in water, three times a day, an hour before meals.

If there is much purging, the frequency of the movements may be lessened by an occasional dose of 1/10 of a grain of morphin, the object aimed at being to have the intestinal canal cleaned, especially of mucus, before the anthelmintic is to be administered and at the same time not to prostrate the patient too much.

At bedtime the evening before the specific drug is to be administered the patient should receive two tablespoonfuls of the above magnesium sulphate mixture. If this has not acted well by 8 o'clock the next morning, the same dose should be repeated.

The male fern should be given as follows:

R.

	gm.		
Oleoresinæ aspidii	4	or	ʒi

Fac capsulas, 8.

Sig.: Four capsules, with half a glass of hot water at 9 a. m., and four capsules, with hot water, at 10 a. m. [Important: Before taking the above capsules each one should be uncapped.]

At 12 o'clock three tablespoonfuls of the magnesium sulphate mixture should be taken to insure the rapid passage of the male fern through the intestine lest too much absorption take place.

During this morning no nutrition should be taken other than black coffee, clear tea, or bouillon.

Except when momentarily otherwise engaged, the patient should be in bed, and should stay in bed the remainder of the day. For unavoidable faintness brandy may be administered at any time, or a hypodermatic injection of strychnin may be given. After 1 o'clock any food may be given the patient that he desires.

During the three or four hours of this active treatment, viz., from 10 a. m. to 1 or 2 p. m., the physician should remain with the patient, or a thoroughly trained nurse should be in attendance.

The stools should all be passed into receptacles where they can be thoroughly strained afterward in order that the parasite's head may be sought, and if the above treatment is carried out it will generally be found.

BATH POWDER

As many esthetic persons delight in the pleasure of an effervescing perfumed powder added to the bath, the following from the *Druggists Circular*, October, 1908, seems to be a pleasant suggestion for such a powder:

Sodium bicarbonate	3 ounces.
Tartaric acid	2½ ounces.
Starch	4 ounces.
Oil of lemon	½ dram.
Oil of orris	5 minims.
Oil of ylang-ylang	5 minims.

(Any perfume may be substituted for the above if preferred.) As many such powders may be ordered as desired, and one powder added to the bath when it is ready.

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For other information see second page following reading matter]

SATURDAY, MARCH 6, 1909

CONGENITAL FAMILY CHOLEMIA

One of the most fascinating features of the study of medicine is the constantly occurring changes. New signs are continually being described, and new diseases are constantly being split off from groups which appeared in the not distant past to be reduced to their final segregates. Among these relatively new conditions is one so far but little noted in this country, the disease known as congenital family cholemia or acholuric jaundice. Isolated instances and small groups of cases have been described for years, and recently Hawkins and Dudgeon[1] have collected most of these, and have added some carefully studied cases of their own. It is probable that, like other apparently rare diseases, the condition will be found to be more common when more widely known.

The main characteristics of this curious affection are indicated in its name; it tends to affect several members of a family, it is usually congenital, and it is characterized by the presence of biliary constituents in the blood. The patient differs from most jaundiced individuals, however, in several particulars. He or she, for both sexes are equally attacked, is generally jaundiced from birth or shortly after, and the jaundice persists for years with little or no change. There is a difference also from ordinary icterus in that the urine is free from bile pigment, the stools contain bile, and itching and other signs of constitutional disturbance are lacking. There is no gastrointestinal disturbance, the appetite is good, and the bowels regular. These patients develop normally, both physically and mentally, are able to bear the stress of ordinary workaday life, and in the case of women to bear children. In spite of this there is present besides the jaundice a considerably enlarged spleen and a moderately severe grade of anemia. So far as can be judged from the small number of cases recorded, life is not materially shortened by the disease. These patients may seek relief from the jaundice because their peculiar color caused unfavorable comment; they may at times have pain over the liver and spleen with deepening of the jaundice and slight fever, but, as a rule, they live as long as the average individual.

The relation of this condition to other forms of congenital icterus and to hypertrophic cirrhosis is dubious,
and the cause of the condition is still obscure. Pick h
reported cases of family icterus without splenic enlarg
ment, and, on the other hand, family icterus with h
patic involvement has been described. In congenit
family cholemia no cirrhosis of the liver is preser
Certain physicians of the French school have tried
show a relation between this condition and dark mud
complexions, melanoderma, various pigmentary sk
diseases, and certain gastrointestinal, renal, and arti
ular affections, all of which are claimed to be due to
excess of bile in the blood serum. These claims are,
say the least, somewhat fanciful. Hawkins and Du
geon suggest as a possible cause of congenital fami
cholemia inborn defects in the minute structure of t
liver whereby the bile can enter directly into the ly
phatics, or changes in the ducts producing alteratio
in the bile pressure. In either event the condition p
duced would resemble ordinary chronic jaundice, and,
these authors point out, the blood changes in cholem
moderately severe anemia with poikilocytosis and me
aloblasts, are not those of ordinary jaundice. They
inclined to believe that the jaundice is merely symp
matic, a hematogenous icterus due to hemolysis. Th
show that the red blood cells in these patients are m
fragile than normal, and point out that occasiona
they have hemoglobinuria. It seems probable that t
disease is primarily one of the blood-forming orga
and that the jaundice is only symptomatic. The ex
nature of the defect in these organs is still a question.

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[1] Quart. Jour. of Med., January, 1909.

COSMOBIA, A NEW CONCEPT IN TERATOLOGY

The recent activity in the field of teratology is m
than a revival of the older descriptive methods. P
allel with Mall's[1] studies on the causes underlying
origin of human monsters, we have had an extens
series of researches in the field of experimental te
tology, of which the latest and most striking examp
are seen in the artificial production of cyclopean m
sters by Stockard and Lewis. Stockard[2] finds that
treating the eggs of the common minnow, *Fundul*
with solutions of magnesium chlorid immediately a
fertilization he can produce at will as high as 50
cent. of cyclopean monsters of various degrees of ab
mality. Dr. Warren H. Lewis[3] has reported a para
series of experiments in which he has produced alm
identical defects in the same species of fish by dest
ing in later developmental stages the extreme ante
end of the medullary plate before it has invaginated
form the central nervous system. Very recently,
Dr. H. H. Wilder has supplemented his interest
critical examination of an extensive series of do
studies on duplicate twins and double monsters[4] b

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[1] Jour. Morphology, February, 1908.

[2] Science, Oct. 2, 1908: Jour. Exper. Zool., June, 1907.

[3] Association of American Anatomists, Baltimore meeting,
29, 1908.

[4] Duplicate Twins and Double Monsters, Am. Jour. Anat
Sept., 1904, iii, No. 4.

critical examination of an extensive series of double monsters, Janus types, cyclops types and related forms.[5]

The interesting feature of the latter paper lies in the fact that Dr. Wilder has brought under one law the whole series of symmetrical monsters, both "monsters of defect" and "monsters of excess." All bilaterally symmetrical vertebrate bodies, of both usual and unusual forms, develop in accordance with orderly laws of their own and are termed *"cosmobia,"* orderly living beings, as distinguished from deformities, or lawless aberrations of development. Cosmobia may be normal beings or abnormal or unusual. The abnormal cosmobia are some of them less than typical individuals (*"monstra in defectu"*); some of them are more than single individuals (*"monstra in excessu"*).

The recognition of the kinship between the defective monsters of the cyclops type and double monsters, or diplopagi, enables Dr. Wilder to construct several interesting series of forms based on recorded cases. The most interesting of these, and also the one most clearly illustrating the principle of cosmobia, is the linear series extending from cyclopean monsters of defect on the one hand to completely separate duplicate twins on the other hand. Starting with the extreme cyclopean defect without nose or eyes, we pass by close stages to he cyclopean forms with the two eyes completely fused n the middle line and nose abortive, then to forms with he eyes incompletely fused, becoming progressively arther apart, until the nose is able to grow down beween them. Then follow in the series normal beings ith very narrow features, average features and very ide features, leading up to incipient duplication. Varius stages of diprosopy are next enumerated: forms ith the nose and mouth duplicated but only two eyes; ouble nose and mouth and three eyes, two lateral and ne median, the median eye representing a fusion of the ight eye of one of the two individuals with the left e of the other; then various stages of farther separaon of the features, leading to two-headed monsters d finally to perfect, separate duplicate twins.

Dr. Wilder's contention is that each member of this ries, both the normal and the abnormal, develops incordance with a definite lawful pattern of its own, d that all these beings should be distinguished from e misshapen deformities due to sporadic or special uses. The careful dissections of representatives of veral of these cases which are presented in the paper far toward a substantiation of his claim.

E RELATIONS BETWEEN SO-CALLED ENDOTOXINS AND TOXINS

The theory that the symptoms of intoxication of ny infectious diseases, e. g., cholera, typhoid, plague, sentery, tuberculosis, are caused by the so-called bacial endotoxins, that is, substances set free on microbic disintegration as distinguished from toxins which are regarded as true secretions, was advanced by Pfeiffer about sixteen years ago. According to this theory, there is no real secretion of toxins by the bacteria in question, at least not of such kind and amount as to account for the intoxication; on the contrary, the endotoxins are so firmly bound to the bacterial cells that they are liberated only by severe, disintegrative procedures, and in the infected body they are held to be set free only as the bacteria disintegrate and pass into solution under the influence of the antibacterial substances of the blood. The basis for the theory was the observation Pfeiffer made on guinea-pigs injected intraperitoneally with living cholera germs: Before long the peritoneal contents and blood were sterile, the cholera germs being rapidly killed, and yet the animals died from intoxication caused, he concluded, by poisons contained in the bacterial substance itself. Analogous results were obtained with typhoid and other bacteria, and the intraperitoneal injection of bacteria killed by heat, toluol or chloroform produced the same symptoms and the same results as the injection of virulent living bacteria. Subsequently when prophylactic inoculations of killed bacteria came to be practiced on human beings it was soon learned that they may cause marked intoxication of human beings also, so that careful dosage is required. Certain clinical observations also harmonize well with the endotoxin theory. Thus in typhoid and paratyphoid fever the symptoms of intoxication do not reach their height when the bacteria in the blood are most numerous, namely, in the beginning of the attack; the severe intoxication sets in as the agglutinating and bactericidal powers of the blood increase above normal and the bacteria disappear more or less completely. Whatever toxins are secreted early are tolerated readily, it would seem, but the liberation of endotoxins on bacterial solution causes severe symptoms.

The theory as originally propounded left the question of the formation of antiendotoxins open, and the continuous failure to secure really satisfactory evidence of such antitoxins (until possibly just recently) before long led to the belief that the endotoxins have no antigenic properties, consequently differing radically from the true toxins such as are formed by the diphtheria and tetanus bacilli and have the power to induce the formation of specific antitoxins. By way of example, it may be mentioned that patients convalescing from typhoid fever have been found to be just as susceptible to the toxic action of killed bacilli as normal persons. Similar observations have been made as regards plague. These results are not necessarily decisive, however, as the observations may have been made before immunity had developed. Animals immunized with typhoid, cholera and other bacteria of this class yield serums with specific bacteriolytic, opsonic and agglutinating powers, but with little or no real curative effect outside of the laboratory and then only under special conditions not obtainable in actual practice. Nevertheless, the search for active antiendotoxic serums has been continued with the result that recently a number of investigators have come forward with results which they claim overthrow Pfeiffer's whole endotoxin theory, establishing in its stead the theory that in the infections under consideration we are after all dealing with toxins of the regulation type and fully endowed with antigenic powers.

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[5] The Morphology of Cosmobia, Am. Jour. Anatomy, December, 08.

On the basis of results obtained by himself and others, Kraus claims that poisons endowed with antigenic powers, hence neutralizable by specific antitoxins, constitute the real pathogenic agents in cholera, plague, typhoid, dysentery and cerebrospinal meningitis. If the views of Kraus and others prove correct, the outlook for a great enlargement of the field of usefulness of antitoxic therapy would be most promising. At present there are, however, weighty reasons against the unqualified acceptance of these views. As pointed out by Pfeiffer[1] himself, many of the experiments on the results of which Kraus and others base their claims were made with filtrates of old broth cultures and with substances obtained by various methods, all of which may have contained poisons more or less artificial in nature and consequently without real significance so far as the actual spontaneous disease is concerned. When endotoxins are split up by autolysis or other processes, it may well be that among the products true toxins will be found which, however, play no part or only a subsidiary one in the natural intoxication. It is probable, too, that bacteria regarded as producing or containing endotoxins may produce exotoxins which, however, can not explain adequately the pathogenic powers of the bacteria themselves. As examples, one can mention the staphylococci which produce leukocidin, a true toxin, and certain vibrios that produce hemolysins, likewise true toxins. If it is insisted that true antiendotoxic qualities are to be attributed to such serums only as are able to neutralize completely and to render physiologically harmless intact toxic bacteria, whether living or killed, then it becomes exceedingly doubtful whether it rightly may be claimed that antiendotoxins have been obtained and that the whole endotoxin theory must be abandoned. Many investigators are now at work on problems involved in this question of endotoxins, and undoubtedly further developments will come before long.

THE LONGEVITY OF LEUCOCYTES IN ALIEN SERUM

We are just beginning to realize the possible applications of experimental serologic and biologic methods to diagnosis. Since the clinical application of Pfeiffer's phenomenon other serobiologic tests have been devised, notably Uhlenhuth's test for blood stains, Wassermann's test for syphilis, and Wright's test for opsonins. Recently, we believe, there have been suggestions that the phenomena of anaphylaxis may be utilized in the diagnosis of tuberculosis. An interesting line of investigation, as yet but partly worked out, has been suggested by H. C. Ross.* He has devised a method of estimating the life of leucocytes after they are removed from the body, and has tested the effect of the plasma of other persons, healthy or suffering from infectious diseases, on the leucocytes of normal individuals. He finds that normal leucocytes in their proper plasma live a considerable length of time, over forty-eight hours very often, outside the body. He also shows that the leucocytes of healthy people die more quickly than usual in the presence of blood plasma from other healthy people, and much more rapidly than usual in the plasma of people with malaria, typhoid fever or phthisis. On the other hand, the life of the leucocytes from a person suffering from phthisis or typhoid is very little affected by the plasma of another person suffering from phthisis or typhoid. This suggests that in a person with an obscure disease the leucocytes might be tested with plasma from people with a variety of diseases, especially plasma from those diseases which are suspected in the obscure case. In case the leucocytes from the patient with the obscure illness are resistant to one plasma only, it might fairly be assumed that the patient was suffering from that disease, or had been recently, and that the leucocytic resistance to that particular plasma was explained by an immunity of the leucocytes to the poison of the disease. The technic of the test is rather complicated, but less so than that of the Wassermann test. It is difficult to see, *a priori,* why the method might not turn out to be of great value. It is probable that serums from patients with various diseases could be kept in stock, and that in this case the test would not be a very complicated one.

THE INFLUENCE OF CALCIUM AND CITRIC ACID ON BLOOD COAGULATION

Since Wright's researches in 1893 the salts of calcium have been widely used in various conditions in which the coagulability of the blood was thought to be reduced. At that time Wright claimed that single doses of calcium chlorid would reduce the coagulation time, in some instances, from 60 to 70 per cent. The general idea underlying calcium therapy has been that the internal administration of the calcium salts increased the calcium in the blood, and this induced more rapid coagulation. Citric acid, on the other hand, reduces the calcium content of the blood, and its internal administration is claimed to decrease the coagulability of the blood. While these effects have been experimentally demonstrated, it has still been a question whether or not the increase or decrease in calcium in human blood, produced by the administration of calcium salts or citric acid, was great enough to cause an increase or decrease in coagulability. Addis† has recently restudied the question, using a more accurate method of calcium determination, and a coagulometer more accurate than that of Wright. He concludes that the coagulation time of the blood is unaffected by the internal administration of soluble calcium salts or citric acid in the doses which we ordinarily prescribe. He acknowledges that the amount of ionizable calcium is increased by the administration of calcium salts and diminished by the use of citric acid, but states that the increase and decrease is much less than is needed to have any appreciable effect on coagulation. It looks as though we should either have to increase considerably the dosage of the calcium salts and citric acid when we give them for the purpose of affecting coagulability, or we shall have to find some more efficient means of introducing them into the circulation. In view of the above facts, the recent observations of Chantemesse[1] must be taken with a grain of salt. While this author seems convinced that he is able to control blood coagulation, his most convincing case, the typhoid patient with both hemorrhage and thrombosis, might have been due to coincidence. The occurrence of hemorrhage and thrombosis in the same patient is by no means unknown.

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[1] Centralbl. f. Bakt., xlii, Supplement to part 1, Referate, 1.

* Lancet, Feb. 9, 1909.

† Quart. Jour. of Med., January, 1909.

THE AUTOMOBILE NUMBER

In the presentation of its third Automobile Number THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is contributing to the practitioner a symposium of experience on a very practical question. Except for he few whose work is limited entirely to office practice, he question of horse or automobile comes very close to he physician. The question now seems to be, not “Shall I use an automobile?” but “What machine shall buy?” and on this point there is abundant testimony hat any good perfected machine will give good service, ut that some are better than others under certain conlitions. It is apparent from the opinions expressed hat there are arguments for various types of cars acording to the local conditions in which they are to be ised. It is also evident that a machine with which ne man has been dissatisfied may have been highly satsfactory to another. Sometimes this is found to be ecause a physician’s first automobile has to bear the runt of teaching him the fundamental axiom that an utomobile has its limits and must receive intelligent re. In addition, a physician’s first automobile is not nfrequently an experiment, or a second-hand one artly worn, bought cheaply with the intention of learnng—at a minimum outlay—not only how to run a car nd care for it, but also what type of machine he will ish to purchase when he is ready to put more money nto it. Again, as before, emphasis is laid by many riters on the value of an automobile and its care as an ocation—a mind-freeing diversion from the strain of actice. This is a point by no means to be lightly condered. We again express our thanks to all who have ntributed to make this Automobile Number a success. s usual, the names of the automobiles are not given in e text, but are indicated by numbers. These numbers nd the corresponding names of the cars, with also the mes and addresses of the manufacturers, are given in e Automobile Key, a separate pamphlet. A copy of is key will be sent on request if a self-addressed mped envelope be enclosed.

Medical News

ALABAMA

Physician Fined.—After two mistrials, a jury in Morgan county is said to have returned a verdict for $1,750 against Dr. John B. Shelton, New Decatur, for alleged malpractice. It is claimed that owing to an error in a prescription of the physician, a 6-year-old child was made blind.

Society Meeting.—At the annual meeting of Jefferson County Medical Society, held in Birmingham, Dr. Joseph D. Heacock, Birmingham, was elected president; Dr. Zachariah B. Chamblee, North Birmingham, vice-president; Dr. Arthur F. Toole, Birmingham, secretary-treasurer; Dr. Henry N. Rosser, Birmingham, county health officer, and Dr. Russell Mc. W. Cunningham, Ensley, censor. Dr. Edward H. Sholl, Birmingham, after serving 25 years as a member of the board of censors, resigned. On this announcement being made, Dr. Cunningham presented Dr. Sholl with a handsome loving-cup. ——The lease of the new quarters for the society in the Chamber of Commerce Building has been signed by the president. Space has been secured providing for a general meeting room, reading place, secretary’s office, and the use of the auditorium.

CALIFORNIA

Hospital Notes.—Patients were received for the first time in the new Merritt Hospital, Oakland, January 23. The completed part of the hospital will accommodate 40 patients, and has been erected at a cost of about $200,000. Dr. Alvin Powell has been appointed resident physician.——The Sisters’ Hospital, South Chico, was totally destroyed by fire January 14, with a loss of $10,000, partially covered by insurance. The patients were removed in safety. Negotiations have been made for the purchase of the Roper family residence, to be used as a temporary hospital.——Dr. Francis E. Corey has opened a small hospital in Alhambra.

County Medical Society Meeting.—At the annual meeting of San Francisco County Medical Society, held January 12, the following directors were elected: Drs. Harry E. Alderson, Philip K. Brown, Frank B. Carpenter, William E. Cheney, Charles M. Cooper, George F. Ebright, Philip Mills Jones, Henry B. A. Kugeler, August J. Lartigau, Samuel J. Hunkin, Harry M. Sherman, Emmet Rixford, Charles G. Levison, Herbert C. Moffitt, Howard Morrow, Arthur A. O’Neill, F. Dudley Tait, George H. Evans, Morton R. Gibbons, George B. Somers, and John C. Spencer. At the meeting of the directors, January 19, Dr. August J. Lartigau, for some time librarian of the society, was elected president.

COLORADO

Clinical Years at Denver.—An amendment to the constitution of the state has been passed by the legislature which gives permission to the state university to conduct the last two years of the medical course at Denver on account of the larger clinical facilities which obtain there. The bill has to be submitted to and approved by the people at the next general election before it becomes a law.

CONNECTICUT

Society Meetings.—At the annual meeting of the Waterbury Medical Society, Dr. Charles A. Monagan was elected president; Dr. John M. Benedict, vice-president; Dr. Edward F. Ashley, secretary, and Dr. Charles S. Rodman, treasurer. ——The Society of Regular Physicians, at its annual meeting in New Britain, elected Dr. T. Eban Reegs, president; Dr. William W. Brackett, vice-president; Dr. Catherine H. Travis, secretary-treasurer, and Drs. Herman Stosser, Jay S. Stone and Samuel W. Irving, censors.

Report of Tuberculosis Commission.—The commission on tuberculosis, in its report to the General Assembly, recommends notification and registration of all cases of tuberculosis in every community; control of indiscriminate expectoration; rational tenement house legislation, embracing construction and subsequent inspection; sanitary supervision of all buildings where people are brought into intimate association; scientific supervision of the dairy and food industries, and intelligent efforts to educate the public on sanitary precautions.

Milch-Goat Keepers’ Meeting.—The first annual meeting of the Connecticut Milch Goat Keepers’ Association was held at West Hartford February 2. The president, George W. Smith, Melrose, made a demonstration analysis for milk fat and milk solids, showing that cows’ milk contained 4.4 per cent. fat and 14.16 per cent. solids, while goats’ milk contained 5.8 per cent. fats and 15.46 per cent. solids. Increased interest is being manifested in the milch goat industry, and the membership in the association already includes seven states in the Union. Several physicians have united with the organization, and the first annual field meeting is set for July 5, at the home of Milo N. Woodring, Hamden, near New Haven.

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[1] THE JOURNAL, Feb. 20, 1909, p. 668.

ILLINOIS

Occupational Disease Commission Appointed.—The governor appointed on March 1. the following persons. members of the Commission on Occupational Diseases, authorized by the General Assembly: Dr. George W. Webster, Chicago; Dr. James A. Egan, Springfield; Hon. David Ross, secretary of the bureau of labor statistics; Hon. Edgar T. Davies, chief factory inspector; Prof. Charles R. Henderson, James Simpson and Drs. Ludvig Hektoen, Alice Hamilton and Arnold C. Klebs, Chicago.

Interne Examination.—The Cook County Civil Service Commission announces that examination will be held March 9 to 11, for interneships at Cook County Hospital and at the Dunning institutions. The service at Dunning is for one year and includes a compensation of $12.50 per month, with board, lodging, laundry and an additional $150 to be paid at the end of twelve months' continual service. On March 16, examinations will be held for an *x*-ray operator and a librarian at Cook County Hospital.

Bills Introduced.—Senate bill No. 4, introduced by Mr. Glackin, which provides for a state sanatorium for consumptives, is still in committee on appropriations. Senate Bill No. 35 prohibits the selling of undrawn poultry. Senate Bill No. 43 provides for the testing of sight and hearing of pupils in the public schools. Senate Bill No. 139, introduced by Mr. Glackin February 16, which enables cities, villages and counties to maintain public tuberculosis sanitoria, has passed the senate and is now on its third reading in the house. Senate Bill No. 214, introduced by Mr. Downing, provides a state board of osteopathic examiners, the examination to include "osteopathic obstetrics," gynecology and minor surgery, and also the issuance of licenses to osteopaths. House Bill No. 22 prohibits the admission of children to public schools unless they shall have been vaccinated. House Bill No. 23 requires vaccination of children before reaching the age of two years, and also prohibits the admission of unvaccinated children into the public school. House Bill No. 86. an act to regulate the practice of chiropody in the state, still lies on the speaker's table. House Bill 173 is the same as Senate Bill 214, just referred to. The State Board of Health has sent a copy of these bills, regulating the practice of osteopathy, to the secretaries of all the medical societies in the state.

Chicago

New Step in Health Fight.—Health Commissioner Evans has ordered placards placed in every house where there is diphtheria, typhoid fever, scarlet fever, or other infectious disease, and as many other homes as possible, giving concise and plain hygienic instructions in cases of communicable diseases.

Fresh-Air Hospital Incorporated.—Papers of incorporation for an institution to be known as the Chicago Fresh-Air Hospital, to be conducted in Cook county without pecuniary benefit, were filed February 26 at Springfield. Dr. Albert J. Ochsner and Ethan A. Gray appear as promoters. A tract of twenty acres is to be chosen immediately as a site for the institution.

Health Department Appropriation.—As a result of a conference which took place February 25, between the health commissioner and the city council, it is hoped that the appropriation of $636,102, asked for the health department, will be saved intact. The health commissioner called attention to the fact that, although the council last year appropriated $835.204 for this purpose, the department had spent only $606,410.

INDIANA

Personal.—Dr. James M. Pinkston, Holton. has been elected coroner of Ripley county.——Dr. David C. Roney Milan, is spending this month and April in Florida.——Dr. Russel T Olmstead, Versailles, has moved to Milan.——Dr. William G Ralston, Evansville, has just celebrated his ninetieth birthday.

In the Hands of the Law.—Dr. J. W. Hartsog, Fort Wayne is said to have been fined $25 recently for practicing in Columbia City without a license.——In the case of Orland C. Brown arrested recently at Logansport at the instance of the Cass County Medical Society, charged with selling medicine without a license and released February 15. he was rearrested the same day on other charges filed by the society, and is said to have been taken to jail to await trial.——A magnetic healer of Logansport, named Charles Kerns. is said to have been arrested at Walton on charges filed by the Cass County Medical Society of practicing medicine without a license.——In the case of Jesse A. St. John, an itinerant, charged at Covington with practicing medicine without a license, the jury disagreed.

MARYLAND

Hospital Report.—The eleventh annual report of the Peninsular General Hospital, Salisbury, for 1908. shows that 636 patients were treated during the year. and that there were 508 operations, 90 of which were for appendicitis.

Correction.—The item in The Journal of February 13, regarding Dr. Gordon T. Atkinson is not correct. Dr. Atkinson, himself, is well and in active practice. and it was a patient of his who was announced as ill with bulbar paralysis.

Antituberculosis Association Formed.—As the result of the tuberculosis exhibit made by the Maryland Association for the Prevention and Relief of Tuberculosis at Snow Hill in February, a local association has been formed in that place, under the presidency of Senator John W. Smith. Funds are being collected and a visiting nurse has been employed.

Personal.—Surgeon Charles F. Stokes, U. S. Navy. has been assigned to temporary duty as head of the medical department of the U. S. Naval Academy. Annapolis.——The home of Dr. Edward A. Wareham, Hagerstown. was destroyed by fire February 4, entailing a loss of $20,000, partially covered by insurance.——Dr. Frank H. Hedges, Frederick, was seriously injured in a runaway accident February 5.

Baltimore

Hopkins' Day Exercises.—At the Hopkins' Day exercises, February 22, Dr. William H. Welch announced that the gift of Mr. Henry Phipps to Johns Hopkins Medical School and Hospital for the advancement of psychiatry already amounts to more than $1,000,000, and that Mr. Phipps desires the work to go on at his expense.

Invalid Children's Home Unites with Hospital.—The Harriet Lane Home for Children has united with Johns Hopkins Hospital for a term of twenty years, the hospital furnishing the ground, physicians, nurses and maintenance, and the home erecting the building and appointing the physician in chief and head nurse. The fund for the charity amounts to about $500,000.

Personal.—Dr. Claude van Bibber has been confined to his house for several weeks as the result of a fall on the ice.——Dr. William H. Welch was the guest of honor at a banquet of the Nu Sigma Nu February 20, and had conferred on him the honorary degree of the fraternity.——Dr. Harry Adler recently fractured his forearm in an automobile accident.——Dr. H. H. Esker, chief resident physician of Bayview Asylum, has been seriously ill with septicemia, following an operation wound.

Journal Club Meeting.—The Book and Journal Club held its sixth annual meeting, February 23, when Dr. William H. Welch spoke on the club and its object and Charles L. Dana, New York City, read a paper on "Canticles of the Early Renaissance Anatomists." Dr. H. Barton Jacobs was re-elected president. and Dr. Joseph A. Chatard was elected secretary, vice Dr. W. Royal Stokes, who declined re-election. The object of the club is to provide new books for the library of the Medical and Chirurgical Faculty of Maryland.

MINNESOTA

Society Meetings.—The annual meeting of Red River Valley Medical Association was held in Crookston January 6, and the following officers were elected: President, Dr. Halvor Holte, Crookston; vice-president, Dr. Theodore Bratrud, Warren; secretary-treasurer, Dr. H. E. Nelson, Crookston; censors, Drs. Henry C. Stuhr, Argyle, Israel Lemieux, Red Lake Falls, and Charles H. Denniston, Crookston; delegate to the state society, Dr. Charles E. Dampier, Crookston, and alternate, Dr. George S. Wattam, Warren.——The annual meeting of the Southwestern Minnesota Medical Society was held in Pipestone, January 22. Dr. Alexander H. Brown, Pipestone, was elected president; Dr. Leon A. Williams, Slayton, vice-president; Dr. Emil King, Fulda, secretary-treasurer, and Dr. Alfred E. Spaulding, Luverne, censor (re-elected). In the evening Dr. Joseph N. McCormack delivered a lecture on "Health and How to Secure It."——Washington County Medical Society, at its annual meeting, held in Stillwater January 12, elected the following officers: President, Dr. Ernest E. Wells, Stillwater; vice-presidents, Dr. Wade R. Humphrey, Stillwater, first vice-president and delegate to the state asso- secretary-treasurer, Dr. Frank G. Landeen, Stillwater; censor, Dr. Demeter Kalinoff, Stillwater, and alternate delegate to the state association, Dr. Edgar O'B. Freligh, Stillwater.——At the annual meeting of Ramsey County Medical Society, held in St. Paul January 25, it was announced that by reason of the sale of catgut prepared under the direction of the society, and the profit from the publication of the *St. Paul Medical Journal*, the building fund had reached $20,000. Dr. Arnold Schwyzer was elected president; Dr. Ethelbert F. Geer, vice-president; Dr. Frederick Leavitt, secretary-treasurer; and Dr. William Davis, member of the editing and publishing committee, all of St. Paul.——At the annual meeting of the Clay-Becker County Medical Society, held January 25, in Moorhead, Dr. William H. Aborn, Hawley, was elected president; Dr. Thrond S. Egge, Moorhead, vice-president; Dr. Edgar R. Barton, Frazee, secretary-treasurer; Dr. William J. Awty, Moorhead, delegate to the state society, and Dr. Frank H. Alexander, Barnesville, alternate.——At the annual meeting of the Park Region District and County Medical Society, held at Fergus Falls January 16, the following officers were elected: Dr. John A. Freeborn, Fergus Falls, president; Drs. Philip G. Cowing, Ashby, and A. Mason Randall, Underwood, vice-presidents; and Dr. Otto M. Haugan, Fergus Falls, secretary-treasurer.——The election of officers of the Upper Mississippi Medical Association, held in Brainerd January 12, resulted as follows: President, Dr. Oliver T. Batcheller, Brainerd; vice-president, Dr. Frank H. Knickerbocker, Staples, secretary, Dr. George H. Lowthain, Akeley, and treasurer, Dr. Paul E. Kenyon, Wadena.——Winona County Medical Society, at its annual meeting January 5, elected Dr. Charles P. Robbins president and delegate to the state medical society; Dr. George L. Gates, vice-president; Dr. Hugh F. McGaughey, secretary; Dr. Leland H. Munger, treasurer, all of Winona; Dr. Frederick H. Rollins, St. Charles, censor, and Dr. Hans M. Lichtenstein, Winona, alternate delegate to the state society.——The following officers were elected by Goodhue County Medical Society, at Red Wing, January 8: President and delegate to the state society, Dr. Hiram E. Conley, Cannon Falls; vice-president and alternate delegate, Dr. Frank W. Dimmitt, Red Wing; secretary-treasurer, Dr. Alonzo T. Conley, Cannon Falls; and censors, Drs. Alvah W. Jones and Myron W. Smith, Red Wing.——Dr. Adolph O. Bjelland, Mankato, has been elected president; Dr. Henry B. Grimes, Lake Crystal, vice-president; Dr. Thomas C. Kelly, Mankato, secretary; Dr. Lida Osborn, Mankato, treasurer; and Dr. John S. Holbrook, Mankato, censor, of the Blue Earth County Medical Society.

MISSOURI

Personal.—Drs. George F. Hamel, H. M. Roberson, R. H. ox, and A. M. Fortney of the staff of the Missouri Pacific ospital, Kansas City, have resigned.——Dr. William P. Cut- r, Kansas City, has been appointed state dairy and food com- issioner.

Academy of Medicine Organized.—A number of physicians f St. Joseph met February 3 and organized an academy of edicine on lines similar to societies of the same name in her cities. The following officers were elected: Dr. Jacob eiger, president: Dr. Albert L. Gray, vice-president, and Dr. ohn M. Bell, secretary.

The Smallpox Situation in Liberty.—The smallpox situation Liberty is much improved. Under date of February 22 it as reported that no new cases had been noted for two days; at 50 per cent. of the patients had been dismissed from arantine, and that the schools, churches and William Jewell ollege were planning to reopen early in the week.

St. Louis

Physician Acquitted.—In the case of Dr. Charles O. Wright, arged by a mail carrier with obtaining money under false etenses, Judge Fisher directed the jury to acquit the de- ndant, February 16.

Personal.—Dr. Edward C. Beck was badly bruised and cut a street car accident February 11.——Dr. Lee H. Monroe, nior physician of the staff of the City Hospital, has resigned become a member of the staff of the Missouri Pacific Hos- tal.

Medicolegal Society Formed.—The Medicolegal Society has opted a constitution and by-laws and applied for incorpora- n. The following officers have been elected: President, A. Sager; vice-president, Prof. N. B. Carson; secretary, Dr. ury J. Scherck, and treasurer, Loomis C. Johnson.

Recommendation of Publication Committee.—At a confer- e of the publication committee, the editor of the *Weekly lletin*, and section editors the following recommendations re adopted: That matter to appear in the *Bulletin* should be more promptly reported; that section editors shall be made assistant editors of the *Bulletin*; that section editors shall share with editors the duty of collecting news items of interest to the members of the society, and to the medical profession at large; and that such matter shall appear in the *Bulletin* as a regular feature.

NEW YORK

Investigation of the Milk Industry.—A bill has been introduced into the legislature providing for an appropriation of $20,000 with which to enable the agricultural commission to investigate the milk industry and its cost and care, especially in relation to the New York City milk supply from up state.

To Aid Incipient Consumptives.—A bill has been introduced into the legislature on the recommendation of the state fiscal supervisor to appropriate $175,000 for improvements at the State Hospital for the Treatment of Incipient Tuberculosis at Raybrook. The bill proposes to double the accommodations so as to make the hospital's minimum capacity 300 patients.

New York City

Harvey Society Lecture.—The ninth and last lecture of the Harvey Society lectures is by Dr. C. B. Davenport, director of the Institution for Experimental Evolution, Cold Springs Harbor, N. Y., March 6, at the Academy of Medicine, 17 West Forty-third street, on "Heredity in Man."

Operating Pavilion Opened.—The Gibb operating pavilion of the New York City Home for the Aged and Infirm on Blackwell's Island was opened on February 24. The building was named in honor of Dr. W. Travers Gibb, chief surgeon of the home. The cost of the building and equipment was $24,000. Dr. Gibb performed the first operation in the building on the following day.

Changes in the Ambulance Service.—The abandonment of the ambulance service of Roosevelt Hospital has necessitated a division of the territory covered by that service. The New York Hospital will cover the territory from Twenty-seventh street to Forty-second street, the Flower Hospital from Forty-second street to Seventy-sixth street, and the J. Hood Wright Hospital from Eighty-sixth street north.

Assignments of Gas Rebates.—Claims for gas rebates have been received in increasingly large numbers by the committee on the prevention of tuberculosis of the Charity Organization Society. The committee reports that auxiliary committees in every walk of life will be formed, and that the employés of each large factory and department store will be organized into groups in a concentrated effort to prevent tuberculosis.

Alumni Dinner.—The alumni of the College of Physicians and Surgeons of Columbia University celebrated the fiftieth anniversary of the founding of their association on March 2 by a dinner at Sherry's. Prof. Samuel W. Lambert, dean of the college and president of the association, presided. Among the speakers were Dr. Nicholas Murray Buttler, Dr. Seth Low, Dr. H. A. Christian of Harvard Medical School, Dr. William M. Polk of Cornell University Medical School, and Prof. John G. Curtis of the College of Physicians and Surgeons.

Sanitary Homes for Consumptives.—Mrs. W. K. Vanderbilt has purchased a site and has had plans prepared for the construction of three model tenements for poor consumptives which will cost $1.000.000. They will be located on East Seventy-seventh and Seventy-eighth streets and will be a valuable extension to the facilities of the tuberculosis clinic of the Presbyterian Hospital. There will be accommodations for from 375 to 400 families in comparatively inexpensive quarters and with surroundings especially favorable for consumptives. While the work has been undertaken in the interests of philanthropy it is estimated that the investment will yield a moderate return. All the rooms will open outdoors and there will be no dark halls, every apartment being entered from an outside stairway. The roof will be especially equipped and in fact all the advantages of a sanatorium will be supplied except that the families will provide their own food.

NORTH DAKOTA

Society Meetings.—At the annual meeting of the Northwestern District Medical Association, held in Minot January 19, the following officers were elected: President, Dr. Henry O. Windell, Williston; vice-president, Dr. E. M. Ramson, Minot; secretary-treasurer, Dr. R. W. Pence, Minot; censors, Drs. James O. Newlove, Minot, Josiah S. Davies, Granville, and Harry Ehernfeld, Anamose; delegate to the state society, Drs. Josiah S. Davies, Granville, and James D. Windell, Minot. and alternates. Drs. Thomas P. Martin, Towner, and Dale K. Thyng, Willow City.——The Southern District Medical Society of North Dakota held its annual meeting January 29, at Monango. Dr. Ferdinand G. Benn. Kulm, was elected president; Dr. Bayard E. Ryder, Oakes, vice-president; Dr. Howard W. Barbour, Edgeley, secretary-treasurer; Dr. Gustav A. Mathews, Napoleon, censor, and Dr. George B. Ribble, LaMoure, delegate to the state society. The next meeting will be held at Kulm, May 4.——Stuttsman County Medical Association, at its annual meeting in Jamestown, elected Dr. Adolphus W. Gust, Jamestown, president; Dr. W. Albert Gerrish, Enderlin, vice-president; Dr. Miller, secretary-treasurer, and Dr. Helena K. Wink, Jamestown, trustee.

OHIO

Tuberculosis Hospital.—In compliance with the law recently enacted by the General Assembly, a tuberculosis hospital is to be established for Warren county, south of Lebanon, where an option has been secured on an eligible piece of property.

Personal.—Dr. Sherman Leach, Columbus, is seriously ill with septicemia due to an operation wound.——Dr. Frank J. J. Lehmann, Toledo, has been appointed assistant surgeon in the naval brigade.——Dr. Sterling B. Taylor has begun his work as health officer of Columbus.——Dr. H. F. Colby has been re-elected president; Dr. Elmer E. Kimmel has been elected treasurer; Dr. Alonzo H. Dunham, a member of the obstetric staff, and Dr. William E. Alleman, supervisor of anesthetics in the Miami Valley Hospital, Dayton.

Annual Report of the Registration Board.—The president of the State Board of Medical Registration and Examination, in his annual report to the governor, calls attention to the efforts of the board to exclude from the practice of medicine all persons morally and professionally unworthy. The state has effected reciprocity arangements with fifteen states. During the year 174 licenses were granted, and 34 from other states were recognized. Among those licensed were 6 osteopaths. Four certificates were revoked during the year; 13 midwives were licensed; 14 prosecutions were started, and 288 certificates of admission to medical colleges were issued.

Success in Prosecution of Evildoers.—Mark Klein, a druggist of Cleveland, charged on several counts with the illegal selling of cocain, is said to have pleaded guilty to all charges, waived proceedings in error, and offered to pay the fine of $500, throwing himself on the mercy of the court. The court accepted the plea of guilty and suspended the fine.——The governor and attorney general, January 28, declined to reverse the decision of the former governor and attorney general which upheld the State Board of Medical Registration and Examination in its revocation of the certificate of Dr. James A. Ambrose, Dayton, convicted of malpractice, and later pardoned by Governor Harris.——The suit brought at the instance of the Montgomery County Medical Society against Louis O. Black, Dayton, for practicing medicine without a license, is said to have been decided against the defendant, who was fined $25.

Cincinnati

The Eichberg Professorship.—A fund of $50,000, one-half the amount required, has been raised by professors of the University of Cincinnati to establish a chair of physiology in the university in memory of the late Dr. Joseph Eichberg.

Clinic Opened at Settlement.—At a meeting held February 1, at the University Settlement, it was announced that a general medical clinic would be opened in a short time, and later on a clinic for the treatment of diseases of the eye, ear, nose and throat. Dr. Frances M. Hollingshead is a member of the board of trustees of the settlement.

Personal.—Dr. Kenneth L. Weber has been appointed assistant physician at the State Hospital for the Insane, Athens. ——Dr. Julius H. Eichberg on February 23, had a cataract removed from his right eye, at St. Elizabeth's Hospital, Dayton. ——Dr. G. H. Astler, who was ordered to Santa Fe, N. M., for his health last November, is said to have taken a turn for the better and to be convalescent.

PENNSYLVANIA

Adulterated Drug Bill.—On February 25, the house health and sanitation committee reported out favorably on the Campbell drug bill, which is designed to prevent the manufacture and sale of adulterated or misbranded drugs. This measure is being pushed by the State Pharmaceutical board.

Physicians Support Medical Bill.—Four hundred physicians of Philadelphia visited Harrisburg March 2 and argued in favor of the proposed Shreve-Herbst medical bill, which was considered by the senate committee on health and sanitation. The delegation was reinforced by similar delegations from almost every town and city in the state.

For Poor Consumptives.—A bill was introduced in the House of Representatives by Representative Daniel J. Shern of Philadelphia, February 22, carrying an appropriation of $1,000,000, for two years, to encourage all hospitals to devote attention to tuberculosis patients. The bill provides that all hospitals having beds for persons afflicted with tuberculosis, shall be entitled to receive one dollar per day from the state for each bed so maintained, the payment to be made on the approval of the auditor general. This measure, it is said, has the approval of the governor.

Rights of a Patient.—Judge Swartz has handed down an opinion of interest in a suit brought by Dr. William J. Ashenfelter of Pottstown, against a patient for $100 for services alleged to have been rendered. The claim was disallowed. The patient was taken to the hospital after being seriously injured in a railroad accident. Dr. Ashenfelter was the surgeon in charge at the time and as such he amputated a limb. The patient arranged with the hospital authorities for a private room and it was agreed that the compensation for care, nursing and medical attention should be $10 a week. The court said without notice of some kind the patient had a right to assume that he was paying for all the services he received when he paid the sum due under his contract to the hospital. If he had secured the services of a surgeon not on the hospital staff, a different question would arise.

Philadelphia

Beriberi at Quarantine.—The steamship *St. Helena* was placed under quarantine by the Board of Health at Point Breeze, February 27. The cause of this action was due to the death of a Chinese sailor, who is supposed to have suffered from beriberi.

Tuberculosis Exhibition.—The International Tuberculosis Exhibition is being visited by great concourses of people daily, The average daily attendance exceeds more than 10,000 and the total number of visits made since the exhibition opened two weeks ago aggregates 151,095.

Anonymous Gift for University.—At the university day exercises, February 22, Provost C. C. Harrison made the announcement that an anonymous gift of $200,000 had been made to the medical department. It was stated that this sum was secured through the efforts of Dr. John H. Musser, professor of clinical medicine and that the money is to be used to endow a department of research in medicine.

TENNESSEE

Dr. Happel Goes to Baltimore for Treatment.—Dr. T. J. Happel, Trenton, member of the Board of Trustees of the American Medical Association and secretary of the State Board of Medical Examiners, who has been suffering more or less at intervals from an obstinate nervous affection, is in Baltimore for treatment.

VIRGINIA

Sanatorium Reorganized.—Ironville Tuberculosis Sanatorium has been reorganized and put in charge of Dr. Walter F. Wood, former superintendent of the White Haven (Pa.) Sanatorium.

Wells Must Be Closed.—The health department of Richmond has secured a verdict in its favor in a test case in virtue of which more than 400 wells of the city which are said to be a constant menace to public health, will be condemned and filled.

Lynchburg Gets Epileptic Colony.—The State Hospital Board has decided to purchase an estate in Amherst county opposite Lynchburg, as a site for the proposed State Epileptic Colony, and to recommend the sale of the property devised t the colony by the late Mr. Murkland. There are 1,000 acre in the tract, of which 184 are bottom land, 316 pasture, an the remainder original and second growth timber. The buildings already on the property are a thirteen-room brick building, a four-room brick cottage, granary and stables, twenty three frame cottages and other buildings.

GENERAL

To Study Alcohol and Narcotics.—The American Society fo the Study of Alcohol and Other Narcotics, which was organized in 1870, will hold its annual meeting at the Raleig Hotel, Washington, D. C., March 17-19. Dr. T. D. Crothers

Hartford, Conn., is secretary of the society, and a general invitation is extended by him to all persons interested.

Railway Surgeons Elect.—At the annual meeting of the Association of Surgeons of the Illinois Central Railway, held in Memphis, Dr. John E. Owens, Chicago, was re-elected president, Dr. William F. Grinstead, Cairo, was elected first vice-president, Dr. William B. Rogers, Memphis, Tenn., second vice-president, and Dr. Charles B. Fry, Mattoon, secretary-treasurer.

First Graduates at Manila.—The first class of physicians turned out under the American rule was graduated from the Philippine Medical School, Manila, February 27. Dr. P. C. Freer, dean of the faculty of the college, presided and addresses were delivered by Commissioners D. C. Worcester and Newton W. Gilbert, and Rafael Palma, a member of the Philippine assembly.

Society Meeting.—The Tri-State Medical Association of the Carolinas and Virginia held its annual meeting in Charleston, S. C., February 16 and 17. The following officers were elected: President, Dr. Joseph A. White, Richmond, Va.; vice-presidents, Drs. Le Grand Guerry, Columbia, S. C.; J. Wilkinson Jervey, Greenville, S. C., and William W. McKenzie, Salisbury, N. C., and secretary-treasurer, Dr. P. Howell Way, Waynesville, N. C. The next meeting of the society will be held in Richmond.

Smallpox in Central America.—Drs. Aurelio A. Dutari and C. A. Hearne recently made an investigation of the smallpox condition in the province of San Carlos, Panama. They found 18 cases of variola, benign in character and with no mortality. They state that the disease is practically endemic several miles from the coast in both the San Carlos and Chamo districts.——Dispatches from New Orleans papers allege that 12,000 cases of smallpox are reported in Guatemala City and its environs.——Smallpox is reported to be epidemic at Quintana Rio, at Teran, Nueva Leon and Jalapa, Mexico.

Fenger Memorial Fund.—The council of the Chicago Medical Society on May 8, 1906, provided for the incorporation of an association in memory of Dr. Charles Fenger, to secure a fund by voluntary contributions of individuals, to be safely invested, and the income to be devoted to medical research. The fund now contains a little more than $7,000. Payment of $25 entitles to active membership in the Association and $10 to associate membership. The treasurer of the fund, Dr. Coleman G. Buford, 100 State street, is sending a circular letter to physicians in northern Illinois, Wisconsin, Michigan, Indiana, and Iowa, which will, it is hoped, increase the interest of the profession in general in the praiseworthy work undertaken by the association.

FOREIGN

Norwegian Medical Association.—The thirteenth congress of the national medical association of Norway is to be held this year at Bergen in the second week of August, just before the International Leprosy Congress, which is announced for August 15 to 19 at the same place.

The Tolstoi Prize.—The Russian Academy of Sciences has awarded a prize of 1,000 rubles ($510) endowed by Count D. Tolstoi to Dr. J. Sawadskij for his recent research on the "Inhibition and Suspension of the Conditional Reflexes." His work was done in Pawlow's laboratory.

Hungarian Medical Press Association.—The medical journals of Hungary have united in a national association now affiliated with the International Press Association. Professor Lenhossek is the president of the national organization, which is modeled after the German Press Association.

International Antiquackery Association.—The Netherlands national association against quackery has assumed the office of being the central station for the international antiquackery movement, bearing the expenses connected therewith. It has also affiliated with the central office of the society for repression of the illegal practice of medicine, whose secretary is Dr. Levassort, 2 Place des Vosges, Paris. All these organizations are busily at work preparing for the International Antiquackery Congress at Paris next year.

The Health of Rio de Janeiro in 1907.—The official statistics state that the mortality was 20.76, the natality 25.1, and the marriages 5.77 per thousand for a population of 836,018. There were 39 deaths from yellow fever and 73 from bubonic plague in 172 cases of the latter received in the hospital. The morbidity was still further reduced in 1908. The stamping out of yellow fever is the triumph of the local authorities, and the *Brazil Medico* is collecting subscriptions for a gold medal to be presented to Oswaldo Cruz, the chief of the board of public health, to whose energy is attributed the eradication of yellow fever.

The German Congress for Internal Medicine.—The twenty-sixth congress for internal medicine is to be held at Wiesbaden, April 19-22, with Professor Schultze, of Bonn, in the chair. Among the questions to be discussed are "Mineral Metabolism in Clinical Pathology," "Therapeutic Deprivation of Salt," and "Tests of the Sensory Functions," the latter to be presented by Head of London. The secretary is Dr. E. Pfeiffer, Parkstrasse 13, Wiesbaden. There will also be an exhibition in connection with the congress. The date is arranged to follow the surgical congress at Berlin.

Censor for Medical Advertising.—The authorities in Russia have organized a censorship for medical advertising, including both proprietaries, apparatus, drugs, hygienic and cosmetic remedies and the professional cards of physicians, dentists, midwives, masseurs and druggists, health resorts and mineral waters. Every advertisement of this kind must be submitted to the censor before publication, and no anticonceptional remedies and apparatus are allowed to be advertised at all. Exaggerated claims will not be permitted nor proprietaries with names suggesting the affection for which they are advocated, like "eczematin," etc. An autocratic government may possibly have some good features after all.

German Congress for Urology.—In addition to the Roentgen, Orthopedic and Surgical congresses to be held at Berlin in turn between April 13 and 17, the second congress of the German Urological Society will follow close on these gatherings, opening April 18 and continuing for four days. The first addresses are to be on the subject, "Urology and Gynecology," to be presented by Stoeckel of Marburg and Wertheim of Vienna. Next follow addresses by von Fritsch of Vienna and Barth of Danzig on "Suppurative, Non-tuberculous Affections of the Kidneys," and by Casper of Berlin and Zuckerkandl of Vienna on "Bladder Tumors." An exhibit of urologic appliances, etc., is to be a feature of the congress. For further particulars address the secretary, Dr. Wossidlo, Victoriastr. 19, Berlin W.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 20, 1909.

Bernard Shaw on Physicians: Socialistic Criticism of the Profession

Mr. Bernard Shaw is always original, and though he revels in the paradox and finds our most cherished institutions only subjects for his satire, he has to be taken seriously. Amid his extravagant and socialistic views will often be found sound criticism. At the Medico-Legal Society he opened a discussion on the "Socialist Criticism of the Medical Profession." He said that the physician at the present day had practically been driven into the position of a private tradesman. The medical profession had never accepted that position as a matter of theory, but its members had been forced into it as a matter of fact. The average physician was abjectly poor as the result of competition. The attitude of socialism toward a poor man was that he was a bad and dangerous person, and when the physician was poor he was particularly dangerous. It was not possible for him to carry out those hygienic measures which he knew to be necessary, and he had to pander to the foibles and ignorance of patients so as not to lose them. The ordinary patient demanded cheap cures, and to gratify him the physician had to perpetrate a swindle. The medical profession must be socialized because physicians were more and more driven to claim powers over the liberty of the ordinary man which could not possibly be entrusted to any private body. If there was to be compulsory hygiene and the people were to be compelled to do this, that and the other for the health of the community, there must be democratic control, otherwise it would become an intolerable tyranny. No doubt there would be private practitioners even after the physician had been placed in the position of public officer of health. Both the physician and the patient would always have the alternative of being delivered over to the tender mercies of private enterprise. But if the physician found the position of having to depend on the caprice and ignorance of private persons intolerable, he would, under socialism, get into an independent position in the public service.

In the discussion which followed, Sir Victor Horsley said that it was reserved for the British Medical Association in 1909 to attempt to organize their profession to ensure that the practitioner should obtain a living wage. He had no shame in being called a tradesman. He sold his knowledge and in that respect he was a tradesman, he supposed. He hoped that he was an honorable tradesman, and he believed that the appanage of honorable conduct stamped him as a professional man. Mr. Shaw had told them that by nationalizing the profession the physician would be put in a more honorable position and that the public would be assured of better treatment. He believed that most firmly with Mr. Shaw. All that they had to do was to see that the profession did not lose by the transformation.

Proposed Medical Library Association

At a meeting held at Leeds it has been decided to form an Association of Medical Libraries, and a provisional committee was appointed to draw up a constitution and rules. Professor Osler was appointed first president and Prof. Walker Hall and Mr. E. A. Clayton, librarian of the Manchester Medical Society, temporary secretaries. The project is an entirely new departure in this country, as no co-ordination has ever existed between medical libraries.

Irish and Scotch Diplomates and English Hospital Appointments

At most of the great English hospitals there is a rule requiring candidates for appointment as surgeons to possess the fellowship of the Royal College of Surgeons of England, and for the appointment as physicians the membership of the Royal College of Physicians. The object is to ensure that candidates have the highest qualifications possible, and no difficulty exists in obtaining candidates with these qualifications. In England a large number of Irishmen and Scotchmen practice under the diplomas of their respective countries and for long they have proclaimed that it is a grievance and even an injustice that they should be excluded from competition for English hospital appointments. On three occasions the British Medical Association has passed a resolution condemning the system, but nothing has ever resulted. A meeting has been held in London of Irish and Scotch diplomates, at which the presidents of the Royal Colleges of Physicians and Surgeons in Ireland attended, to discuss the subject. The speakers alleged that the English colleges possessed an unfair monopoly in the hospital appointments, and that the qualifications of the Irish and Scotch colleges were just as good and obtained by just as stringent examinations. This last statement will not receive general acceptance. It is generally believed that the fellowship of the Royal College of Surgeons of England is the first surgical diploma in the world, and with good reason. When English hospital committees insist on candidates possessing it they are not acting in any spirit of national prejudice, but merely demanding that candidates shall possess the highest qualification obtainable. It is perfectly open to Irishmen and Scotchmen in England who desire to become hospital surgeons to obtain this diploma if they possess the requisite knowledge, and many of them do possess it and have been appointed on the staffs of English hospitals. Indeed, with their usual enterprise the Scotch have obtained such positions out of all proportion to their number.

British Medical Benevolent Fund

Seventy-three years ago there was founded a very useful institution, the British Medical Benevolent Fund, for the object of relieving physicians and their families under severe and urgent distress caused by sickness, accident or other calamity. It was not intended to be a provident or benefit society, but a charitable institution open to every one, the only qualification being poverty and distress. The persons who come for relief are divided into two classes. Those whose distress is temporary are relieved by grants of money, and those whose distress is permanent through ill health or old age are made annuitants. The grants of money are made to distressed physicians, their widows and orphans, and the annuities are provided for such as have reached the age of 60. The number of annuitants last year was 124 and the sum distributed amounted to $12,000. The value of each annuity is $100 and in some cases $130. The money for these annuities is obtained from investments. On the other hand, grants varying from $25 to $100 are made from donations and subscriptions. Last year over $10,000 was thus distributed, but, unfortunately, this sum fell short of relieving many urgent cases. Addressing the annual meeting of the fund, the Bishop of Oxford claimed a certain right to speak, as his father (the late Sir James Paget) was for many years its president. He said there was a clear and urgent need for such an institution. There was no profession in which a man was compelled, without any choice of his own, to run greater risk of impoverishment for himself and his family than in the medical. By the time a man qualified he had spent a large sum, and from the very first his outlay was considerable for the keeping up of appearances. After that everything depended on his health, without which his other assets, such as education and skill, were useless.

The Oldest Woman Physician in England

The oldest woman physician in England and the first woman to take a medical qualification and be placed on the medical register, Dr. Elizabeth Blackwell, has celebrated her eighty-eighth birthday at Hastings. She received numerous congratulations on the event from all parts of England and America. Born in Bristol, her life epitomises the long struggle of women for admission into the medical profession in this country. Her inspiration for the revolution she wrought in breaking down one of the strongest prejudices in this very conservative country was probably largely derived from her American training. As long ago as 1832 her family went to America, where she became a school teacher. She began her preliminary studies in Asheville, North Carolina, in 1845. She had some difficulty in entering a medical school, as the universities of Philadelphia and of New York refused to consider her application. At Geneva, New York, she was more fortunate and one of her most valued possessions is the copy of the resolution passed in October, 1847, when it was unanimously agreed: "That one of the radical principles of a republican government is the universal education of both sexes; that in every branch of scientific education the door should be open equally to all, that the application of Elizabeth Blackwell to become a member of our class meets our entire approval." She pursued her studies undisturbed, but was regarded with curiosity by her fellow students and the townspeople. On Jan. 25, 1849, she was graduated. She returned to Philadelphia and began to practice in the hospital wards of the Blockley Almshouses. To gain further experience she came to Europe and spent some months in La Maternité, Paris, and then came to London, where she obtained from the late Sir James Paget the valued privilege of studying in the wards of St. Bartholomew's hospital. In 1859 Dr. Blackwell was the first woman whose name was placed on the British Medical Register.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 18, 1909.

The Causes of Death in France

Until recently France lacked mortality statistics except for the cities, and even these date only from 1886. M. Mirman, director of the *Assistance Publique* and public hygiene, recently ordered the statistics to be compiled for the whole of France, and the results have just been published. There were in 1906, with a population of 39,252,245, a total of 778,400 deaths, of which 354,667 occurred after 60 years of age, and 199,237 in the first year of life. Senile debility is assigned the principal rôle, being given as the cause of 103,374 deaths. Next come inflammatory affections of the respiratory apparatus (pneumonia, bronchitis, etc.). These are responsible for 99,839 deaths, almost as many as senile debility. It is, moreover, almost exclusively among old people and young children that the respiratory affections produce fatal results. Then follows tuberculosis (phthisis and other tuberculous conditions) which caused 87,091 deaths. Although this figure is somewhat below the truth, we are, it appears, nevertheless far enough removed from the pessimistic assertion which has been repeated for some years, that tuberculosis causes in France 150,000 deaths per annum! The comparative statistics arranged by Dr. Jacques Bertillon, chief of the Paris department of statistics, show clearly that in so far as the mortality from tuberculosis is concerned, the situation in France compares favorably with that of other European countries. Here is a table of deaths, per 100,000 inhabitants from tuberculosis yearly during the period from 1895 to 1900.

Austria	340	Scotland	23
Hungary	328	Wurtemberg	23
Bavaria	292	Saxony	22
Ireland	282	France (1906)	22
Baden	274	Denmark	21
Finland	272	Prussia	20
Norway	249	England	19
Belgium	248	Italy	17
Switzerland	246		

It is thus seen that France follows almost immediately after Italy and England, countries extremely favored in regard to tuberculosis, England by its wealth and Italy by its marvelous climate.

But if France as a whole is relatively favored in this respect, it must be admitted that Paris, of all the great capitals, is the one in which tuberculosis is most prevalent (458 deaths per 100,000 inhabitants during the past year) and in which it is being most slowly reduced.

Beside the three great causes of death—senility, inflammatory conditions of the respiratory apparatus, and tuberculosis—which furnish each about 100,000 deaths, there are three others which are one-half as fatal, namely: organic heart diseases, with 49,989 deaths; cerebral hemorrhage and its sequelæ with 47,466 deaths; infantile diarrhea with 41,699 deaths. In a third group must be classed three other causes of death which are responsible for about one-half the number of deaths as the preceding causes. These are: Cancer, with 27,306 deaths; congenital debility, which has carried off 24,421 new-born infants; and violence (including suicide), which has caused the death of 26,259 persons.

In comparison with these nine principal causes of death, the others count for very little. Typhoid fever, for instance, caused only 5,453 deaths; measles, whooping cough, and diphtheria have claimed each a little over 3,000 victims; scarlet fever only 907.

A Day of Rest for Physicians

For some time various medical organizations have been studying measures for securing a weekly day of rest for the physician, but by reason of the practical difficulties that the question entails, their efforts have up to now been limited to the simple expression of wishes and to theoretical discussion. At last one of these organizations—the syndical section of the xvii arrondissement of Paris—has proved that the difficulties are not insurmountable. It has in short succeeded in organizing a roster of medical service, called the service of weekly rest, which leaves physicians free, while it respects the interests of patients by assuring them of such urgent attendance as they may need. This service is established on the following basis: The arrondissement or ward is divided into four districts and a list is made up in advance for as many Sundays or holidays as there are members of the syndicate in that district. The order of service is made by ballot for the first Sunday and for the following days in alphabetical order. The list of turns of service is placarded at the *mairie* and in the police stations of the ward, where it can be consulted by the public. Those applying at a physician's house are given a printed card headed with the title of the medical organization, with the date and the name and address of the physician taking the service for the day. The card also bears the legend that fees are to be paid in cash, and this is enforced as far as possible. If the physician on duty, summoned to a patient of a colleague in the syndicate, finds himself confronted by some surgical or obstetrical emergency, his fees are regulated by an amicable understanding with the interested colleague. The manner in which the physician interested shall be advised next day of the visit made to his patient is not decided; the medical organization has not thought it necessary to touch on this question in the regulations, feeling satisfied of the fraternal scrupulousness that will induce the physician on duty to write to his colleague as early as possible.

The Paris Medical Society

The three oldest medical associations in Paris, the Medical Society, the Medico-Chirurgical Society, and the Society of Practical Medicine and Surgery, have recently combined under the name of the "Société de Médecine de Paris." This new association held a special meeting February 3 to celebrate simultaneously its own inauguration and the centenary of the Society of Practical Medicine and Surgery, the youngest of the three amalgamated societies. M. Doumergue, minister of public instruction, presided. With him on the platform were the dean of the medical college, the chief of the university system, and many other leading men in the world of medicine.

The P. C. N.

In France the study of medicine is preceded by a preparatory year devoted to the obtaining of a certificate of physical, chemical and natural studies—the P. C. N. Those students who at present are preparing for this certificate are not affected by a recent decree to which I referred in one of my preceding letters (The Journal, Jan. 9, 1909, p. 145), reorganizing the medical studies properly so called, and fixing their duration at five years in place of four. It is officially stated that the new decree is not yet enforced, and probably will not be applied for two years, on account of the details of organization and finances.

The Sanitary Condition of Martinique

The minister of colonies has received from the governor of Martinique a cablegram announcing that the sanitary condition is satisfactory, and that the officials will be authorized to come down from the hill resorts by February 21. The measures of isolation and of night surveillance will be dispensed with for ships in the bay, but not for the steamboats of the Transatlantic Company, which are not yet authorized to come up alongside the quay.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 11, 1909.

The Call of Professor Minkowski to Breslau

Professor Minkowski of Greifswald has been called to fill the chair of internal medicine at Breslau left vacant by the transfer of Professor Strümpell to Vienna. Minkowski is well known for his work in the field of experimental pathology and for his researches on pancreatic diabetes in conjunction with von Mering. We had the opportunity to learn how excellent a lecturer Minkowski is on the occasion of a postgraduate course delivered in the Kaiserin Friedrich Haus, to which a number of distinguished foreign teachers were invited. It may well be assumed therefore that Minkowski will fill Strümpell's place satisfactorily. As I am informed, Minkowski himself is well pleased at the change since he was not well satisfied with the little university of Greifswald in Vorpommern. When he was called there three years ago he hailed the call with pleasure as a fulfillment of his long cherished wish to become a full professor. In spite of his worth and of his ambition, which was supported by his former teacher, the distinguished Professor Naunyn, he remained a long time in Strassburg as an assistant. The opinion has long prevailed that he was neglected by the faculties on account of his Jewish faith, and this idea was confirmed by what happened on his selection for the position at Greifswald. He went from Strassburg to Cologne as director of the medical department of the general hospital. On his removal to Greifswald he changed his religion, and the assumption is probably justified that this change had been made a condition of his appointment. According to the newspapers, Professor Pfeiffer from Königsberg, has already been chosen to succeed Flügge as future director of the hygienic institute at Breslau.

A German Radium Institute

The desire for a German institute for the investigation of radium is to be fulfilled sooner than we expected. A foreign philanthropist has donated the sum of 130,000 marks ($32,-500) to the university of Heidelberg to found a radiologic institute. The institute is to be combined with the new building of the physical institute under the title of physico-radiologic institute, which will be under the direction of Lenard, the professor of physics, and will include in its scope not only biologic but also medical investigations carried on in connection with the clinics.

A German Central Committee for Care of School Children's Teeth

Early in February a meeting was held at the Kultusministerium (state department of education) at which a committee was formed to provide for dental treatment in the public schools and to promote the rational care of the teeth. The committee is to carry out its purpose by popular addresses and by the distribution of suitable literature on the care of the teeth as well as by introducing instruction on this subject into the schools. It seems to me that the school physicians and the dentists that have been appointed for many of the schools are fully able to carry out the work assigned to this committee. But the tendency to form committees with high-sounding names and ambitious plans is nearly as great with us as the disposition to organize societies. It is easier now than it used to be to get a reputation as a philanthropist. One needs only a humanitarian idea, and it is easy to get a few prominent men to help form a committee and then to make an appeal and bombard the papers with the new undertaking. To-day much money, time and strength are being squandered under the battle-cry of humanity and philanthropy.

Woman's Hospital for Greater Berlin

Berlin has only one policlinic and private clinic conducted by women physicians, and there is as yet no large hospital under their charge. This alleged defect is now to be remedied; money for such a hospital has been collected among the women of Berlin. While it is yet uncertain whether the enterprise will be carried out, I think it probably will. There is sufficient enthusiasm among the leaders of the woman movement to set the mass of their followers in motion, and there are enough well-to-do women who can and will make sacrifices for the realization of this idea.

Hygienic Regulations for Working Women and Youths

At the end of last year a law was promulgated which ensures the following hygienic conditions: After the end of the day's work an uninterrupted rest period of at least 11 hours must be allowed youthful laborers and workwomen. Working women must not work longer than ten hours and must not be employed at night, from 8 p. m. till 6 a. m. Women must not be employed for a period of eight weeks at the time of confinement, and at least six weeks of this rest must follow the delivery. Women must not be employed in coke works nor in the transportation of building materials. Besides these restrictions, the federal council (Bundesrat) can forbid the employment of youths and women in any industry that is especially dangerous to health or morals.

Monument for Professor Mendel

A memorial to the distinguished nerve specialist and psychiatrist, Professor Mendel, is to be erected in Pankow, a suburb of Berlin, where he long resided. There is no doubt that sufficient contributions for a suitable monument can be collected, as Mendel was much beloved by his colleagues as well as by his numerous clientele.

Foreign Red Cross Medals

A swindle similar, but not quite so bad as the bogus Academia Fisico-chimica at Palermo which I have previously mentioned, is the fraud carried on in connection with the Japanese Red Cross medals. The impression was produced by advertisements of commercial agents that these medals were an official distinction, similar to the German Red Cross medals which are bestowed exclusively by the king. In reality, the Japanese society is a private institution which distributes membership medals and medals for merit on the payment of 25, 200, or 1,000 yen (equivalent to $12.50, $100 or $500). Any one can obtain membership and a medal on the payment of the requisite contribution. The middlemen, of course, charge higher rates for obtaining the medals for their customers.

The Cholera in Russia

According to information given out by the Prussian government, the number of people who have been attacked with cholera since the beginning of the epidemic amounts to 30,157, of whom 14,253 died (about 50 per cent.). In St. Petersburg alone, 8,763 were attacked and 3,553 died.

Annual Report of the Great Hanseatic Insurance Society

The annual report of the "Landes-Versicherungs-Anstalt der Hansestädte" for the year 1907 is at hand. Since 1891 the society has expended over 7,000,000 marks for medical purposes and more than 900,000 in 1907, over half of which was paid out on account of tuberculosis. This society embraces Hamburg, Bremen and Lübeck.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Feb. 13, 1909.

Number of Physicians in Austria

The number of medical practitioners in Austria (in a population of 27,000,000) was 12,278 in 1908, according to official figures; that is, one practitioner for about 2,250 inhabitants—a fairly satisfactory ratio. The increase over 1907 was 2 per cent., which corresponds to the estimated increase in population of 2 per cent. per annum. Although the German-speaking population is only 39 per cent. of the whole, 60 per cent. of the practitioners work among Germans because of their superior social and financial position. The proportion of medical men to the population in Austrian cities varies between 1 to 560 in Prague, 1 to 700 in Vienna, which has nearly 3,000 practitioners for 2,000,000 population, 1 to 1,600 in Graz, and 1 to 1,500 in Zara. All practitioners except a few who have been in practice for a long time have the degree of M.D.; for thirty years this degree has been required of those seeking to practice.

The number of medical graduations corresponds to the number of students. The numbers of both have decreased considerably since 1894, when the seven Austrian universities were attended by 6,739 medical students, against 2,440 in 1909. In 1894, 1,088 degrees of M.D. were granted in Austria; in 1904 only 553. In the University of Vienna alone there were 323 degrees of M.D. granted in 1900; in 1908, only 157. At present, since the number of students and graduations corresponds to the annual increase in population, the prospects for medical men are not bad, especially in the country, where wealth is increasing and education becoming diffused.

Jubilee of Prof. von Eiselsberg

The present and former assistants and students of the director of the first surgical clinic in the Vienna General Hospital, Prof. von Eiselsberg, recently celebrated the twenty-fifth anniversary of his attaining the degree of M.D. A number of special scientific papers, prepared by the assistants of the professor and worked out during his professorship, were presented to him in the form of a *Festschrift*.

Lack of Antidiphtheritic Serum Due to Insufficient Stable-Room

In a report of the bureau of health attention was directed to the fact that the amount of antidiphtheritic serum was not sufficient to meet the demands of a possible epidemic. This report caused attacks on the management of the institute to be made by members of the city and national government. Professor Paltauf was then authorized to give the following explanation: Owing to the limited extent of the stabling available for the serum horses, not more than twenty animals can be kept for this purpose by the institute. Not all these animals are capable of providing a good quality and sufficient quantity of the serum. Professor Paltauf prefers the weaker serum, because he has found it less dangerous and capable of being administered to better advantage. The only solution of the difficulty would be to keep at least forty horses to select from. As the manufacture of serum is not permitted here to private enterprise, the government has to provide the funds, and bureaucratic red tape stands in the way. At all events, the supply of serum is at present sufficient for at least 600 cases per week for some time. It is expected that public interest and discussion will make the official machine work more rapidly.

Investigations Into Child Labor

The report of the inspector of factories contains some interesting facts in regard to the employment of children under 14 years of age. Of the 400,000 children in lower Austria, fully 10 per cent. are wage-earners; of these 45 per cent. are boys and 55 per cent. girls. As regards the nature of the work, 30 per cent. of the children are employed in domestic work, 15 per cent. in agricultural labor, and 22 per cent. in both kinds. Industrial concerns, chiefly textile factories and the stone, glass, leather, hair, clothing and millinery trades employ 12 per cent., and public-houses and hotels employ some. The wages paid are very low, varying between half a dollar a week or less and $2 a week. The most notable fact is that sometimes even children of 6 or 7 years are employed, a fact which must have an unfavorable influence on the growth and education of the children.

Correspondence

Mold for Carbon Dioxid Snow

To the Editor:—Dr. Sutton's paper in The Journal of Feb. 6, 1909, describing a mold for carbon dioxid snow, prompts me to call attention to a simple method of obtaining a similar result. For several months I have been using the cylinder of an old hypodermic syringe, end caps removed for the same purpose. The end of the metal container for the glass cylinder fits loosely within the nozzle of the CO_2 drum. A ring of rubber tubing, ⅛ inch wide, is slipped over the end of the syringe cylinder, making it fit snugly into the nozzle.

The other end is loosely plugged with cotton, the chamois wrapped over, and the whole held with a wooden clamp to prevent the hand from being frost-bitten. The gas is turned on lightly, frost forms on the glass cylinder, then a column of "snow" rapidly fills it from distal end downward. The cotton in the end prevents too rapid passage of gas. Entire closure would cause reverse pressure, a leak at the nozzle end, and no "snow" would form. The chamois is now wrapped around the cylinder for protection of the fingers, the cotton is removed and the column of "snow" (molded to fine point with finger and thumb if needed) is pushed down with the syringe piston onto the area to be treated. For large areas a hollow wooden cylinder ½ inch to 1 inch in diameter and one inch long is set close on the nozzle of the drum, the junction being made with adhesive plaster and the open end closed with cotton and wrapped with chamois skin. "Snow" is obtained quickly and can be pressed down, using a round bottle of the proper size or a piece of wood as a piston.

Marked simplicity over other methods justifies its publication. M. B. HUTCHINS, M.D., Atlanta, Ga.

"Mrs. Potter's Pure Walnut-Juice Hair-Dye"—Another Case of Poisoning

To the Editor:—You may be interested to hear that "Mrs. Potter's Pure Walnut-Juice Hair-Dye" is as effective in Boston as in Omaha. About two weeks ago, by courtesy of Dr. J. T. Sherman, of Dorchester, I saw an elderly woman who presented exactly the same picture as Dr. Schalek's patient, described in THE JOURNAL, Feb. 13, 1909, page 557. She stated that this was her second attack, she having been cured of the first about four weeks before at a hospital in the neighborhood of Boston. Her hair had obviously been dyed, and, when questioned, she produced the original bottle, saying that it was to her a new preparation and had been highly recommended. Each of her attacks followed the application of the dye and each responded promptly to treatment. WILLISTON W. BARKER, Dorchester, Mass.

Benzoate of Soda

To the Editor:—I feel that your editorial on the question of benzoate of soda was timely and well taken. It seems to me that a test of small doses of this drug on healthy men, under hygienic surroundings, with all facilities for recreation and diversion, means little. It will not be the healthy people in good surroundings who will consume canned goods, but most frequently men, women and children in isolated localities who are wholly dependent on such forms of food, and from the latter circumstance alone it very frequently happens that one has to deal with an appetite and digestion that is not up to the standard. HARPER PEDDECORD, St. Paul, Minn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

FREEZING DOES NOT PURIFY ICE

To the Editor:—Please cite authorities, or reports from cities that have investigated the question, showing that freezing does not purify ice. J. H. MACKAY, M.D., Norfolk, Neb.

ANSWER.—That ice may contain a considerable variety of living and virulent bacteria has been shown by a number of researches. Notter (Treatise on Hygiene, 2d ed., p. 11) refers to investigations made by the State Board of Health of Massachusetts which showed that "there were 81 per cent. as many bacteria in the snow ice as in the waters; 10 per cent, as many in all other ice, and 2 per cent. as many in the clear ice as in the waters. It is therefore much safer to use for drinking water, and for placing in contact with food, that portion of the ice which is clear.

P. Sacerdote (Composition of Ice, *Presse Medicale*, xiv, No. 56; abstracted in THE JOURNAL, Sept. 8, 1906, p. 813) found that whatever the character of the water used, the water obtained by melting the outer clear parts is almost perfectly pure, while that from the central opaque part contains the impurities. The bacteria do not escape this law, he adds, but will be found congregated in the central part of the cake of ice. Park states that, according to the investigation of Dr. North, the bottom ice, the last to be frozen, contained but 2 per cent. of the number of bacteria in the water.

Harrington cites a case in which a number of French lieutenants developed typhoid from drinking champagne cup made with polluted ice. Most authors, however, agree that the danger of the communication of typhoid by ice is slight.

The State Board of Massachusetts, in its report concerning the bacterial content of the domestic supply, states: "In not one instance of the still freezing of ordinarily polluted water . . . have we been able to find *B. coli.*" (Report for 1900.) W. H. Park found no bacilli living at the end of 22 weeks in ice frozen from water containing before freezing 2,560,410 typhoid bacilli per cubic centimeter. At the end of five weeks only 0.1 per cent. of the bacteria were living.

We may conclude then that while infection from recently frozen, polluted ice may occur, it is not likely to do so if the ice is clear and has been frozen for a long time.

The following references may be consulted:

Fränkel, Ueber den Bakteriengehalt des Eises, *Zeitsch. f. Hygiene*, I.
Prudden: Bacteria in Ice, *Medical Record*, New York, Mar. 26 and Apr. 2, 1887.
Sedgwick and Winslow: Abstract in *Revue Scientifique*, April 28, 1900.
Park, W. H.: *Jour. Boston Society of Med. Sci.*, iv, p. 213.
Hill, H. W.: *Boston Medical and Surgical Journal*, Nov. 21, 1901.
Notter, J. L.: Ice and Snow Water, "Treatise on Hygiene," 2d ed., p. 11.
Harrington, C.: "Practical Hygiene," 2d ed., p. 393.
Park, W. H.: The Importance of Ice in the Production of Typhoid Fever, "Pathogenic Bacteria and Protozoa," 3d ed., p. 306.
Park, W. H.: The Importance of Ice in the Production of Typhoid Fever, THE JOURNAL, Aug. 31, 1907, p. 731.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 27, 1909:

Reynolds, F. P., major, ordered to St. Paul, Minn., for temporary duty as chief surgeon.

Miller, E. W., capt., granted leave of absence for two months.

McIntyre, H. B., lieut., granted an extension of one month to his leave of absence.

Edie, G. L., lieut.-col., relieved from treatment at Hot Springs, Ark., and ordered to return to his proper station.

Ashburn, P. M., major, granted leave of absence for one month.

Lambie, J. S., Jr., lieut., ordered from Fort Monroe, Va., to duty at Camp St. Asaph's, Va.

Frick, E. B., major, granted leave of absence for ten days.

Chamberlain, W. P., major, detailed to represent the medical department of the army at the meeting of the American Society of Tropical Medicine at Washnigton, D. C., April 10, 1909.

Webber, H. A., major, ordered to Fort Niagara, N. Y., for duty on relief from treatment at Hot Springs, Ark.

Truby, W. F., major, granted leave of absence for three months.

Adair, G. W., col., retired from active service, on account of physical disability, Feb. 25, 1909.

Hess, L. T., major, granted leave of absence for three months.

Boak, S. D., dental surg., ordered to Vancouver Barracks, Wash., for duty on return from Cuba.

Craig, E. J., dent. surg., ordered to Fort Omaha, Neb., for twenty days, and thence to Fort Crook, Nebr., for one month.

Ryan, E. P. R., dent. surg., ordered to Fort Robinson, Nebr., for one month, and thence to Fort Meade, S. D., for one month.

Wheate, J. M., M. R. C., ordered to Fort Snelling, Minn., for temporary duty.

Patterson, E. W., M. R. C., arrived at San Francisco, Cal., on the transport *Buford* and ordered to Fort Sam Houston, Texas, for duty.

Parkman, W. E., M. R. C., granted leave of absence to March 7, 1909.

Peck, L. B., M. R. C., relieved from duty at Fort Andrews, Mass., and ordered to Fort Banks, Mass.

Tyler, G. T., M. R. C., relieved from duty at Fort Porter, N. Y., and ordered to Plattsburg Barracks, N. Y., for duty.

Sabin, W. E., M. R. C., relieved from duty in the Philippines division; will proceed on first available transport to San Francisco, for orders.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Feb. 27, 1909:

Old, E. H. H., P. A. surgeon, detached from the navy yard, Washington, D. C., and ordered to temporary duty at the Naval Training Station, Newport, R. I.

Bachus, J. W., P. A. surgeon, ordered to duty at the Naval Hospital, Narragansett Bay, R. I.

McDonnold, P. E., P. A. surgeon, detached from the *Connecticut* and ordered to temporary duty at the Naval Training Station, Newport, R. I.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine Hospital Service for the seven days ended Feb. 24, 1909:

von Ezdorf, R. H., P. A. surgeon, granted 2 days' leave of absence from Feb. 2, 1909, under paragraph 189, Service Regulations.

Parker, Herman B., P. A. surgeon, granted 1 day's leave of absence, Feb. 20, 1909, on account of sickness.

Boggess, John S., P. A. surgeon, relieved from duty on revenue cutter *Perry* and directed to proceed to Baltimore and report to the commanding officer of the revenue cutter *Tahoma* for duty.

Smith, F. C., P. A. surgeon, relieved from temporary duty in Hygienic Laboratory and directed to rejoin station at Fort Stanton, N. M.

Smith, P. C., P. A. surgeon, granted 10 days' leave of absence en route to station at Fort Stanton, N. M.

Simonson, G. T., acting assistant surgeon, granted 5 days' leave of absence from Feb. 23, 1909.

Stearns H. H., acting assistant surgeon, granted 1 day's extension of annual leave on account of sickness, Feb. 5, 1909.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Heath and Marine-Hospital Service, during the week ended Feb. 26, 1909:

SMALLPOX—UNITED STATES

Alabama: Mobile, Jan. 30-Feb. 6, 1 case.

Arkansas: Magnolia, Jan. 5-Feb. 13, 25 cases.

California: Jan. 30-Feb. 6, 1 case; San Francisco, Feb. 7-13, 2 cases.

District of Columbia: Washington, Feb. 6-13, 3 cases.

Illinois: Cairo, Feb. 6-13, 25 cases; Danville, Feb. 7-14, 1 case; Peoria, Feb. 6-13, 1 case, imported.

Indiana: Elkhart, Feb. 6-13, 1 case; Evansville, Feb. 17, 1 case; Lafayette, Feb.1-15, 8 cases.

Kansas: Kansas City, Feb. 6-13, 3 cases; Topeka, Jan. 30-Feb. 13, 17 cases.

Kentucky: Covington, Feb. 6-13, 1 case; Lexington, 1 case.

Maine: Van Buren, Jan. 30-Feb. 6, 5 cases.

New York: Niagara, Feb. 6-13, 1 case; Schenectady, 1 case.

North Carolina: Charlotte, Jan. 1-31, 1 case.

Ohio: Cincinnati, Feb. 5-12, 9 cases; Dayton, Feb. 6-13, 1 case.

Oregon: Portland, Dec. 1-31, 21 cases.

Tennessee: Knoxville, Feb. 6-13, 3 cases; Memphis, 22 cases; Nashville, 1 case.

Texas: Cotulla, Feb. 17, present; San Antonio, Feb. 6-13, 1 case.

Utah: Salt Lake City, Jan. 1-31, 110 cases, 1 death.

Virginia: Norfolk, Feb. 4-17, 3 cases, from vessel.

Washington: Seattle, Jan. 1-31, 5 cases; Spokane, Jan. 30-Feb. 6, 1 case.

Wisconsin: La Crosse, Feb. 6-13, 2 cases; Manitowoc, 2 cases; Milwaukee, 9 cases.

SMALLPOX—FOREIGN

Arabia: Aden, Jan. 4-18, 5 deaths.

British Honduras: Stann Creek, Feb. 11, 1 case, imported.

Brazil: Rio de Janeiro, Dec. 27-Jan. 17, 194 cases, 83 deaths; Santos, Dec. 13-20, 2 cases, 1 death.

Canada: Halifax, Jan. 30-Feb. 6, 6 cases; Yarmouth, Feb. 13-20, 22 cases.

China: Shanghai, Dec. 26-Jan. 9, 2 cases, 1 death.

Egypt: Cairo, Jan. 7-14, 31 cases, 16 deaths.

Germany: Bremen, Jan. 16-23, 2 cases.

Guatemala: Guatemala City, Feb. 10, epidemic.

India: Bombay, Jan. 12-19, 5 deaths; Calcutta, Jan. 2-9, 31 deaths; Madras, Jan. 2-8, 1 death Rangoon, Jan. 2-9, 3 deaths.

Indo-China: Saigon, Dec. 26-Jan. 3, 1 case, 1 death.

Italy: General, Jan. 24-31, 3 cases; Naples, 29 cases, 8 deaths.

Malta: Jan. 15-23, 1 case.

Mexico: Monterey, Jan. 31-Feb. 7, 1 death.

Peru: Lima, Jan. 16, 3 cases.

Russia: Moscow, Jan. 16-23, 27 cases, 15 deaths; Riga, Jan. 23-30, 1 case; St. Petersburg, Jan. 9-16, 6 cases, 2 deaths.

Spain: Vigo, Jan. 23-30, 1 death.

Straits Settlements: Singapore, Dec. 26-Jan. 2, 1 case.

YELLOW FEVER

Barbados: Jan. 24-Feb. 9, 10 cases, 4 deaths.

Martinique: Fort de France, Jan. 16-30, 3 cases, 1 death.

Mexico: Merida, Jan. 30-Feb.6, 1 death; Ticul, 1 case, 1 death.

CHOLERA

India: Bombay, Jan. 12-19, 1 death; Calcutta, Jan. 2-9, 11 deaths. Madras, Jan. 2-8, 1 death; Rangoon, Jan. 2-9, 1 death.

Russia: General, Jan. 9-16, 122 cases, 54 deaths; Cronstadt, 2 cases; Moscow, Jan. 16-23, 1 case, 1 death; St. Petersburg, Jan. 9 16, 178 cases, 46 deaths; Jan. 25-29, 135 cases, 49 deaths.

Straits Settlements: Singapore, Dec. 21-Jan. 2, 41 deaths.

PLAGUE

Brazil: Rio de Janeiro, Dec. 27-Jan. 17, 11 cases, 6 deaths.

Chile: Iquique, Jan. 9-23, 8 cases, 3 deaths.

Egypt: General, Jan. 22-28, 6 cases, 2 deaths.

India: General, Jan. 2-16, 5,136 cases, 4,146 deaths; Bombay, Jan. 12-19, 17 deaths; Calcutta, Jan. 2-9, 14 cases; Rangoon, 12 deaths.

Japan: Nishinomiya, Jan. 6, 1 case.

Peru: General, Jan. 9-16, 32 cases, 18 deaths; Callao, 5 cases, 3 deaths; Lima, 5 cases, 2 deaths.

Turkey: Jiddah, Jan. 22-24, 3 cases, 3 deaths.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut Homeopathic: New Haven, Mar. 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.

Connecticut Eclectic: New Haven, Mar. 9. Sec., Dr. T. S. Hodge, Torrington.

Connecticut Regular: New Haven, Mar. 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

Maine: Portland, Mar. 9-10. Dr. W. J. Maybury, Saco.

Massachusetts: Boston, Mar. 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Higher Requirements in Kansas

At a meeting held February 9, the Kansas Board of Medical Registration and Examination adopted the standard of preliminary education as outlined by the Council on Medical Education, which fixes the requirement as a four-year high school education or its equivalent and, in addition, after Jan. 1, 1910, a year of not less than nine months, devoted to the study of physics, chemistry, biology and one modern language, preferably German or French. There are now six states which have increased their requirements to one or more years of college work in addition to a four-year high school education. Minnesota and North Dakota will both require two years of college work, while Connecticut, South Dakota, Colorado and Kansas will require one year.

Iowa December Report

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Dec. 8-10, 1908. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 16, of whom 8 passed and 8 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Northwestern University Medical School	(1906)	85.7
Sioux City College of Medicine	(1907)	80.6
Drake University	(1908)	86
University of Louisville	(1908)	85.6
Johns Hopkins University Medical School	(1907)	87.3
Creighton Medical College	(1908)	81.1
University of Toronto, Canada	(1906) 75; (1907)	81.2
FAILED		
College of Physicians and Surgeons, Chicago	(1905)	62.7*
University of Iowa	(1906) 71.5* (1908)	70.2*
University of Iowa, Homeopathic Department	(1908)	64.6*
Keokuk Medical College, College of Phys. and Surg., (1901) 68.3; (1906) 53.2*.		
Drake University	(1908)	65.2*
Barnes Medical College	(1908)	70.7

* Failed also at a previous examination.

Marriages

H. H. Cheatham, M.D. Havana, Fla., to Miss Annie Elchinger of North Santa Clara, Fla., February 17.

John Randolph Garrett, M.D., Roanoke, Va., to Miss Rebecca MacDowell, at Roanoke, February 17.

William Stewart McMurray, M.D., to Miss Ora May Bankhead, both of Bullock Creek, S. C., February 24.

Charles B. Allen, M.D., Parma, Idaho, to Miss Gracia M. Tibbetts of Everett, Mass., at Boise, Idaho, February 2.

Alfred E. Spalding, M.D., Luverne, Minn., to Miss Alma Orth of Minneapolis, at Lidgerwood, N. D., February 12.

Joseph Fleetwood Haselden, M.D., Greeleyville, S. C., to Miss Mamie Virginia Boyle of Sumter, S. C., January 27.

Thomas Lawrence Disque, M.D., Pittsburg, to Miss Margaretta Watt Wilson of Germantown, Pa., February 24.

Frederick Davis Ruland, M.D., Westport, Conn., to Miss Leo Mabel Shattuck Van Dusen of Oneida, N. Y., January 27.

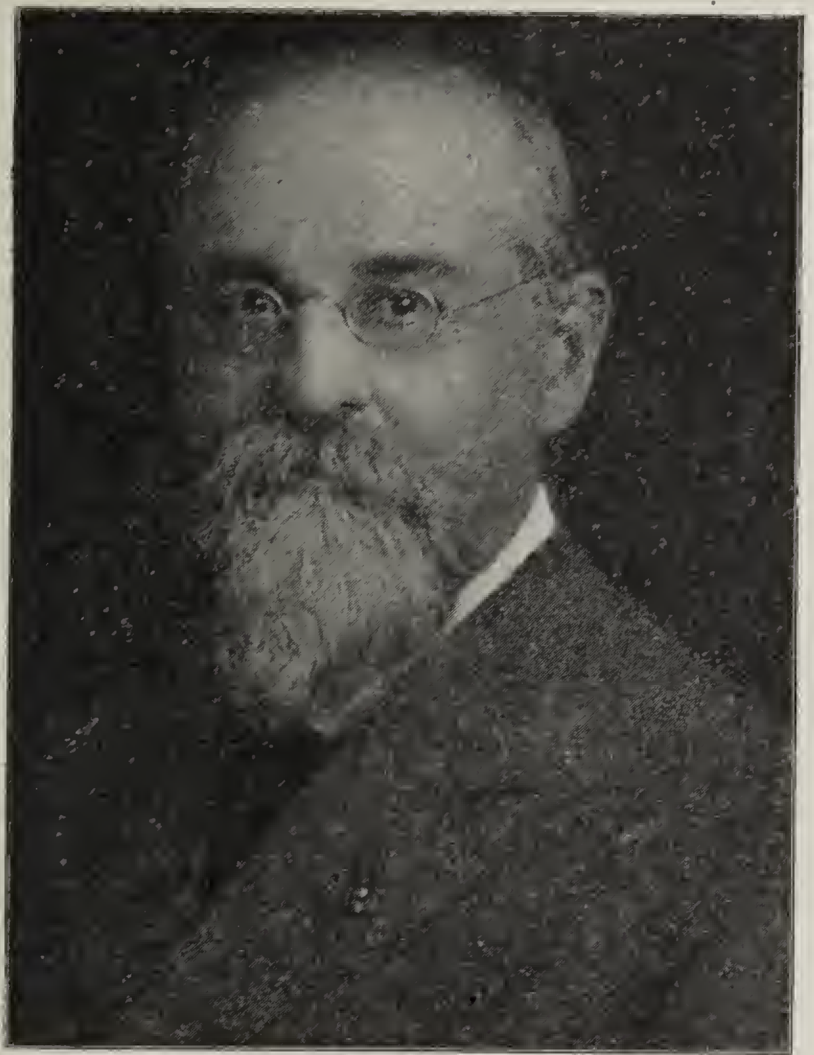
William McDonald, Jr., M.D., Providence, R. I., to Miss Elizabeth Marchon Hurkamp, at Fredericksburg, Va., February 18.

Deaths

Daniel Roberts Brower, M.D. Georgetown University, Washington, D. C., 1864; dean of the neurologists of Chicago; died at his home in that city, March 1, from cerebral hemorrhage, aged 69. He was born in Philadelphia and graduated from the Philadelphia Polytechnic College in 1860 with the degree of M.S.; he served in the Army as assistant surgeon of volunteers two years during the Civil War; and afterward as superintendent of the Freedmans Hospital, Richmond, Va., and later of the Virginia Eastern State Hospital for the Insane, Williamsburg, for nine years. He came to Illinois in 1875 and settled in Chicago, and soon became an important figure in the medical life of the city. He was for many years connected with Rush Medical College, first as professor of materia medica and therapeutics, and later as professor of nervous and mental diseases, and also held for many years the chair of diseases of the nervous system in the Northwestern University Woman's Medical School and the Chicago Post-Graduate Medical School.

He was a member of the American Medical Association; American Neurological Association; American Electro-Therapeutic Association; National Association for the Study of Epilepsy; Mississippi Valley Medical Association and Chicago Physicians' Club; the American Medico-Psychological Association; an honorary member of the Moscow Society of Neurologists and Psychiatrists and one of the founders of the Senn Club; and had been several times a delegate to international medical congresses. He was a member of the attending staff of St. Joseph's, Cook County and Presbyterian hospitals and consulting physician to the Women's and Children's Hospital and Oakwood Sanitarium. He was the author of a standard text-book on insanity, and of many monographs on nervous and mental diseases. He was given the honorary degree of A.M. by Wabash College, and that of LL.D. by Georgetown University, Kenyon College and St. Ignatius College.

He was in apparent good health until a week before his death, when he was seized with hemiplegia causing paralysis on the left side, but apparently not affecting his mentality. He gradually failed physically, but retained consciousness until a few hours before his death, which occurred at 3:30 a. m., Monday, March 1.



Daniel R. Brower, M.D., Born 1839; Died 1909

Dr. Brower was one of the most beloved medical men of Chicago. He always had kind words and help for the younger members of the profession; was an able consultant, and in spite of advancing years, kept thoroughly in touch with the latest ideas in his most complex of specialties. He was a constant worker for the public good: and to his efforts have been due many of the reforms instituted in the care of the dependent insane charges of the state. One of the last public services he performed was as a member of the non-partisan committee appointed to investigate conditions in the penal and charitable institutions of the state.

William McCollom, M. D. Castleton (Vt.) Medical College, 1853; for many years a member of the American Medical Association; and one of the oldest practitioners of Brooklyn, N. Y.; inspecting surgeon for the United States Government i 1861; and for many years chairman of the Brooklyn Board of Pension Examining Surgeons; sometime president of the Vermont State Medical Society, and of the Kings County (N. Y.) Medical Association; an incorporator, three years vice-president and one year acting president of the Medical Association of Greater New York; vice president of the New York State Medical Association; and honorary member of the Connecticut State Medical Society; died at his home in Brooklyn, February 23, from acute bronchitis and pulmonary edema, aged 77.

William P. Illing, M.D. University of Arkansas; Little Rock, 1889; a member of the American Medical Association; and formerly president of the Little Rock Medical Society; a member of the Association of Hospital Superintendents of the United States and Canada, and of the Medical Society for the Study of Alcohol and Narcotics; physician to the Florence Chittenden Home; physician of Pulaski county; clinical lecturer on mental and nervous diseases in the University of Arkansas; one of the most prominent practitioners of Little Rock; died suddenly at his home, February 19, from heart disease, aged 41.

Philo Judson Farnsworth, M.D. University of Vermont, Burlington, 1858; College of Physicians and Surgeons, New York City, 1860; professor of materia medica and diseases of children in the University of Iowa from 1871 to 1894, and thereafter emeritus professor; for many years local surgeon at Clinton, Iowa, for the Chicago and Northwestern Railroad; a member of the local school board and for several years its president; the founder of the first public library in the city; died in Agatha Hospital, February 14, from injuries received by a fall down the stairs of his residence, three days before, aged 79.

Frederick Irving Knight, M.D. Harvard Medical School, Boston, 1866; a member of the American Medical Association and American Climatological Association; fellow of the American Academy of Arts and Sciences, and American Laryngological Association; consulting physician to the Massachusetts General Hospital and Sharon Sanatorium and Free Home for Consumptives; clinical professor of diseases of the throat and chest in Harvard Medical School for several years; died February 20, at his home in Boston, from angina pectoris, aged 67.

Thomas Lancaster, M.D. University of Pennsylvania, Philadelphia, 1866; a member of the Medical Society of the State of Pennsylvania and the Pennsylvania Pharmaceutical Association; director of schools of Philadelphia in 1880; formerly visiting physician to the Charity and Municipal hospitals; a specialist in climatology and diseases of the throat and lungs; died at the home of his son in Philadelphia, February 18, from senile debility, aged 75.

Charles Emmett Quigg, M.D. Bennett Medical College, Chicago, 1887; a member of the State Medical Society of Wisconsin; physician to the Tomah Indian Industrial School; formerly a member and for several years secretary of the State Board of Medical Examiners; health officer and three times mayor of Tomah, and a member of the state legislature; died at his home in Tomah, February 12, from pneumonia, aged 56.

John H. Tressel, M.D. Medical Reserve University, Cleveland, Ohio, 1863; a member of the American Medical Association; Union Medical Association of Northeastern Ohio; Tri-State Medical Society; International Association of Railway Surgeons; and Associations of Surgeons of the Pennsylvania Company; surgeon to the Pennsylvania System at Alliance, Ohio; died at his home, February 17, from peritonitis, aged 79.

Walter Allen Harding, M.D. Tufts College Medical School, Boston, 1899; a member of the American Medical Association and president of the Everett (Mass.) Medical Society; for two years assistant professor of anatomy in the College of Physicians and Surgeons, Boston; and twice a member of the common council of Everett; died at his home, February 16, from pneumonia, aged 34.

Frank C. Hoskins, M.D. Western Reserve University, Cleveland, 1904; a member of the American Medical Association and Cleveland Academy of Medicine; physician in charge of Fairmount Home and the Tuberculosis Dispensary, and assistant surgeon to the nose and throat dispensary of his alma mater; died in Charity Hospital, Cleveland, February 18, from peritonitis, aged 30.

Samuel Davies Price, M.D. University of Virginia, Charlottesville, 1904; of Switchback, W. Va.; a member of the West Virginia State Medical Association; died February 12, at the Bluefield Sanitarium from typhoid fever, aged 26. His death is believed to have been the result of his heroic attention to the sufferers in the recent mine explosion at Switchback.

Ernest Henry Wheeler, M.D. Dartmouth Medical School, Hanover, N. H., 1893; of Augusta, Maine; lecturer on tropical medicine in his alma mater; who served as a contract surgeon in the U. S. Army in the Philippines; died at his home in Augusta, Maine, February 15, from peritonitis, following an operation for appendicitis, aged 38.

John Warren Atwood, M.D. Jefferson Medical College, Philadelphia, 1888; a member of the American Medical Association; surgeon to Highland Hospital, Matteawan, N. Y., and attending physician to the Protestant Episcopal Orphans' Home; and a well-known practitioner of Fishkill-on-Hudson; died at his home February 21, aged 46.

John McArden Johnstone, M.D. University of Pennsylvania, Philadelphia, 1852; who rendered faithful service during the epidemics of yellow fever which devastated Savannah, Ga., before the Civil War; division surgeon and medical director in the Confederate service; died at his home in Savannah, February 14, from pneumonia, aged 79.

Nathaniel Alden Robbins, M.D. Harvard Medical School, Boston, 1864; for twenty-five years chief surgeon to the New York Fire Department; assistant surgeon in the Navy during the Civil War; for several years surgeon to the Brooklyn City Dispensary; died at his home in Brooklyn, February 16, from heart disease, aged 68.

Alexander N. Denman, M.D. Tulane University, New Orleans, 1886; of Lufkin, Texas; a member of the State Medical Association of Texas; while crossing a railway track in Lufkin in his automobile Sept. 30, 1908, was run into by a switch engine and sustained injuries from which he died ten hours later.

Nicholas Sellberg, M.D. Chicago Homeopathic Medical College, 1903; of York, Neb.; a member of the Nebraska State Medical Association; died at a hotel in Hastings, February 12, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, aged 37.

James Allen Creason, M.D. Kentucky School of Medicine, Louisville, 1889; a member of the Kentucky State Medical Association; formerly a practitioner of Lexington; died at the home of his mother near Jacksonville, Bourbon county, Ky., February 16, from pneumonia, aged 45.

Joseph Huber, M.D. College of Physicians and Surgeons, New York City, 1888; of Manhattan; a member of the Medical Society of the State of New York and of the New York Academy of Medicine; died in the Lebanon Hospital, February 21, from edema of the glottis, aged 50.

William Appley, M.D. University of Pennsylvania, Philadelphia, 1852; a member of the Phelps County (Mo.) Medical Society and County Board of Pension Examiners for several years; died at his home near Macedonia, Mo., February 4, aged 88.

Merritt Moses Ayers, M.D. University of Michigan, Ann Arbor, 1894; of Ohio City, Ohio; a member of the Ohio State Medical Association; died at the home of his brother in Wauseon, Ohio, February 16, from perforating ulcer of the duodenum, aged 41.

George Wells Way, M.D. Medical School of Maine, Brunswick, 1882; a member of the Maine Medical Association; secretary of the Megantic Fish and Game Association; died at his home in Portland, February 12, from meningitis, aged 52.

Horace E. Merkel, M.D. University of Pennsylvania, Philadelphia, 1885; formerly of Seattle; and surgeon of the Columbia and Puget Sound Railroad; died in the General Hospital, Kansas City, Mo., February 12, from septicemia.

Julius Augustus Escobar, M.D. New York University, New York City, 1891; First Lieutenant Medical Reserve Corps, U. S. Army; fell in an open well at Imus, Cavite, Luzon, P. I., Nov. 15, 1908, and was drowned, aged 40.

William Chandler Flagg, M.D. Medical College of Virginia, Richmond, 1882; a member of the Medical Society of Virginia; died suddenly from heart disease, at his home near Ruther Glen, February 10, aged 54.

Theodore H. Kemter, M.D. University of Kiel, Germany, 1862; assistant surgeon in the Schleswig-Holstein campaign; since 1871 a practitioner of Syracuse, N. Y.; died at his home, February 12, aged 70.

Joseph John Mann (license N. C., 1886), a member of the Medical Society of the State of North Carolina; died at his home in Louisburg, May 28, 1908, it is said from the use of alcohol and morphin, aged 48.

Charles Henry Roberts, M.D. Albany (N. Y.) Medical College, 1846; for nine years president of the Carolina Central Railroad; died at his home near Highland, Ulster county, N. Y., February 11, aged 87.

George G. Tandy, M.D. Royal College of Physicians and Surgeons, Glasgow, Scotland, 1860; of San Francisco; died at the home of his daughter in that city, February 12, from cerebral hemorrhage.

Nathaniel H. Longabaugh, M.D. University of Pennsylvania, Philadelphia, 1857; formerly of Norristown, Pa.; died at the home of his daughter in Camden, N. J., February 12, from senile debility, aged 86.

Charles D. Abbey, M.D. College of Physicians and Surgeons, Chicago, 1890; a member of the Illinois State Medical Society; died at his home in Chicago, February 21, from cardiac dropsy, aged 61.

Horace M. Logee, M.D. Western Homeopathic College, Cleveland, 1863; president of the Ohio State Homeopathic Medical Society in 1881; died at his home in Linesville, Pa., February 6, aged 74.

Elmer Judson Dowell, M.D. Maryland Medical College, Baltimore, 1900; of New York City; died at the home of his brother in Raleigh, N. C., Sept. 27, 1908, from acute multiple neuritis, aged 33.

George B. Murray, M.D. Albany (N. Y.) Medical College, 1873; of Sandy Hill, N. Y.; formerly of Greenwich, died suddenly from cerebral hemorrhage in a hotel in Sandy Hill, February 10, aged 59.

Charles E. Brown, Jr., M.D. University of Tennessee, Nashville, 1901; of Springfield, Mo.; died in the Springfield Hospital, Dec. 6, 1908, from an accidental gunshot wound of the abdomen, aged 39.

Eugene Franklin Hamburg, M.D. Long Island College Hospital, Brooklyn, 1883; a member of the Medical Society of the State of New York; died at his home in Rochester, February 7, aged 55.

John W. Burns, M.D. Eclectic Medical Institute, Cincinnati, 1892; formerly superintendent of schools of Richland county, Wis.; died at his home in Marshfield, Wis., February 9, from asthma, aged 40.

Adolph von Duering, M.D. New York University, New York City, 1885; died at his home in Bronx Borough, New York City, February 10, from septicemia, due to an operation wound, aged 56.

Joseph Scinton Casto, for more than fifty years a practitioner, and for two terms lecturer of the State Grange of Oregon, died at his home in Carus, Ore., January 12, from paralysis, aged 81.

Arthur Noble (license, Ohio, 1897), a member of the Ohio State Medical Association; and one of the oldest practitioners of Adams county; died at his home in Winchester, February 11, aged 83.

George S. Lockwood, M.D. University of Michigan, Ann Arbor, 1870; a member of the State Medical Society of Wisconsin; died recently and was buried from his home in Rome, January 29.

James William Clay Hall, M.D. Bellevue Hospital Medical College, New York City, 1869; a Confederate veteran; died at his home in Keyser, W. Va., February 5, from paralysis, aged 65.

Alexander H. Smith (license, Lauderdale county, Ala., 1890); a member of the Medical Association of the State of Alabama; died at his home in Lexington, February 17, aged 65.

William Faber, M.D. Columbus (Ohio) Medical College, 1889; coroner of Wayne County, Ohio, for three terms; died at his home in Rittman February 4, from disease of the liver, aged 43.

Otto Willis Woodward, M.D. Northwestern University, Chicago, 1908; of Nashua, Iowa; died at the home of Dr. P. E. Stuart in that city, February 4, from typhoid fever, aged 25.

Smith Gordon, M.D. University of Pennsylvania, Philadelphia, 1855; a member of the Rapides Parish (La.) Medical Society; died at his home in Alexandria, January 26, aged 75.

John J. Ensor (years of practice, Tenn., 1889), for more than half a century a practitioner of Tennessee; died at his home in Bristol, February 12, from senile debility, aged 82.

Tillman L. Loyd, M.D. Memphis (Tenn.) Hospital Medical College, 1886; of Myrtistown, La.; died at the Dale Sanatorium, Texarkana, Ark., January 17, from nephritis, aged 47.

Edward Henry McCabe, M.D. Long Island College Hospital, Brooklyn, 1874; a member of the Delaware State Medical Society; died at his home in Dagsboro, Del., recently, aged 66.

John Foster Lightfoot, M.D. Medical College of Ohio, Cincinnati, 1884; a Federal guard during the Civil War; died at his home in Hawesville, Ky., from uremia, February 13.

Otho William Hill, M.D. University of Colorado, Boulder, 1908; house physician in St. Joseph's Hospital, Denver; died in that institution February 11, from pneumonia, aged 23.

Jacob Cathedral Arant, M.D. Medical College of the State of South Carolina, Charleston, 1859; died at his home near Elloree, S. C., Nov. 8, 1908, from senile debility, aged 77.

William Lilley (years of practice, Mass.); a veteran of the Civil War; for more than thirty years a practitioner of New Bedford, Mass.; died at his home, February 9, aged 64.

David A. Kirk, M.D. Detroit (Mich.) Medical College, 1888; of LeSueur, Minn.; formerly a member of the Minnesota State Medical Association; died in Minneapolis in January.

John Harrison Francis Irvine, M.D. Willamette University, Salem, Ore., 1876; was accidentally shot and killed at his farm near Tallman, Ore., Sept. 22, 1908, aged 58.

William W. Payne, M.D. Medical College of Virginia, Richmond, 1860; a Confederate veteran; died at his home in Warrenton, Va., February 3, from nephritis, aged 75.

John Joseph Garrity, M.D. University of Toronto, 1908; of Toronto; an interne at St. Mary's Hospital, Evansville, Ind.; died in that institution February 22, aged 30.

John M. Gambrell, M.D. Transylvania University, Lexington, Ky., 1842; of Huntsville, Texas; died at the home of his son in Lockhart, Texas, Dec. 9, 1908, aged 89.

Ira C. Shute, M.D. University of Louisville (Ky.), 1873; a member of the Louisiana State Medical Society; died at his home in Opelousas, Dec. 4, 1908, aged 58.

Egbert Perses Williams, M.D. University of Virginia, Charlottesville, 1881; died at his home in Stedman, N. C., January 30, from cerebral hemorrhage, aged 49.

John Gilder Lowber, M.D. Eclectic Medical Institute, Cincinnati, 1878; died at his home in South Pittsburg, Tenn., Dec. 17, 1908, from pneumonia, aged 65.

John H. Armstrong, M.D. University of Tennessee, Nashville, 1880; died at his home in Caney, Okla., February 15, from heart disease, aged 50.

John Johnston, M.D. Kentucky School of Medicine, Louisville, 1885; died at his home in Sidney, Ark., February 12, from pneumonia, aged 65.

Francis Middlemas, M.D. Harvard Medical School, Boston, 1873; died suddenly at his home in Berwick, N. S., Nov. 10, 1908, aged 62.

Joseph R. Gunston, M.D. Eclectic Medical University, Kansas City, 1904; died at his home in Lenora, Kan., February 8.

John Calendar Clark, M.D. University of Nashville (Tenn.), 1900; died at his home in Mount Calm, Texas, February 9.

Sheldon J. Bassett (years of practice, Ill., 1878), died at his home in St. Elmo, Ill., February 5, aged 71.

Alfred Day, M.D. University of Buffalo, N. Y., 1887; died at his home in Buffalo, February 12, aged 75.

Miscellany

Clippings from Lay Exchanges

GAS GASTRITIS

"Mrs. ——— died . . . from gastric poisoning resulting from eating canned salmon. . . . For two years past the deceased had been suffering from weak heart action, and the weakened condition of that organ made it more easily affected by the poisonous gas."—*Platte* (Neb.) *Semi-Weekly Tribune.*

THANKS TO THE DOCTOR—NO MENTION OF STORK

"Mr. and Mrs. X———, September 13, a girl. Thanks to Dr. K——— H———."—*New York Herald.*

VERY MUCH ELONGATED APPENDIX ON SATURDAYS

"Will M——— is driving H——— F———'s meat around while H——— is confined in the hospital in town getting his appendix cut out which takes two days per week and extends up in Bucks county on Saturdays not saying anything about customers in Fox Chase and Torresdale."—*Rustleton* (Pa.) *News* quoted in *Outdoor Life.*

A MUSICAL TREAT

"What is described . . . as a remarkable surgical operation has been performed at the H——— hospital with apparent success. . . . The patient, Mrs. D———, was suffering from a cancerous growth of the abdominal organ. . . . The operation lasted for nearly three hours. Six organs were removed including the upper portion of the bladder, the vermiform appendix, ten inches of the ilium and the ascending colon. According to the physicians operations on these individual organs have been performed, but never in a combination of six. . . Dr. E——— said it appeared the time was not far distant when almost any excepting the vital organs can be removed without danger of death."—Associated Press Telegram to Chicago *Journal.*

Rules Governing Mailing of Pathologic Specimens.—Few physicians are conversant with the stringent regulations of the Postoffice Department governing the admission to the mails of cultures and specimens of diseased tissues. Inasmuch as it is frequently necessary to transmit pathologic specimens to laboratories for test, and especially because speedy transmission is essential, the text of the postal rules on this subject is printed in full below. Special attention is directed to the exactitude of the requirements for packing. It should be noted that the postal service will handle cultures or specimens only when destined to United States, state or municipal laboratories. Specimens intended for medical laboratories other than public institutions must be transmitted by messenger or express.

SECTION 495, POSTAL LAWS AND REGULATIONS

DISEASED TISSUES—WHEN MAILABLE

1. Specimens of diseased tissues may be admitted to the mail for transmission to United States, state or municipal laboratories, only when inclosed in mailing packages constructed in accordance with this regulation.

2. Liquid cultures, or cultures of micro-organisms in media that are fluid at the ordinary temperature (below 45° C. or 113° F.) are unmailable. Such specimens may be sent in media that remain solid at ordinary temperatures.

INDORSEMENT ON PACKAGES

3. On the outside of every package of diseased tissues admitted to the mails shall be written or printed the words "Specimen for Bacteriologic Examination. This package to be treated as letter mail." No package containing diseased tissues shall be delivered to any representative of any of said laboratories until a permit shall have first been issued by the postmaster-general certifying that said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive such specimens.

MANNER OF PREPARATION FOR MAILING

4. Packages used for conveying through the mails pathologic specimens for bacteriologic examination for diagnosis in cases of suspected diphtheria, tuberculosis, and other communicable diseases, shall be constructed and prepared as follows:

MOIST SPECIMENS. VIAL OR TUBE

a. The receptacle for moist specimens of diseased tissues shall be a strong glass vial or test tube having a capacity not greater than two drams. The vial shall be covered and made water-tight by the use of a metal screw cap and a rubber or felt washer which has been immersed in melted paraffin, or, if a test tube be used, it shall be covered with a tightly fitting rubber cap.

INNER BOX

b. The vial or test tube shall be placed inverted in a circular tin box, which shall be made of I. C. bright tin plate, and have flush or countersunk bottom and soldered joints and not be smaller than one and one-eighth inches in diameter and three inches long, nor larger than two and one-quarter inches in diameter and five and one-half inches long. This box shall be closed by a metal screw cover and a rubber or felt washer, or tightly fitting metal-sliding cover, and shall be so packed with absorbent cotton, closely laid, that the glass or test tube contained therein shall be evenly surrounded on all sides by cotton.

OUTER TIN OR WOODEN BOX

c. The tin box shall be placed inverted inside of a larger tin box similar to the one already described, which should snugly receive the specimen box. On the inside of the sides and bottom of this outer box there shall be a lining of compressed paper not less than three-sixteenths of an inch in thickness. This outer tin box shall be closed by a metal screw cap and a rubber or felt washer. This outside box may also consist of hard wood, in the form of a block with a cylindrical hole bored in one end and extending to within not less than one inch of the opposite end; the open end to be closed with a wooden or metal screw cap with a rubber or felt washer. Or the outside box may be a cylindrical wooden box having a screw cap and washer. The thickness of the sustaining part of the wooden tube must be not less than one-quarter of an inch and be lined same as the tin box.

DRY SPECIMENS. TEST TUBE

d. The receptacle for dry specimens of diseased tissues shall be a glass test tube, three inches in length and one-half inch in diameter. This test tube shall be enclosed in a circular tin box similar to those already described but measuring two and one-quarter inches in diameter, and five and one-half inches in length, and be lined on its sides and bottom with compressed paper not less than one-quarter of an inch in thickness. The test tube shall be closely packed in cotton, and the box shall be closed by a metal screw cap and a rubber or felt washer.

The Campaign in Italy Against Uterine Cancer.—This was the leading theme discussed at the recent Italian Congress for Obstetrics and Gynecology, Pestalozza delivering an address on the present status of the question, which he summarized as: (1) increased faith in the efficacy of surgical treatment; (2) necessity for a campaign in favor of early diagnosis; (3) new horizons opened for further research, and (4) new hopes for treatment, especially in serotherapy. Sanfelice's efforts in the line of serotherapy have been crowned with success in experiments on animals with spontaneous tumors. Several speakers emphasized the necessity for ablation of the vagina as more important than of the glands in removing uterine cancer, whether the operation was abdominal or vaginal. A number also dwelt on the necessity for prompt and thorough treatment of all benign affections of the cervix which otherwise might degenerate into cancer. The congress sent a telegram of congratulation to Professor Sanfelice. It seemed to be the general opinion that uterine cancer is decidedly on the increase in Italy, the mortality from malignant disease having increased of late years out of proportion to the increase in the population. In the discussion of puerperal fever, Truzzi stated that he had obtained good results from calcium chlorid in the pyemic form; he ascribed it to the increased density of the blood clots, thus imprisoning the pathogenic germs, besides a stimulating action on the nervous system and heart. Serotherapy has proved useful in the experience of several, as also intravenous injection of mercuric chlorid. Two new cases of osteomalacia cured with suprarenal preparations were reported. The congress next year is to be held at Rome, and the themes appointed for discussion are "Measurement of the Pelvis" and "Diagnosis and Treatment of Tubal Pregnancy." The details of the congress are published in *Ginecologia*, Nov. 30, 1908. It will be remembered that the Fifth International Congress for Gynecology and Obstetrics is also to meet at Rome during 1911.

Percussion in Treatment of Retention of Urine in Young Children.—Bosselut describes a simple measure with which he has been successful in curing retention of urine in little children. In a communication cited in the *Gazette Méd. Belge*, Jan. 7, 1909, page 149, he reports the fifth case in which he has found it successful. The little patient was a boy of 2 who had not urinated for nearly twenty-four hours. There was considerable elevation of temperature, with rapid pulse, the abdomen much distended, the bladder full of urine, and the child pale and moaning. With the fingers placed in turn on each side and in the middle of the abdomen he percussed with the other hand very lightly and repeatedly. In a few seconds the child voided his urine and the symptoms gradually subsided. The retention recurred again the next day, but yielded again to the same measure; since then the child has been in perfect health.

Thyroid Origin of Rheumatism.—Diamantberger has been affirming for eighteen years that there is a close connection between acute and chronic rheumatism and functional and organic disturbances in the thyroid. Other writers of late years have noted the coincidence of exophthalmic goiter with acute or chronic rheumatism and have called attention to the hypertrophy and tenderness of the thyroid in various nervous diseases. The therapeutic test of this connection between the thyroid and rheumatism is the efficacy of thyroid treatment in certain cases of rheumatism. In his latest communication on the subject, published in the *Bulletin de la Soc. Méd. des Hop.*, Oct. 22, 1909, page 335, he states that the thyroid treatment must be long continued—given for eight or ten days at a time, with longer or shorter intervals of suspension, or alternating with tonics, arsenic, iron, etc. These measures should be supplemented with the usual soothing symptomatic medication with sodium salicylate, etc. These drugs are more effectual in smaller dosage when supplemented by thyroid treatment. This latter cures, he adds; the others merely relieve.

Power of Attention in Idiocy.—Herman B. Sheffield, New York, in the *Post-Graduate*, February, states that in idiots or mentally backward children the power of attention is always either very poorly developed or entirely absent. They fail to take notice of their surroundings, stare vaguely into empty space, or move the eyes irregularly in all directions, apparently seeing nothing. This want of attention may be due to partial or total blindness, as is frequently the case in amaurotic family idiocy of central origin, without involvement of the eyeball. Occasionally the patient may be subject to congenital cataract, microphthalmos, coloboma iridis, iridemia, lesions of the vitreous, strabismus, and similar defects which, in conjunction with other stigmata, facilitate diagnosis.

The Blood in Plague.—G. Moniz has been making a systematic study of the blood in a number of cases of plague and publishes the findings in the *Gazeta Medica da Bahia*, xxxix, No. 11, page 482. During the acute phase the neutrophile polynuclears increase very much, as also the mononuclears, while the lymphocytes are reduced. As convalescence comes on, the eosinophiles, absent before, begin to reappear.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Coming Change in the Medical Profession

A significant and noteworthy address, under the above title, delivered by President Charles W. Eliot, of Harvard University, before the Aesculapian Club of Boston, on January 28, appears in the *Boston Medical and Surgical Journal*, February 11. Prefacing his discussion of the subject by a consideration of the changes which have taken place in the last generation in the teaching and practice of medicine, President Eliot says: "Many gentlemen in this room have lived through a prodigious change not only in medical teaching, but in all teaching, and they have witnessed also a prodigious addition to the natural forces which may be controlled by man for the development of medical science. It is almost comical to look back to the means of teaching which existed in the medical school when I first gave there a course of chemical lectures in 1855."

After some interesting reminiscences regarding the methods of instruction used at Harvard in the middle of the last century as contrasted with our present-day methods and possibilities, President Eliot asks: "Can we doubt whether the medical profession as a means of livelihood and of public service is going to be greatly changed in the near future?

Evidently it is not only liable to change, but sure to change. . . . Is it possible to foresee in any measure the coming change in the practice of medicine as a money-earning and livelihood-yielding profession?”

After discussing the effect of latter-day cults and fads on medical practice, the reduction of fees in surgical work due to the widespread mastery of surgical technic and the effect of preventive medicine on medicine as a profession, President Eliot concludes that we must “give a new attention to preventive medicine as the stronghold of the medical profession hereafter.” He suggests the increase in salaries and positions in preventive work as an indication of its growing importance, and then, discussing the effect of this development on private practice, he says: “We must see at once that the practice of the profession will be seriously affected if preventive medicine becomes successful on a broad scale. The very source of the livelihood will be dried up if preventive medicine succeeds. We might, perhaps, imagine that surgery would escape from this result of the well-directed expenditures of society for protection against disease and would remain a better field for the acquisition of a livelihood than medicine.” Even this he is inclined to doubt, since all the discoveries in bacteriology and pathology tend to prevent the conditions for which surgery supplies a remedy. The results of the discovery of a cure for cancer is given as an illustration. He then asks whether the coming change will not be welcome. “Is not the function of the medical profession regarded as preventive, higher, better, happier than the function of the medical profession regarded as curative? . . . Medi-al education should take this direction strongly and decid-dly.”

President Eliot’s remarks and predictions are worthy of he most careful consideration. That the ultimate work of he medical profession will be prevention and that its mem-ership will be limited to those holding state positions as sanitary policemen” is doubtful, but that the value of pre-entive medicine will greatly increase in the next generation s it has in the past and that it will have a decided effect n the practice of medicine from an economic standpoint here is no question.

Medical Legislation

WYOMING

Dr. S. B. Miller, secretary of the State Board of Medical xaminers, writes: “The Wyoming legislature has adjourned ithout any changes being made in our medical-practice law. everal attempts at amendment were made, but they were ot successful.”

NEW MEXICO

H. B. 37 amends the osteopathic law of New Mexico by oviding that osteopaths licensed in other states and terri-ries having the same standard can be licensed in New Mex-o without examination. H. B. 84 amends a number of sec-ons of the medical-practice act, and Council Bill 63 amends e pharmacy law.

NORTH DAKOTA

S. B. 131, establishing an examining board for osteopaths, s passed the senate and is now in the house.

VERMONT

Vermont has passed an act amending a number of sections the medical-practice act; an act defining optometry and thorizing the establishment of a state board of examiners optometry of three persons, who must have been engaged clusively in the practice of optometry for at least five ars previous to appointment; an act amending the law verning the construction of school houses, churches, etc.; act appropriating $15,000 annually for the expenses of state board of health laboratory; an act regulating the itation of slaughter houses; an act providing for the pur-se and free distribution of antitoxin; an act amending the re food and drug law, and an act prohibiting the discharge sewage or other polluted matter into ponds and lakes in state.

Physicians to Agree on Study Hours

The Lawrence Medical Club of Lawrence, Mass., appointed a committee to consult with all of the physicians of Lawrence, Methuen, Andover and North Andover and to ascertain if one afternoon and evening of each week can be set aside for study and recreation on the part of practicing physicians, the intention being to agree on a certain afternoon and evening and to ask all practicing physicians to have no office hours after 1 p. m. on that day. A similar plan has been put in practice in Lowell, Mass., Manchester, N. H., and elsewhere. Each physician in the towns named has received a circular letter asking his preference as to the day.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

Eighth Month

General Subject for the Month: Diseases of Spinal Cord and Nerves

First Weekly Meeting

ANATOMY

(Demonstrate Gross and Microscopic Sections)

Spinal Canal.—Boundaries, extent, dimensions, contents. Epidural space.

Membranes of the Cord.—Dura mater: Structure, attachments, prolongations, ligamenta denticulata. Differs from dura of brain.

Arachnoid: Structure, attachments, subarachnoid space, communication with brain, cerebrospinal fluid.

Pia mater: Structure, attachments, prolongations, filum terminale.

Structure of the Cord.—Shape, length, boundaries, diameters, enlargements, cauda equina. Fissures, anterior, posterior. Grooves, antero- and posterolateral. Gray nerve substances: Shape, commissure, horns, roots of nerves. White nerve substance: directions of fibers. Posterior column: postero-median and posterolateral tracts. Dorsal root fibers, tract of Lissauer. Lateral column; crossed pyramidal, direct cerebellar, Gowers’, lateral ground bundle. Anterior column; pyramidal tract, anterior ground bundle.

Blood Vessels of Cord.—Anterior and two posterior arteries, radicular branches, blood supply of gray matter, of white matter. Veins of cord and membranes.

PHYSIOLOGY OF THE CORD

Reflex Actions.—Definition, reflex arc. Spinal reflexes: (1) simple, (2) coördinate, (3) incoördinate. Produced (1) by sensory stimuli, (2) by heightening reflex irritability. Time of reflex impulses. Inhibition of reflexes: (1) voluntary, (2) Setschenow’s centers, (3) strong stimulation of sensory nerve, (4) poisons, chloroform, etc. Reflexes: (a) plantar, (b) patellar, (c) cremasteric, (d) abdominal, (e) epigastric, (f) scapular, (g) cilio-spinal. Spinal reflex centers: (a) ano-spinal, (b) vesico-spinal, (c) genito-spinal, (d) ejaculation, (e) vasomotor, (f) sweat, (g) parturition.

Conduction Paths.—White matter: Methods for determining tracts, direction of fibers, long and short tracts. Long spinal tracts: (1) in posterior column, (a) tract of Goll, (b) of Burdach; (2) lateral column, (a) crossed pyramidal, (b) direct cerebellar, (c) Gowers’, (d) antero-lateral ground bundle; (3) anterior column, (a) direct pyramidal, (b) anterior ground bundle; direction, character of impulse of each. Tracts for pain, touch and temperature.

Gray matter: 1. Anterior root cells. 2. Tract cells, (a) tautomeric, (b) heteromeric, (c) hecatomeric. 3. Golgi cells (second type). 4. Posterior root cells. Relations of white and gray matter in the cord.

Reference books for eighth month: Text-books on nervous and mental diseases by Church and Peterson, Dana, Pearce, Starr, and Strümpell. On practice by Osler, Tyson, Anders and Hare.

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 8-11.
Medical Society of the Missouri Valley, St. Joseph, Mar. 18-19.

AMERICAN PHARMACEUTICAL ASSOCIATION, CITY OF WASHINGTON BRANCH

Regular Meeting, held at George Washington University, Washington, D. C., Feb. 9, 1909

The Vice-President, Samuel L. Hilton, in the Chair

Physiologic Standardizing of Serums

Dr. M. J. Rosenau, Director of the Hygienic Laboratory, said that it was impossible to recognize the presence of toxins by any chemical or physical tests; it could be done only by animal experimentation. Of even greater importance than the toxins were the antitoxins. Rosenau referred to the work of Behring and Roux, and of Theobald Smith, who first demonstrated the existence of toxins which have been likened successively to ferments and to alkaloids, and Rosenau showed wherein they differed from these bodies. He briefly outlined the nature and production of antitoxins and the production of immunity in the horse, using diphtheria antitoxin as an illustration. He referred to the work of Ehrlich in connection with the determination of the strength of the material thus produced and the preparation, preservation and maintenance of a standard unit. The introduction of antidiphtheritic and antitetanic serums was to be ranked with vaccination, anesthesia and antisepsis as among the greatest benefits conferred by medical science on humanity. The need for the prompt administration of these serums was shown by the statement that a single unit, administered within twenty-four hours, would save a guinea-pig, whereas, after forty-eight hours, four thousand units would scarcely suffice. The administration of antidiphtheritic serum in the very earliest stages of the disease reduced the mortality practically to *nil*. The unfavorable statistics, on analysis, were shown to be made up from hospital cases in which the administration of the remedy has been too long delayed. It is not fair to base deductions on such cases.

Physiologic Testing as a Necessary Step in the Control of Active Drugs

Dr. Worth Hale, Hygienic Laboratory, Division of Pharmacology, remarked that progress in medicine was indicated in greater accuracy in prescribing and this was a result of the development of experimental pharmacology. With the exception of pilocarpin all the really valuable drugs introduced within the past forty years had come by this route. Digitalis was known and misused for many years, but true knowledge of its action, and consequently of its possibilities, had come only through animal experimentation. The chemistry of digitalis was still uncertain, but the biologic method afforded valuable means of standardizing its preparations. A series of samples of tincture of digitalis examined at the University of Michigan varied between 8 and 29, another series examined at the Hygienic Laboratory varied between 21 and 85, while one specimen actually caused a fall in blood pressure and cardiac depression. The method of standardization should take into consideration the therapeutic use to which the particular drug was to be applied. With digitalis, for instance, the heart method would seem to be the most logical. There was great need of uniformity in methods and it was suggested that this subject might well claim the attention of the revisers of the pharmacopeia at their next meeting.

The Need for the Study of the Action of Drugs in Pathologic Conditions

Dr. W. Salant, Department of Agriculture, said that factors modifying the action of drugs were those of absorption, oxidation and elimination; as these factors, singly or collectively, were varied, material differences in the action of drugs were to be noted. In illustration of these points the varying action of a number of different drugs, in health and in disease, was cited, and the paper closed with the suggestion that new drugs should be tested on animals in which the conditions for which the drugs were to be used in human therapy had been produced artificially.

Little Understood Phases of Biologic Testing

Dr. Albert C. Crawford, Department of Agriculture, said that the subject interested him from three different standpoints: (1) The isolation of active principles; (2) the standardization of medicinal preparations; (3) the toxicity of stock-feed materials. The chemist and the pharmacologist were mutually interdependent. Perhaps as we learned more of the chemistry of these substances we might be able to do away with the biologic test. Starling's work on the hormones was of great significance and promise. There was need not only of standardization of preparations but of uniformity in methods of standardization. With ergot, for instance, since its therapeutic use was in connection with uterine activity, this was the organ which should be selected as the basis of all biologic tests for the determination of a uniform and adequate standard preparation. The form in which the active principle existed and the ingredients with which it was associated were of the utmost importance. No avenue of attack should be left untried. With reference to feeding experiments on animals, and in the study of loco, lupine, corn stalk and millet diseases, the chemists had offered but little help. In the study of bothrioeephalus anemia by the combined biologic and chemic methods the influence of oleic acid might throw some light on the explanation of immunity.

Discussion on Standardizing of Drugs

Dr. Reid Hunt, Hygienic Laboratory, spoke of the variations in strength of such products as the preparations of the suprarenal glands, of the difficulty and cost of purifying such active principles, the relative value of physiologic and chemic methods and the necessity for the establishment of reasonable standards. The relative value of natural and synthetic products could be determined only by physiologic methods. Because of their greater facility of application, and by a larger class of workers, it was desirable that chemical should replace biologic tests. This might soon be possible in the case of thyroids, through their iodin content, and yet thyroid could be tested physiologically in amounts so small as would not give an iodin test by any known chemical method. Notwithstanding the action of the Pharmacopeial Convention of 1900, physiologic tests were of necessity introduced into the pharmacopeia.

A legal test for antitetanic serum had now been promulgated and this product would no doubt receive pharmacopeial recognition. Tuberculin could be tested only by physiologic methods. Referring to the methods of making such tests, he called attention to the fact that in a large proportion of the experiments, all blood pressure observations, for instance, it was absolutely essential that the animal be fully anesthetized to eliminate any possible disturbance due to pain. Thus in suprarenal experiments the animal was deeply anesthetized. In digitalis experiments the frog's heart was studied after the frog had been killed. In experiments with cannabis indica, dogs manifested as much hilarity as do men under similar conditions. With reference to antitoxin, if the serum were good, there was no pain; if bad, it was simply a question of the relative importance of the guinea-pig or the child. Experiments on animals were already thoroughly regulated and were conducted only in schools or scientific laboratories under competent supervision In spite of all the agitation and investigation in Washington no cruelty was found.

Dr. John F. Anderson, Hygienic Laboratory, spoke of federal control of therapeutic serums and the mechanism of regulation. One of the benefits to be recognized from this control was to be seen in the progressive increase in potency of these products. As yet there was no control over veterinary serums.

CHICAGO GYNECOLOGICAL AND CHICAGO SURGICAL SOCIETIES

Joint Meeting, held Jan. 22, 1909

Dr. Henry F. Lewis, President Chicago Gynecological Society, in the Chair

Nephrectomy for Persistent Hematuria

Dr. Samuel L. Weber showed a kidney which had been removed from a woman of 41 on account of persistent hematuria which could not be controlled in any other way. The extreme upper pole of the kidney disclosed an anemic infarct, and he thought that hemorrhage came from one of the papillæ of the kidney.

Arteriosclerosis of the Uterus

Dr. S. L. Weber showed a uterus removed from a woman of 40. She had had 6 or 7 children, several abortions, and a year ago had a miscarriage at four months, and since then has had menorrhagia. He removed the uterus by the vaginal route, applying two clamps to each broad ligament. A diagnosis of arteriosclerosis was made before operation.

Long and Large Appendix

Dr. Carl Wagner showed an appendix nine inches long which he had removed from a woman of 55, who had been ill only three days before the operation. The appendix was about the size of the index finger and contained four stones.

Dr. Wagner also exhibited a specimen of carcinoma of the clitoris, removed from a woman of 52. The disease involved the left side of the vulva, as well as the glands. The glands were removed with the clitoris.

Multilocular Cyst of the Ovary

Dr. Henry F. Lewis showed a ligament as the result of a ventrosuspension of the uterus. The patient, aged 26, mar-ied four years, had never borne any children. Three years go she was operated on, the operation consisting in sewing he uterus to the abdominal wall. At that time the ap-endages were said to be normal. She had very few symptoms f any trouble until three or four months before she consulted)r. Lewis. She had had three menstrual periods, the amount f discharge being greatly diminished in each. She had nausea nd increased micturition, with other symptoms indicative of regnancy. Examination disclosed a soft tumor as large as an range on the right side. The left side was apparently nega-ve. The uterus was retroverted and bound down to the osterior part of the pelvis by tight adhesions which could not e absolutely freed. There was no motion of the uterus by imanual manipulation. Operation did not disclose ectopic regnancy, but an ordinary multilocular cyst of the ovary, hich was removed with the tube, which was closely connected ith it. The interesting point was the elongated artificial gament running from the abdominal wall in the median line few inches above the pubes to the fundus of the uterus, and hich was found far back in the depths of the pelvis. The gament measured five inches and a half.

Aneurism of the Aorta

Dr. A. D. Bevan presented a patient, a fireman, aged 28, ho gave a history of a specific lesion dating back ten or elve years. Within the last year and a half he had devel-ed a large aneurism at the junction of the ascending with e transverse part of the aorta. The patient consulted Dr. van about the beginning of December, when he was suf-ring much pain. He was unable to move his right arm, uld not lie down to sleep, and there was an absence of dial pulse in the left arm. A good *x*-ray picture was taken show the exact location of the aneurism. With the as-tance of Dr. Dean Lewis, Dr. Bevan wired it on December . A gold trocar was inserted on the outside to the right of e median line, to a distance of an inch and a half, but he did t get it into the aneurismal sac. Then he withdrew it and roduced it a little to the left of the median line, about two hes, when blood began to trickle drop by drop slowly from trocar. He then introduced fifteen feet of gold wire through trocar and applied gradually about 50 milliamperes of electricity, the positive pole being applied to the wire and the negative to a large lead plate on which the patient rested. The current was passed through the wire for about three-quarters of an hour. The process was not very painful. When the current was first turned on the patient could only stand about thirty milliamperes; this was gradually increased to forty, and finally to fifty milliamperes. There has been marked improvement. Pulsation is no longer noticeable in the sac and pain has disappeared entirely. The patient can now move the right arm and can lie down and sleep with comfort. In addition to this treatment, for a short time after the wiring of the aneurism the patient was placed on small doses of potassium iodid.

Gunshot Wound of Liver, Kidney, Lung and Hip, Causing Aneurism. Operation and Recovery

Dr. A. E. Halstead: An Italian, aged about 40, was admitted to St. Luke's Hospital Nov. 2, 1908, after being shot from behind a short time previously. Five shots were fired at him, four of which took effect. The first entered the tenth interspace on the right side, three inches from the median line behind, and passed completely through the body, penetrating the chest wall, pleura, lung and liver, breaking its exit in front through the sixth costal cartilage about three inches from the median line. The second entered just below the twelfth rib, two inches from the median line on the right side, and penetrated the right kidney, passed in front of the ascending colon, and lodged in the muscles of the abdominal wall. The third entered the right hip on a level with the upper margin of the great trochanter and passed downward and out three inches above the knee, on the internal aspect of the thigh. The fourth passed through the upper part of the left scapula, upward and through the scapula, apex of left lung, and out in front. The wound of exit made by this bullet was just below the clavicle at a point corresponding to the junction of its outer and middle thirds. The wound of entrance was about two inches from the median line and just below the spine of the scapula. On admission, about thirty minutes after the shots were fired, the man was suffering from the effect of the loss of a large quantity of blood. There was no radial pulse. The abdomen was opened through a right rectus incision. The bladder and abdominal cavity were full of blood. The wound in the liver could not be reached until the lower costal cartilages were cut and retracted upward. The wound of exit of the bullet in the liver was large enough to admit the tips of three fingers. From this the blood spurted in large jets. By passing the fingers underneath the liver the wound of entrance was located. To control the hemorrhage an attempt was made to utilize the greater omentum to plug the opening. This was found inadequate, and a yard of iodoform gauze was drawn through the liver, from before backward. This, with the omentum, which was plugged into the large, flaring wound of exit, controlled the hemorrhage completely. The abdominal cavity was partially cleared of blood, when the wound leading from the kidney was seen. From this blood flowed freely into the peritoneal cavity. The wound in the anterior abdominal wall was closed, the patient turned on his left side, and the kidney exposed by a lumbar incision. A large tear was found in the kidney, extending from the convex surface through just below the hilus, and opening the pelvis. The condition of the patient did not justify a nephrectomy. The hemorrhage was therefore controlled by packing with iodoform gauze. During the operation the patient was given a quart and a half of salt solution, containing a dram of 1 to 1,000 solution of adrenalin. A hurried examination of the patient before taking him from the operating room revealed the presence of fluid in both pleural cavities and a hematoma of small size beneath the skin around the wound of exit of the bullet that penetrated the left side of the chest. The bladder was irrigated and a large quantity of fluid and clotted blood removed. The patient returned to the ward with a fairly good pulse of 160.

The progress of the case was extremely satisfactory for ten days. A small quantity of bloody urine escaped from the kidney wound during the first three days. The gauze packing in the liver was removed on the third day and a small tubular drain substituted for it. Except at the point of drainage, the abdominal wound healed by primary union. The tubular drain was removed from the liver on the eighth day. On the tenth day the patient complained of a feeling of numbness in the left hand. The night preceding he had coughed violently and had expectorated a good-sized clot of blood. Examination revealed a swelling, pulsating and expansile, just below the left clavicle, and extending in the axilla. At this time the swelling was about the size of a small orange. The left radial pulse was absent. The tumor increased rapidly in size. The left hand was distinctly cooler than the right and the feeling of numbness was increasing. At the end of forty-eight hours, in spite of compression, the tumor had nearly doubled in size, and a distinct bruit could be heard over the swelling, which still retained its expansile characteristic. The diagnosis of aneurism of the left subclavian, probably beginning at its outer third, was made and ligation decided upon. On the twelfth day after the injury the operation was performed. The usual incision for ligation of the three portions of the subclavian was made. Difficulty was encountered in finding the artery. To facilitate this three inches of the clavicle was resected. In making an attempt to ligate the vessel the aneurismal sac was ruptured. This was followed by a profuse hemorrhage, which was controlled by plugging the proximal portion of the artery with the left index finger of the operator. It seemed inadvisable, owing to the condition of the patient, to attempt to ligate the vessel proximal to the aneurism, so an eight-inch forceps was passed along the index finger in control of the hemorrhage and clamped in the proximal portion of the vessel. The distal portion was ligated and the aneurismal sac opened freely, the clots turned out and the cavities packed with gauze. The forceps were removed from the artery on the third day following. Gangrene of the hand and forearm followed, necessitating amputation at the elbow.

After this the patient rapidly recovered and is now out of the hospital.

Gunshot Wound of Chest and Spleen; Splenectomy and Recovery

Dr. A. E. Halstead: A man, aged 34, was admitted to St. Luke's Hospital Oct. 5, 1908, *in extremis*, suffering from a self-inflicted gunshot wound of the left chest. The weapon used was a cheap 38 caliber revolver. The bullet wound was just below the lower margin of the third costal cartilage and half-way between the mammary and midsternal lines. On examination the patient appeared to be *in articulo mortis.* No radial pulse could be felt. On auscultation over the precordia only the faintest heart tones could be heard. The thorax was rapidly opened through a curved incision below the fifth costal cartilage. A flap of soft tissue with fifth and fourth costal cartilages was turned up after the cartilage had been divided at both ends of the incision with a bone forceps. The pericardium was exposed. A wound of the pericardium, an inch in length, extending down and back through its lower part, was found. Below a wound that would admit four fingers was found in the diaphragm; through this the greater omentum had become dislocated and had entered the pericardium. After removing the omentum and a few clots of blood the pericardium was sutured with fine catgut. Through the lid in the diaphragm blood flowed freely from the abdominal cavity, the thorax was cleaned of blood, and the diaphragm sutured from its convex side, with a running suture of Pagenstecker linen. The abdominal cavity was then opened through a left rectus incision and the spleen explored. This was found broken into several fragments. The lower costal cartilages (6 to 7 inches) were cut in line with the abdominal incision and reflected outward, giving ready access to the spleen, which was removed after ligation of the vessels at its hilus. The fundus of the stomach had been deeply grooved by the bullet cutting through the peritoneal and muscular coats, but apparently not opening this viscus. This wound was closed by a running suture of linen, and the blood in the abdominal cavity was removed and the wound closed by interrupted through and through sutures of silkworm gut. No drainage was used. The patient made a rapid recovery without any untoward symptoms which could be attributed to the removal of the spleen. The leucocyte count during the first six days ranged from 14,000 to 18,000 and then dropped to normal. No change was noted in the lymph glands.

DISCUSSION

Dr. L. L. McArthur: I have had four or five cases of simple hemorrhage of the kidneys to deal with, and in each case it was quite feasible to check the hemorrhage by opening the kidney and packing it.

Dr. A. E. Halstead: I had a case several years ago in which a diagnosis of stone in the kidney was made. The patient, a woman, had had profuse hemorrhages at intervals of two or three months. I opened the kidney, expecting to find a stone, but found a cavernous angioma projecting into the pelvis of the kidney, which was removed. I excised a portion of the kidney with the tumor and sutured the kidney. The patient made an uneventful recovery. Cavernous angioma of the kidney may be a possible source of hemorrhage.

Dr. E. Wyllys Andrews: Wounds of the diaphragm nearly always cause traumatic hernia, and I, as well as other surgeons, have made the mistake of dealing with a number of them from the peritoneal side. Nearly every wound of the diaphragm ought to be repaired by opening the pleural cavity.

Dr. Daniel N. Eisendrath: I wish to endorse the great advantage of tamponnade for gunshot wounds of the liver. In one case it took twenty-five yards of gauze to control the hemorrhage. The patient recovered, barring the complication of empyema, which required opening later on.

Dr. A. E. Halstead: In wounds of the liver, particularly of the left lobe, I have used the great omentum in gunshot wounds, plugging the opening with it. I tried this in the first case reported, but the wound was too large and the omentum was not large enough to control the hemorrhage. It could only be controlled by gauze packing.

Dr. Emil Ries narrated the case of a man who came to him with hematuria:

Cystoscopic examination showed that blood came from the left ureter, not from the right. In this case I split the kidney, but found nothing—no tumor, no stone. I decapsulated the kidney, and in three days the hematuria ceased. If I had lost track of this man I might have thought him cured, but he returned a year later with hematuria again. Cystoscopic examination again showed that blood came from the left kidney. I extirpated this kidney and found no trace of a pathologic process except a hemorrhagic nephritis. The man has been well since.

Dr. William E. Schroeder: Removal of the kidney for simple hemorrhage is a procedure quite out of proportion to the condition, and the only excuse for removing it would be uncontrollable hemorrhage after opening it and packing it.

Dr. E. W. Andrews: Can any of the members of the society report a case of hematuria following the use of urotropin?

Dr. A. H. Ferguson: To one patient I gave fifteen grains of urotropin, three or four times a day, after a nephrotomy for hemorrhage, because there was suppuration in the wound, and I thought it would aid materially in getting rid of the pus. Instead, however, it caused hematuria from both kidneys.

Tuberculosis of the Kidney in the Male and the Female

Dr. A. D. Bevan: In a series of more than 5,000 postmortems 3 per cent. of the patients were found to have tuberculous lesions of the kidney, and of a large series of postmortems of individuals dying of tuberculosis 10 per cent. were found to have tuberculosis of the kidney. In the treatmen three methods have been advocated. First, general hygieni treatment, which is employed in lung tuberculosis; second specific treatment with tuberculin; third, surgical treatment. General hygienic treatment is of great importance, as in al cases of tuberculosis. Fresh air, proper nutrition, and res are of much value and should always be insisted on. Specific treatment with tuberculin is at present on trial. Regarding the surgical treatment, primary nephrectomy for early unilateral kidney tuberculosis can be done with less than 10 per cent. of mortality. In Kümmel's last series of 69 cases the mortality was only 2.7 per cent., and with the prospect of curing about 80 per cent. of the patients. In the light of present knowledge we must conclude that in unilateral renal tuberculosis early nephrectomy is the best treatment. This should be combined with the well-recognized hygienic treatment of tuberculosis. In bilateral renal tuberculosis the treatment should be hygienic plus possibly specific treatment with tuberculin until at least its value has been proven or disproven, and, when especially indicated, such palliative, surgical measures as nephrotomy and drainage.

DISCUSSION

Dr. L. L. McArthur: Tuberculosis of the kidney. like the acute infections, is usually unilateral. It has been my experience to find tuberculosis of the kidney much more frequently n the left than on the right side. and all my cases, except wo, have been in females. Removal of the tuberculous focus n the kidney will most frequently cure the tuberculosis of the reter and bladder. I have observed a number of times that the mere removal of the tuberculous kidney has sufficed to relieve he bladder condition. In a case in which a bilateral tuberulosis obtains, as shown by segregation of the urine and the etection of tubercle bacilli, the vaccine treatment offers as good prospects of results as any treatment yet advised.

Dr. M. L. Harris: I have operated on several patients with ilateral tuberculosis with increasing favorable results. Tuerculosis of the kidney is usually a unilateral affection, and t only becomes bilateral at some subsequent period. In that ase there must be a time when bilateral tuberculosis occurs, hen one kidney is more extensively involved than the other. nd if we get a case when the second kidney is not extensively nplicated the removal of the kidney which is the more exensively involved will result in a cure. A patient from whom e removed the kidney on one side over three years ago for xtensive bilateral tuberculosis is still well and in a good ate of health. He does not take the doleful view of bilateral tuberculosis that he formerly did.

Dr. A. H. Ferguson: In a case of tuberculosis of both ıbes, with tubercle bacilli coming from the kidneys, when ıe tuberculous tubes were removed, the tubercle bacilli from ıe kidneys disappeared. It is possible to have tubercle bacilli the urine without the kidneys being involved, consequently careful examination should be made of the different organs r a primary tuberculous focus.

Dr. A. J. Ochsner: I agree with Dr. Harris that in a umber of apparently hopeless cases—cases of bilateral tuberlosis of the kidney—the patients have recovered and have mained well for many years after the removal of the more tensively involved kidney. This fact has induced me to ok on these cases in a more hopeful way than formerly.

Dr. Victor J. Baccus: Two years ago Albarran reported s experience and observation in eight cases in which albuin was found in the urine of the remaining kidney in renal berculosis. The amount of albumin found in the urine vaed from 0.5 per cent. to 0.75 per cent. The kidney although creting albumin, did not show by the urine any pathologic anges, and the patient was in perfect health. This may explained on the basis that the kidney. although not berculous, has been injured by the toxin of the diseased lney, and has never regained its primary physiologic funcon.

Dr. Emil Ries: The only case of bilateral tuberculosis of e kidney in which I obtained anything like a favorable sult was one in which I operated nine years ago. In this stance. there was tuberculosis of the bladder and extensive berculosis of one kidney. One kidney discharged quantities pus and tubercle bacilli. From the other kidney there ne turbid urine. but only a few tubercle bacilli and a small antity of pus. I removed the badly diseased kidney with the ureter down to the bladder. The patient never had completely clear urine. but was nevertheless able to attend to her work and to enjoy life.

Dr. L. Feingold: I do not think that, after removing the badly infected kidney, the apparent cure of the other kidney results from the fact of the diseased kidney having been removed, but that tuberculosis being a slow chronic infection, the comparatively healthy kidney undergoes a compensatory hypertrophy and becomes accustomed to doing the work of both kidneys.

Dr. Gustav Kolischer: One of the primary symptoms in tuberculosis of the kidney is frequency of urination. This is especially true in young women and girls. and when this symptom is present in such patients and other symptoms can be excluded the physician should think of tuberculosis of the kidney. Another symptom is a change in the ureteral orifice, which has a slit or a cleft in it. Tuberculosis becomes a certainty if in the neighborhood of the ureteral opening ulceration or infiltration is found. Three years ago I made a diagnosis of tuberculosis of the kidney in a young girl by draining one kidney and finding the urine infested with tubercle bacilli. while the other kidney was apparently normal. I removed the tuberculous kidney, and the woman recovered. but a fistula remained. I saw the same patient in consultation. The family physician thought of all kinds of extensive operations which I did not advise. This woman was subsequently cared for by Dr. McArthur, who applied the vaccine treatment, with the result that the fistula closed inside of two weeks..

Acute Postoperative Dilatation of the Stomach and Duodenum

Dr. William E. Schroeder: Experimentally, I have been able to produce dilatation of the stomach on cadavers by slight traction on the mesentery. In the acute cases the onset is sudden. There is vomiting, pain and passage of flatus. The vomiting may be fecal. The abdomen is distended, especially in the epigastric region; succussion is present. The temperature rises; the pulse ranges from 145 to 160. Collapse may follow. In the chronic cases the onset is slower, but otherwise the clinical picture is the same as in the acute cases. The prognosis is bad, in that 70 per cent. of these patients die if left to themselves; with treatment they do much better. Treatment consists of rectal feeding, elevation of the foot of the bed and washing out of the stomach every three or four hours.

DISCUSSION

Dr. E. Wyllys Andrews: Since several members of the society have reported cases of postoperative dilatation of the stomach, and since the *résumé* given in 1895 of forty cases, they have all come to realize the appalling condition from its suddenness and from the fact that surgeons are more or less responsible for deaths which are preventable. not only general practitioners. but surgeons who let patients die on their hands. Perhaps sepsis plays a part in acute dilatation of the stomach, but this condition can not be distinguished always from postoperative ileus. If the condition is identically like that of postoperative ileus. clearly one can do very little harm. but may do good by washing out the stomach in every case of suspected postoperative ileus or acute dilatation.

Dr. A. E. Halstead: I have had two cases of acute postoperative dilatation of the stomach. both terminating fatally.

Dr. A. J. Ochsner: I recall a case of gastroenterostomy for pyloric obstruction due to cicatricial tissue formation following an ulcer of the pyloric end of the stomach. the patient having apparently recovered. Two or three days afterward, while sitting up, she suddenly complained of pressure, and immediately her pulse increased rapidly, and in an hour she was dead. Postmortem examination showed that a kink at the point of attachment of the jejunum caused closure and the stomach crushed the heart until the patient died of pressure on the heart. I have a standing order in the hospital now that if there is any distention of the stomach, any vomiting after operations, the stomach is to be washed out regularly.

Dr. L. E. Frankenthal: I wish to direct attention to the absence of feces in the vomit in cases of dilatation of the stomach. This is one of the chief differential signs, and should lead to an early recognition of the trouble.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, Jan. 27, 1909

The President, Dr. Frederick P. Henry, in the Chair

Pre-Columbian Syphilis in America

Dr. Francis D. Patterson: The origin of syphilis is of necessity shrouded in obscurity by reason of the failure in early times to differentiate not only between syphilis and gonorrhea, but also between syphilis and other skin diseases which simulate it. That venereal disease existed in Biblical times is verified by the many references to it in the Bible. Syphilis was unknown in Europe prior to the return of Columbus, according to Diaz de Isla, who was engaged in active practice in Barcelona in 1493. He found at Barcelona a number of the sailors from Columbus' fleet who suffered from the disease. The first remarkable discovery of evidences of pre-Columbian syphilis in the United States was made by Jones, whose report will be found in the contributions of the Smithsonian Institute for 1876. He describes the results of his investigations in mounds and graves in Tennessee, where he found numerous skeletons presenting the evidences of the ravages of syphilis. The skulls show the average Indian features and he believes them to be pre-Columbian specimens. All authorities are agreed that the bones most affected by syphilis are those most subject to trauma in the following order: the tibia, clavicle, cranium, ulna, sternum and ribs.

The Modern Treatment of Syphilis

Dr. H. M. Christian: I desire to enter a protest against the spirit of pessimism so prevalent in the profession regarding the curability of syphilis. I believe that syphilis occurring among the upper and middle classes in individuals endowed with good health and fairly good habits, if seen early in the secondary stage of the disease and promptly and properly treated, can be cured in the majority of cases. When tertiary symptoms have once developed a permanent cure can not be promised. In view of the general acceptance of the *Spirochæta pallida* as the cause of syphilis in cases in which it is absolutely determined to be present in a given lesion it may be well to begin the administration of mercury at once without waiting for the appearance of cutaneous manifestations. The chief methods of administering mercury in syphilis are: (1) Internal treatment; (2) innunctions; (3) hypodermatic medication. In 50 per cent. of the cases of syphilis benign in character, the internal administration of mercury for the first year and a half is all that is required, the preparations employed being the protoiodid gr. ⅓, mercury with chalk gr. 1 and the bichlorid of mercury, gr. 1/12. Of these the protoiodid is the most efficient. In cases in which the drug can not be tolerated by the mouth or in which prompt action is needed a course of from 20 to 30 innunctions daily with one dram of blue ointment should be employed. When it can be employed such a course is preferable at the outset of every case of syphilis. I have not yet been convinced of the utility of hypodermic medication in the routine treatment of syphilis. In the treatment of tertiary syphilis some preparation of iodin in combination with mercury still remains the popular and most reliable form of treatment. The claims made for atoxyl in the treatment of syphilis have not yet been clinically verified.

Syphilis in Its Relation to Nervous and Mental Diseases

Dr. Alfred Gordon: The relation of syphilis to nervous diseases may be direct or indirect. To the latter group belong the so-called parasyphilitic diseases, examples of which are seen in tabes and paresis. When the syphilitic poison produces a direct effect the result is either central syphilis, spinal syphilis or a more frequent condition, cerebrospinal syphilis. While mercury and iodids may yield satisfactory and sometimes admirable results, nevertheless too much reliance should not be placed on them. The general measures play an extremely important rôle in treatment of syphilitic affections of the nervous system. Favorable results are sometimes obtained when the treatment is begun in the earliest stages of syphilitic diseases. Preventive medicine is said to be the most important. The ravages produced by syphilis on the nervous system are to be dreaded, as it threatens the community with a population of imbeciles, idiots, epileptics, tabetics and paretics.

Medicolegal

Impending Paresis, Loss of Memory and Insanity

The Supreme Court of Missouri, Division No. 2, sustains, in the perjury case of State vs. Coyne, an assignment of error in the exclusion of evidence tending to prove that, down to a date recently before the alleged false swearing, the defendant apparently stood on the brink of paresis, and that his memory was wholly unreliable. The question was: Did the defendant have the right to show to the jury that he was in a condition bordering on paresis, or a partial paralysis affecting his muscular motion, due to a disorder of the central nervous system, and that this had so affected his memory that he was known in the ordinary transactions of business to forget one day what had occurred the day before or a week before? The court thinks that in ascribing the offer of this evidence to an attempt to prove insanity, either total or partial, the purpose of the evidence was misapprehended, and that an instruction in withdrawing it on that ground from the jury was erroneous.

The purpose of the testimony offered and excluded was not to establish that the defendant was insane, but that owing to disease and nervous disturbances he had evinced a great loss of memory, up to a certain date. This testimony was not for the purpose of showing that he was either wholly or partially unable to appreciate the moral or physical consequences of an act, but to show that his memory was wholly unreliable, and this not by himself, but by other witnesses who had occasion to observe his conduct independent of this charge. The court can not see any reason why it was not competent for the defendant to introduce this testimony as tending to show the jury that notwithstanding they might believe beyond all doubt that he did in fact solicit employment from certain persons to aid them in getting their ordinances through, still that owing to this failure of memory he did not recall and did not remember, at the time, these propositions to them. The indictment and the plea of not guilty tender the issue to the jury whether the defendant honestly believed, as he stated, or whether honestly he did not recall, those visits.

"Memory," says Sir William Hamilton, "is the power of retaining knowledge in the mind; the mental power of recognizing past knowledge." That men may and do have what is denominated unsound memories, although otherwise of sound mind, is a matter of common knowledge. It is most generally observable in persons of old age, who have lost the power to remember past events, but no one would class them as insane persons. That such a person might do an act and be perfectly conscious of it, and of its moral and legal effect, and yet forget it, the court takes it is not open to dispute. Of course, it would be for the jury to credit or discredit this testimony, and believe or not believe it, as it appeared reasonable or unreasonable to them; but the question here was one of the competency of the evidence.

Releases Relative to Opinions in Injury Cases

The Supreme Court of Iowa says, in the personal injury case of Mason vs. Chicago, Rock Island & Pacific Railway

Co., that it is elementary that a person who has suffered injury through negligence of another may for a valid consideration effectually release and discharge his right of action for damages. But an agreement of settlement or release, obtained from an injured person in the absence of independent counsel or advice, should be and will be scrutinized by the court with great care, and on proof of any fact or facts fairly tending to show fraud or unconscionable advantage in obtaining it, a finding by the jury which holds such settlement of no effect will not be disturbed. However, where a surgeon in the employ of defendant company gave assurances of an early recovery which proved incorrect, in the absence of some fact or circumstances justifying the conclusion that they were fraudulently made to deceive or mislead the injured man as to his real condition, and thus aid the company in obtaining an advantageous settlement with him, the fact that he relied thereon in executing the release afforded no ground in law for avoiding its effect. The court adds that it must not be understood as holding that expressions of professional opinion by a surgeon in the employment of a party charged with the responsibility for a personal injury, when made to the injured person for the purpose of inducing a settlement of his claim for damages may not constitute fraud and false representations, but the court does hold that to ustify the conclusion of fraud something more must be shown than that the opinion or representation has been proved incorrect.

Tests and Declarations to Physicians

The Supreme Court of Illinois says that the case of Shaughnessy vs. Holt was brought by the plaintiff to recover for personal injuries alleged to have been sustained by her while a passenger in the defendant's elevator. One of the laintiff's claims was inability to detect sensations on part of her left leg. Three physicians who testified for her, stated hat they had made tests on her person by taking two test ubes, putting hot water in one and cold water in the other, nd that they touched with the test tubes different parts of er skin, and she did not always answer correctly which tube was hot and which was cold; that there was a lack of sensiiveness in one leg; that such symptoms showed a deterioraion of her nervous system indicating nervous prostraion or neurasthenia. All of these physicians made their ests very shortly before the case was called for hearing, aparently for the purpose of testifying at such hearing. It was insisted by the defendant that this testimony was based n self-serving statements of the plaintiff, and was thereore incompetent and inadmissible. And the court holds that he admission of this testimony was reversible error.

It is the established rule in Illinois, the court says, that he declarations of the injured party in a case like this, when made as a part of the res gestae (essential circumstances of he case), or to a physician during treatment or on an exmination prior to. and without reference to the bringing of, n action to recover damages for the injury complained of, may be introduced in evidence. The law admits in evidence he declarations of the injured party as to the physical contion given to a physician during treatment because it is resumed that the injured person will not falsify in his statements made to the physician, when he expects and hopes to ceive medical aid, but no such presumption arises when e is examined by an expert for the purpose of giving evience in a case about to be tried.

The res gestae referred to under this rule relates only to e main fact or transaction. This main fact in this case as the accident itself, and not the experiments as to the aintiff's physical condition many months after.

hysician's Liability to Husband for Breach of Contract to Attend Wife

The Supreme Judicial Court of Massachusetts says that e question intended to be raised by the defendant's demurrer the declaration, and the question principally discussed at e argument in the case of Sherlag vs. Kelley was whether, nder an action of contract brought on the implied agreeent of a physician with a husband to render necessary and proper medical care and service to his wife in her illness, a recovery can be had for the husband's loss of her society, care and comfort resulting from her death caused by the defendant's failure to perform his contract.

For many years it has been held in Massachusetts that, without a statutory provision, no recovery can be had for the death of a person, however wrongfully caused by another. The decisions exclude, as a ground of recovery, all elements of damage which arise solely from death.

But the whole subject is now covered by statutes, of which some apply only to deaths caused by certain corporations or classes of persons, as railroad and street railway corporations, common carriers and employers of labor, and one is general, applying to all other corporations and persons. This last statute covers death by negligence, whether the relations of the parties are such that there is a breach of an express or implied contract, or whether the duty neglected arises outside of any contract. The remedy given by it is exclusive of any other in the cases to which it applies; and, if the present plaintiff had brought his action seasonably, he would have been entitled to a recovery under it.

If, through a breach of the defendant's contract, there was an injury to the plaintiff's wife that caused him damage, he could recover for it in an action of contract, notwithstanding that it finally resulted in her death. If he was caused additional expenses for her nursing, care and treatment by the defendant's failure to perform his contract, he was entitled to damages. The fact that his wife subsequently died from the same cause was immaterial.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 18

1 The Emmanuel Movement. C. D. Young, Rochester, N. Y.
2 Mutual Relations of Prosecuting Officers and Medical Examiners. H. Parker.
3 *Criminal Abortion. G. S. Taft.
4 *Aloin or Guaiac Test for Blood Depends Solely on the Iron Contained in Its Hemoglobin. W. F. Whitney, Boston.

3. **Criminal Abortion.**—Taft discusses House Bill 247, 1906, of the Massachusetts Legislature, with particular reference to what constitutes being an "accessory after the fact" and its relation to the professional secret. He points out that the question of the inviolability of disclosures by patient to a physician differs in different states (in Massachusetts the physician may be compelled to testify in court concerning them), but that, in any event, while a physician may be under no legal obligation to disclose what he might discover or suspect regarding abortion, and may take care of the victim, yet any action done to prevent the detection or conviction of the abortionist renders him an accessory. Such an action, for instance, is the destruction of the fetus, or of the catheter or other means used to procure abortion.

4. **Aloin or Guaiac Tests for Blood.**—Whitney discusses the chemistry of these tests, and concludes that the aloin and guaiac tests are not tests for blood, but simply for its iron, and are utterly valueless for suspected stains on any iron article, such as a knife, etc. Their chief value is a negative one.

Medical Record, New York

February 20

5 Prostatectomy. J. B. Deaver, Philadelphia.
6 *Case of Acromegaly with Thrombophlebitis of the Superficial Veins. J. Phillips, Cleveland, O.
7 Free Suppurative Peritonitis. A. E. Isaacs, New York.
8 Danger Signals in Inflammations of the Ear. W. A. Wells, Washington, D. C.
9 Paramyoclonus Multiplex (Friedreich). E. M. Van Buskirk and A. Kane, Fort Wayne, Ind.
10 Treatment of Amebic Infection. M. B. Saunders, Waco, Tex.

6. **Acromegaly.**—Phillips describes an interesting case of acromegaly which was accompanied by thrombophlebitis of the superficial veins. He discusses the subject in general and

the theories advanced as to the essential cause of acromegaly. Most observers believe it to be associated with alteration in the function of the pituitary body by way either of suppression, hypersecretion, or perverted function. The pathologic changes in the glands point quite strongly to the hypersecretion theory. His general conclusions are practically as follows: Enlargement of the heart, either simple or associated with a myocarditis, is the condition usually found in acromegaly. Sclerosis of the arteries and degenerative lesions affecting the walls of the veins, with dilatation and subsequent obliteration of their lumen, are constantly present. These changes in the heart and vessels should be considered as much a part of the clinical picture as the changes in the bones, and they are probably due to the prolonged hypertension of the vessels, the result of hypersecretion of the pituitary body.

New York Medical Journal

February 20

11 Is the Human Body Supplied with an Autoprotective Mechanism? C. E. de M. Sajons, Philadelphia.
12 Drugs That May Be Used with Benefit to Gynecologic Patients. H. H. Boldt, New York.
13 *Genitourinary Complications of Typhoid. E. J. G. Beardsley, Philadelphia.
14 Salivary Calculi, with Report of a Case. R. E. Davison, Pittsburg.
15 *Value and Reliability of Calmette's Ophthalmic Reaction to Tuberculin for Diagnosis of Tuberculosis and Differentiation of Tuberculous Lesions from Other Diseases in Infants and Young Children. E. M. Sill, New York.
16 *Starch in Urine, Amyluria. I. S. Wile, New York.
17 Asthma a Nasal Disease. J. H. Egbert, Willimantic, Conn.
18 Common Forms of Gastroenteritic Neuroses. Etiology and Treatment. A. Bassler, New York.
19 New Operation for Ingrowing Toenail. W. L. Keller, Manila, P. I.

13. **Genitourinary Complications of Typhoid.**—Beardsley enumerates and discusses the following genitourinary complications of typhoid: retention of urine, polyuria, albuminuria, pyuria, hematuria, hemoglobinuria, urobilinuria, bacilluria, infarcts and abscess of the kidneys, nephritis, pyelitis, cystitis, epididymitis and orchitis, oöphoritis and salpingitis, gangrene of the genitals, menstrual distrubances, abortion, miscarriage or premature labor, and mastitis.

15. Abstracted in The Journal, Nov. 7, 1908, p. 1626.

16. **Amyluria.**—Wile states that the presence of starch granules in the urine has been noted by various observers, and that the general opinion has been that the presence of these granules in the urine has been accidental, resulting from contamination by dusting powder, underwear, etc. He reports observations to disprove this theory and to establish the existence of a true amyluria, or the passage of starch granules through the kidney into the urinary secretion. He summarizes briefly the literature on the subject and gives the following résumé of his preliminary observations:

1. Starch granules are absent in the urine of breast-fed infants.
2. Starch granules are frequently present in the urine of infants fed on carbohydrate food.
3. The degree of amyluria varies with the nature and preparation of the food, the quantity ingested, and the condition of the individual.
4. Starch in urine at times gives a reaction simulating that of albumin.
5. Starch passing through the kidney may cause albuminuria with casts.
6. Amyluria does exist, and starch in the urine is not necessarily of extraneous origin.

Lancet-Clinic, Cincinnati

February 20

20 Indications for and Technic of Internal Urethrotomy. F. C. Valentine and T. M. Townsend, New York City.
21 Antiseptic Midwifery. E. J. Kehoe, Cincinnati.
22 Mixed Tumors of the Parotid Gland. A. H. Cordier, Kansas City, Mo.

Archives of Diagnosis, New York

January

23 Serious Heart Lesions without Persisting Physical Signs. H. L. Elsner, Syracuse.
24 *Early Diagnosis of Infantile Scorbutus. H. Koplik, New York.
25 Variations from Type in Surgical Diseases of Kidney. J. B. Deaver, Philadelphia.
26 Early Diagnosis of Tuberculous Affections of the Apices of the Lungs by Roentgenography. F. M. Groedel, Bad-Nauheim, Germany.
27 Malignant Disease of the Lung with Report of a Case of Primary Sarcoma. H. E. Lewis, New York.
28 Diagnosis of Carcinoma of the Esophagus by the Roentgen Rays. G. Pfahler, Philadelphia.
29 Differential Diagnosis of Malignant Disease of the Pancreas and the Biliary Tract. C. G. Cumston, Boston.
30 Diagnosis of the Presence of Predisposing Conditions Favoring the Establishment of Otorrhea. W. S. Bryant, New York.
31 Differential Diagnosis Between Neurasthenia and Some Affections of the Nervous System for Which It is Often Mistaken. T. A. Williams, Washington, D. C.
32 Hematomyelia, and a Case of Syringomyelia. A. A. Eshner, Philadelphia.

24. **Infantile Scorbutus.**—Koplik emphasizes the importance of early diagnosis of infantile scorbutus. The picture of the affection, as outlined in the text-books, is one which applies to cases in which the disease has gained full headway; the patient has suffered for some length of time and has developed the full symptomatology of the disease. The disease follows invariably in the wake of some error of nutrition, or, in artificially fed infants, on an error in the composition of the food, wholesome or otherwise, or in its treatment after having been made up for the infant. Cases also occur in breast-fed infants when the breast milk may have had a denutritional composition, or in infants partaking of raw milk, excellent in itself, but given to the infant in a denutritional state. This should always be borne in mind, as the physician is apt to reject the possibility of scorbutus if the infant is taking raw milk. Many infants taking sterilized food never develop symptoms of scorbutus, and in others symptoms may be held in abeyance by the administration of fruit juices. It is exceedingly uncommon to see the disease in infants before the age of 5 months. Koplik believes, therefore, that scorbutus may develop in any infant whose food is, or has been, constructed on denutritional lines. The first signs of latent or incipient scorbutus are a mild form of anemia, pain in the bones and joints only elicited by pressure or manipulation, and the appearance of blood in the excretions or in the vicinity of the bones or periosteum. It is not an uncommon experience to see scorbutus in infants, at about the sixth month of life, who are apparently thriving, and who give absolutely no symptoms such as would lead one to suspect any scorbutic tendency. In such infants the teeth may not have erupted. Deep pressure on the tibiæ will cause these children to wince, as if there were some tenderness of the bone. Formerly this was interpreted as being due to rickets. Such infants may be rachitic, but the tenderness in question is scorbutic. The test of the correctness of this supposition, in the face of the absence of any symptoms otherwise of scorbutus, is the rapid response of such infants to a change in the diet toward warding off the full development of scorbutus.

Archives of Internal Medicine, Chicago

January

33 Intestinal Lesions Caused by *Trichinella spiralis* in Rats. C. Frothingham, Boston.
34 *Use of Cerium Oxalate for Relief of Vomiting. G. Baehr and H. Wessler, New York.
35 Relations Between Bilirubinemia, Urobilinuria and Urobilinemia. L. A. Connor and J. C. Roper, New York.
36 *Pellagra and Pellagrins. J. H. Randolph, Chattahoochee, Fla
37 Fever. W. G. McCallum, Baltimore.

34. **Cerium Oxalate for Relief of Vomiting.**—Baehr and Wessler discuss the widely prevalent use of cerium oxalate the many years during which it has held a conspicuous place in the pharmacopeia, and the disagreement among physicians regarding its therapeutic value, and give in detail their experiments to determine its real worth. They carried out animal experiments (a) to determine the toxicity of cerium oxalate and the oxalates of lanthanum, neodymium, praseodymium and thorium; (b) to determine the effect of commercial cerium oxalate on vomiting induced with apomorphin hydrochlorid and ipecac; (c) to determine the effects o cerium nitrate on vomiting induced with apomorphin hydrochlorid; (d) to determine the general effects of cerium nitrate on the body and also of the paths of excretion o cerium from the organism. They arrived at the followin conclusions:

1. Commercial cerium oxalate is non-toxic.
2. Cerium oxalate has no inhibitory effect whatever on vomitin of central origin.
3. Cerium oxalate may inhibit vomiting due to local irritatio of the gastric mucosa, but only if given in large doses for som time, so as to coat the stomach wall pretty generally.
4. Cerium oxalate is not absorbed from the gastrointestinal trac

These four propositions complete a very close analogy between cerium oxalate and bismuth subnitrate. Both salts are insoluble, and, because of this property, neither is absorbed from the gastrointestinal tract. This latter fact, in the case of bismuth, has resulted in its use for various disorders of the alimentary canal, but, so far as the literature furnishes any evidence, the use of cerium oxalate has been directed, in great part, against the reflex vomiting of early pregnancy, a condition in which no one would rationally think of using bismuth. It certainly seems reasonable to suppose that cerium oxalate ought to prove efficacious in alleviating all those conditions for which bismuth is at present used; in other words, those in which a protective coating to the wall of the viscus is desired. In this respect, its use is at present extending; for instance, some men find it efficient for relieving the irritability of the stomach in alcoholic gastritis, others for allaying the gastric disturbances that occasionally manifest themselves in the course of infectious diseases. There is no reason for doubting its value in these and similar conditions, such as gastric ulcer, in which the vomiting is due o a local irritation of the mucous membrane. But in the loses that some men prescribe, 0.15 gm. to 0.20 gm., it can ardly be hoped that it will prove efficient. In view of the nanner in which it now appears that cerium oxalate accom- lishes its purposes, namely, mechanically, by coating the vall of the stomach, these doses seem ridiculously small. erium oxalate ought to be administered in doses comparable o those in which bismuth subnitrate is given.

36. **Pellagra and the Pellagrins.**—Randolph defines pellagra s a systemic intoxication, associated always with the inges- ion of maize or maize products, and characterized by a triad f symptoms (gastrointestinal, cutaneous and neuropsychic). ith marked tendency to seasonal recurrences, exhaustion and eath. The term "pellagrin" is applied to those affected with e disease, particularly when the mental or nervous symp- oms predominate. Pellagrous insanity has been recognized s one phase of the symptoms in the course of the disease lmost as long as the disease itself. Randolph goes at some ngth into the historical distribution of the disease, the eti- ogy, pathology, symptomatology, diagnosis, prognosis and eatment. A typical case of the disease presenting the triad symptoms, dermatitis, diarrhea and depression, occurring a section where the disease is known to prevail, and where e history of a maize diet can be established, should present difficulty; but in the prodromal stage, or when the cases e ill defined and atypical, the matter may not be so easy. e discusses in detail the differential diagnosis from mild coholic intoxication; ankylostomiasis; skin lesions of vari- s kinds, especially pemphigus, eczema and dermatitis vene- ta; ergotism, and pseudopellagra. He takes up also the fferentiation of pellagrous insanity from dementia præcox, anic-depressive insanity and the various so-called terminal mentias which may lead to confusion from the psychiatric andpoint. Treatment is prophylactic and curative. Of the ter little can be said, as there is no known specific medici- l agent for this disease. Removal from unhygienic sur- andings and improvement in diet are the best means of mbating the condition. Milk, externally and internally, s used by the earlier practitioners, following the observa- ns of Bouchard, that the cowherders in pellagrous districts aped the disease. Arsenic and iron preparations have been ch used, and potassium bichromate, alone or combined with rosive sublimate (Hoch), has been said to give good re- ts. Iodin undoubtedly exerts a beneficial influence on the aneous symptoms if applied in early stages of erythema. drotherapy is of much service in the treatment of the ntal and nervous condition. Silver nitrate has been found valuable adjunct in the treatment of the stomatitis, but the diarrhea little of value has been found, although um in some form is generally used in efforts to control same. Recently protargol has been recommended in doses one-third grain daily. The serum treatment also has been d, but further work along this line is needed and no doubt l be awaited with great interest. The author reaches the owing conclusions:

1. Pellagra undoubtedly exists in the United States.

2. Whites are more susceptible than blacks. (This conclusion seems justified by the fact that in the institution from which these reports are taken all—both white and black—are under a common régime and partake of a common diet with similar hygienic conditions for both, so each race may be considered subject to the same etiologic factors, and the incidence of the disease has been 3 or 4 in the white to 1 in the negro.

3. The sexes seem equally affected. While the cases here reported are all from among the men, yet there have been an equal number of cases observed among the women, on which we may hope for a report in the future, when inferences may be drawn as to the resistant power in the respective sexes.

4. Previous alcoholic history affected the prognosis badly.

5. Mental and nervous symptoms prevail throughout the disease.

6. The disease is difficult to diagnose in the prodromal stage.

7. The mental symptoms are of polymorphous character, but the picture as a whole is undoubtedly one of a distinct disease, and a definite psychosis may with propriety be recognized in the symptoms of pellagrous insanity

Archives of Ophthalmology, New York

January

38 Analysis of Involuntary Eye Movements in a Case of Congenital Binocular, Lateral Nystagmus, from Photographic Records. R. Dodge and A. R. Diefendorf, New Haven, Conn.
39 Histologic Investigation of a Case of Blepharoconjunctivitis Caused by the Diplobacillus of Morax-Axenfeld. B. Pusey, Chicago.
40 Replacement of Incarceration of the Iris by Traction from Within the Anterior Chamber. P. C. Jameson, Brooklyn, N. Y.
41 Rhinogenous Optic Neuritis. M. Paunz, Budapest, Austria.
42 Rare Bacteriologic Conditions in Ulcus Serpens. Dr. zur Nedden.

Archives of Pediatrics, New York

January

43 *Report on One Thousand Tuberculin Tests in Young Children. L. E. Holt, New York.
44 Tics and Their Treatment. E. W. Scripture, New York.
45 Leontiasis Ossea Developing in a Child with Diabetes Insipidus; and the Problem of Etiology. L. C. Ager, Brooklyn.
46 Calorimetric Method of Infant Feeding. T. Teimer, Newark, N. J.
47 *Diagnostic Value of the Chemical and Bacteriologic Examination of Cerebrospinal Fluid. A. Hand, Philadelphia.
48 Urinary Infection—A Common Cause of Fever in Infancy and Childhood. M. J. Lippe, St. Louis.

43. Abstracted in THE JOURNAL, July 11, 1908, p. 157.
47. Abstracted in THE JOURNAL, July 4, 1908, p. 65.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

January

49 Practical Suggestions in Administration of Tuberculin, Together with Discussion of Theory on Which its Action is Based. F. M. Pottenger, Monrovia, Cal.
50 Some Reflex Neuroses Cured by Treatment of Coexistent Nasal Affections. M. F. Butler, Philadelphia.
51 Use of Tobacco by the Immature. J. B. Huber, New York.
52 Congenital Unilateral Hypertrophy, Report of Case. C. H. Muschlitz, Philadelphia.
53 Is the Human Body Supplied with Autoprotective Mechanism? New Theory of Immunity Based on the Ductless Glands. C. E. de M. Sajous, Philadelphia.
54 Medical Missions. R. C. Thomas, Iloilo, P. I.
55 Symptomatology and Diagnosis of Enlarged Prostate. H. M. Christian, Philadelphia.
56 Aids to Successful Results in Bassini Operation for Radical Cure of Hernia. E. LaPlace, Philadelphia.

Wisconsin Medical Journal, Milwaukee

January

57 Present Status of Medical Expert Testimony on Insanity. A Plea for Corrective Legislation. A Rejoinder. E. P. Vilas, Milwaukee.
58 Etiology, Pathology, and Treatment of Acute Chorea. G. H. Fellman, Milwaukee.
59 The Value of the Medical Society. E. Quick, Appleton, Wis.

Journal of the Indiana State Medical Association, Fort Wayne

January

60 Sketches of the Medical History of Indiana. G. W. H. Kemper, Muncie.
61 Plea for the Use of National Formulary and Pharmacopeia Preparations. F. H. Carter, Indianapolis, Ind.
62 *Chronic Myocarditis. R. H. Ritter, Indianapolis.
63 Treatment of Diabetes. G. D. Kahlo, French Lick, Ind.

62. **Chronic Myocarditis.**—Ritter divides the causative influences of this condition into the four following groups:

1. Mechanical. Persistent demands which necessitate all the power of the heart mucle to meet the demand constantly can hardly fail sooner or later to use up the resources of the muscle, produce true fatigue, and perhaps through impaired powers of metabolism degenerative changes come on and the muscle fibers are replaced by fibrous tissue. This cause, however, is so closely related to or accompanied by bad habits or insufficient food supply that its purely individual importance is hard to estimate.

2. Those cases in which the blood supply of the heart is insufficient for its proper maintenance.

3. Perhaps the most common and most important of all the causes are the metabolic disturbances in the muscle fibers produced by the constant presence in the blood of toxins or the presence for even a comparatively short time of some very virulent poison.

4. Extension of inflammation into the myocardium from endo-pericardium and pericardium.

General vascular sclerosis, while one of the almost constant accompaniments of chronic myocarditis, is not easily classified.

Journal of Advanced Therapeutics, Rahway, N. J.

January

64 The Static Brush Discharge Concentrated to a Blue Pencil Point, and Some of its Uses. F. deKraft, New York.
65 Possibilities of Radiant Light. T. D. Crothers, Hartford, Conn.
66 Bilateral Pleurisy Following Carcinoma of Breast. H. F. Pitcher, Haverhill, Mass.
67 Severe Pain During Menstruation Treated with Static Wave Current. W. T. Patch, Boston.
68 Results Obtained from the Use of the Blue Light. A. B. Dorman, Winthrop, Mass.
69 Cataphoric Operations as Modified by the Topographic Situation of Particular Neoplasms. G. B. Massey, Philadelphia.

Illinois Medical Journal, Springfield

January

70 Abuse of Medical Charities in Chicago. C. J. Whalen, Chicago.
71 Charitable Carpentry Movement of "Ogacihc." E. L. Kenyon, Chicago.
72 Psychotherapy. G. A. Fuson, Harrisburg, Ill.
73 *Treatment of General Peritonitis Complicating Appendicitis. D. N. Eisendrath, Chicago.
74 Public Duties of Physicians. H. B. Hemenway, Evanston, Ill
75 Clinical Types of Toxemia of Pregnancy. J. G. Campbell, Chicago.
76 Eclampsia. G. J. Hagans, Chicago.
77 *Toxemias of Pregnancy. Renal Insufficiency. A. G. Bosler, Chicago.

73. Abstracted in The Journal, June 13, 1908, p. 2015.

77. **Toxemias of Pregnancy.**—Bosler discusses in some detail the part played by renal insufficiency in the toxemias of pregnancy. He states that uremia and eclampsia are separate and distinct conditions, uremia implying a permanent discontinuance of renal functions and leading to fatal termination; eclampsia is not *per se* fatal, and recoveries are frequent and the changes of pregnancy kidney undergo resolution with complete recovery. Pregnancy, he asserts, does not produce a true nephritis. The pregnancy kidney is an acute fatty infiltration, a secondary consideration, due in all probability to the underlying toxemia. Kidney involvement with insufficiency as an etiologic factor in the production of toxemia and pregnancy has been overestimated. Hepatic insufficiency is more important and liver changes are more constant and characteristic than renal, and both depend on the underlying toxemia. The exact nature of this toxemia is not known, and many theories have been advanced in explanation. To Bosler there seem to be two factors: first, predisposing, and, second, exciting. The predisposing factors should be mentioned individually, with all the term implies, heredity, diathesis, etc., the liability of the individual to disarrangement, functional or otherwise, of certain organs of the body, especially the liver. Whatever the underlying predisposing condition in the individual, the exciting cause seems to be the impregnation of the ovule. With the growth of the ovum there is a marked change in the metabolic processes of the body, and increased activity of various organs, especially the liver. This occurs in all gravidæ and is physiologic. In any given case these physiologic changes, passing beyond a certain point, become pathologic. The liver, governing in a great measure the process of metabolism, is usually an overworked organ, and in pregnancy has an added burden, not only of increased metabolism on the part of the mother, but of caring for the nutrition and waste of the fetus as well. It is reasonable to presume that this excessive stimulation can and does lead to structural changes, seriously impairing the hepatic function. As a result we have perverted metabolic products, which, Bosler believes, constitute the basis of the toxemia.

California State Journal of Medicine, San Francisco

January

78 Skin Reaction After the Use of Tuberculin Ointment. H. E. Alderson, San Francisco.
79 *The Rose-Bradford Kidney. H. d'A. Power, San Francisco.
80 German Measles. E. Gray, Eldridge.
81 Bier Treatment in Surgical Diseases. A. W. Morton, San Francisco.
82 Intestinal Paralysis. E. G McDonnell, San Francisco.
83 Question of Operative Interference in Acute Appendicitis. T. H. Blodgett, Tulare.
84 The Railway Hospital Association: Its Aims and Purposes. J. R. Colburn, Los Angeles.
85 Treatment of Traumatic Rupture of the Urethra. R. Brown, Santa Barbara.

79. **The Rose-Bradford Kidney.**—Power discusses the special form of fibrotic kidney, inflammatory in origin, having a pathology distinct from the granular contracted kidney of later life and presenting a quite distinct clinical evolution which is found in young subjects. This condition is linked with the name of Rose-Bradford, who described it in the Croonian lectures (*Lancet*, Aug. 6, 1904). Power quotes Rose-Bradford's description of the morbid anatomy and abstracts the symptomatology from Robson's paper in the *Practitioner*, February, 1908, which is recapitulated as follows: The disease occurs in young adults, and is markedly latent. Polyuria with much albumin, absence of edema, cardiovascular and fundus oculi changes, with a fatal termination from acute uremia, complete the story. He describes two cases, both in young women, 23 years of age, death occurring from uremic eclampsia in both cases. In discussing their origin, Power asks the following questions: What is their etiology? Are they due to autogenous toxins, to infection, or to an unrecognized lesion of the kidneys? Are the changes in other organs primary or coincident, or may not the kidney lesions themselves be secondary to a morbid condition elsewhere, to an affection of one of the internal secretions or some lack of adjustment in the chemical inter-relations of the body, such as may result from deficiency or excess of known or unknown hormones? Why is the condition so long latent and so sudden in its termination? He suggests an underlying blood-carried toxin as the cause, and thinks that we can easily understand the cause of the sudden termination if we look on the functional capacity of the kidney as being greatly in excess of the ordinary demand. With the progressive destruction of the secreting or excreting structures, this reserve is gradually called on and exhausted, but so long as any excess remains no retention toxemia can occur. Directly that margin is overstepped, the blood becomes rapidly surcharged with the products of metabolism, which, in their turn, act on the kidney protoplasm, increasingly depressing its eliminative power and thus by action and reaction leading to a rapidly accelerating abolition of all activity.

Western Medical Review, Omaha, Neb.

January

86 First Aid in Fractures. A. B. Anderson, Pawnee City, Neb.
87 Fractures: Symptoms and Diagnosis. S. C. Brede, Davi City, Neb.
88 The X-Ray in the Diagnosis and Treatment of Fractures J. P. Lord, Omaha.

Journal of the Medical Society of New Jersey, Orange

January

89 Review of Ninety-six Cases of Endothelioma of the Pleura H. S. Patterson, New York.
90 Results of Injuries to the Skull. A. J. Walscheid, Union Hill
91 Affections of the Ear Due to Adenoids. N. L. Wilson, Elizabeth.
92 Acute, Perforating, Gastric and Duodenal Ulcers. (Concluded. E. Eliot, New York.

St. Paul Medical Journal

January

93 Importance of Caring for and How the State of Minnesot Cares for Its Indigent Children Suffering from Tuberculosi of Bones and Joints. A. J. Gillette, St. Paul.
94 Milk and Meat Inspection. A. O. Bjelland, Mankato, Minn.
95 Gastrointestinal Influenza. M. M. Ghent, St. Paul.
96 Acute Maniacal Excitement in a Patient Eighty-two Years o Age; with a study of the Possible Relation of Blood Pressure to the Condition. C. E. Riggs.
97 Expense of Illness of the Consumptives Who Died in Minnesota in 1907, and How It Was Distributed. C. Easton St. Paul.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinic lectures, single case reports and trials of new drugs and artifici foods are omitted unless of exceptional general interest.

Lancet, London

February 6

1 Forms of Jaundice Capable of Relief or Cure by Surgic Treatment. A. W. M. Robson.
2 *Early Cardiac Inadequacy. L. Williams.
3 Neurologic Fragments. J. H. Jackson.
4 Case of Blood Crisis Occurring in Lardaceous Disease. T. Kerr and E. I. Spriggs.
5 Treatment of Empyemata. G. E. Waugh.
6 Single and Successive Extrasystoles. T. Lewis.
7 Two Cases of Hypertrophic Pulmonary Osteoarthropath H. E. Symes-Thompson.
8 Excision of One Kidney with Quantitative Analysis of Urin A. P. Dodds-Parker and E. P. Poulton.

9 Shellfish Typhoid Fever. H. C. Pattin.
10 Comparative Measurements of the Lives of Leucocytes When the Cells Are Resting in the Plasmata of Different Persons. H. C. Ross.

2. **Early Cardiac Inadequacy.**—Williams states that, strictly speaking, the heart may be described as inadequate whenever any of Gaskell's five essential functions become impaired; these are rhythmicity, excitability, conductivity, contractility, and tonicity. At present tonicity is of such clinical importance that when cardiac inadequacy is mentioned impaired tonicity is meant. The first result of this condition is dilatation, so that it is by the signs and symptoms of dilatation hat we have to recognize that the heart is no longer equal o its task. Williams thinks that, although palpitation sellom indicates cardiac disease, it invariably denotes cardiac listress. He discusses the causes of palpitation, both mechancal from digestive disturbances and from emotion. A form of cardiovascular disturbance which is often difficult to appraise at its true value is tachycardia, which may be due to nervous influences or to position. Heart hurry in the upight posture, subsiding in the recumbent, is a common ymptom in adolescents soon after puberty, in convalescence rom acute or debilitating disease, and in neurasthenia. The manometer shows that this condition is invariably associated with subnormal blood pressure, and albumin will almost lways be found in the urine. Tachycardia which occurs when he patient is laid on his back is of a different significance. t is the reverse of the normal response and the exact meanng of the phenomenon is not clear. Williams believes that t is due to hyposystole. A symptom of cardiac inadequacy which frequently escapes the attention it deserves is edema f slight degree. Toward the end of the day or after a long walk there will be slight, though definite, pitting over the bia just above the ankles, which disappears after a night's est. During the period of repose, however, the urine which had been normal in quantity or scanty during the day shows decided increase, showing that the tone of the heart, though nadequate to the exigencies of the erect posture, is, neverheless, capable of fully maintaining the circulatory needs of he recumbent posture. The edematous accumulation of the ay is thus fully excreted at night. Williams refers to idal's work in connection with the production of edema by ndue consumption of salts. This edema, which is at first sceral and deep seated, soon becomes general unless the gestion of chlorids is restricted. Recently Etienne, of ancy, has shown that even in very old people cardiac equibrium which, on an ordinary diet, is on the verge of breakdown can be completely re-established by carefully regulating e amount of ingested chlorids.

In the examination of the heart, the question of the size is first importance. In a patient in whom the blood presre has been unduly high for several months, a left ventricle rmal in size is of bad prognostic omen. Gross valvular sions with agitating thrills and clamorous murmurs are mpatible with complete adequacy of function and do not of emselves constitute any indication either for heroic treatent or for alarmist prognosis. Valvular lesions indicate a rtain degree of cardiac crippling, and it must be remembered at, as the French say, "a lesion of the orifice is not a disse of the heart." Williams states that even in the absence gross murmurs and arrhythmia the attentive ear will freently detect sounds which tell of dangers ahead. The st of these is accentuation of the second sound Another the reduplicated second sound at the apex, which is now nerally admitted to indicate an early stage of mitral steno-. So far as treatment is concerned Williams states that greatest and most urgent indication is to rid the system the vasoconstrictor toxins which are accumulating in the od, and this is to be effected by hygienic and dietetic rather n medicinal treatment. When the fault lies primarily the myocardium, rest in bed, combined with cardiac tonics, h as digitalis, and diuretics are all important. More imtant still, in the treatment of cardiac inadequacy, is the scription of that which all too frequently proves to be but y partially attainable, namely, the philosophic calm which begotten of perfect tranquillity of spirit.

British Medical Journal, London

February 6

11 *Radium in Surgery. Sir F. Treves.
12 Human Glanders. J. M. Bernstein and E. R. Carling.
13 Anesthesia with Known Percentages of Chloroform. N. H. Alcock.
14 Atrophic Rhinitis Complicated by Mastoid Abscess. F. Stoker.
15 Edema with Resolution by Urinary Crisis. H. D. Rolleston and F. L. Golla.

11. **Radium in Surgery.**—Treves first reviews the uses and limitations of the *x*-ray, the high-frequency current, and the Finsen light, and then enumerates the conditions in which radium has been found useful. He names angiomata, rodent ulcer and epithelioma, and states that the results in the cases treated are apparently permanent. He describes the alpha, beta and gamma rays often given off by radium, and says that in regard to general qualities the alpha rays may exist alone. Alpha and beta rays are absolutely distinct and independent, and can exist the one without the other. The beta and gamma rays are inseparable; they are never found dissociated. The alpha rays are supposed to give off heat and they burn; they are capable of producing a very troublesome ulcer of the skin. The penetrating power of the three varieties of rays is expressed as follows: Taking the penetration of the alpha rays as 1, they are stopped by a sheet of mica. The beta rays have a penetrating power of 100 and will pass through a centimeter of lead. The penetration of the gamma rays on the same basis would be presented by 10,000, and they will pass through one inch of steel. In regard to radium treatment of disease, he stated that the main feature of the application is surface. It is ridiculous, he asserted, to attempt to apply radium as a broken-up bead in a glass tube, without any notion of the amount of the different rays being used or how far the radiation extends. A little radium spread over an even surface is much more powerful and can be much more accurately used than a bead of the radium in a glass tube. Radium must be ordered by a definite prescription. For the individual case a plate of certain diameter is ordered and the proportion of alpha, beta and gamma rays required will be stated in the prescription. It may be necessary to cut off a certain proportion of the alpha rays, and this is done by means of an aluminum plate of definite thickness. The distance is also regulated to suit the individual case. Treves touches briefly on the subject of radioactivity. In the future investigation of radium, it is essential, first, to ascertain the action of the radium rays and of the emanation on bacteria and their products. In the next place, the selective action of the radium on certain tissues must be studied. Little has yet been done, except by Dr. Dominici, to ascertain the effect of introducing radium into the substance of a growth in a tube permeable to its rays, such as a tube of thin aluminum, and so far as he has investigated the matter the results have been encouraging. Then come the questions of the effect of the emanation if inhaled, the effect of injection into the diseased parts of a solution of the emanation, the utility (if any) of radioactive water and other substances rendered potent by radium. Treves warns against raising false hopes for the potentialities of a little known remedy.

Medical Press and Circular, London

February 3

16 Simultaneous Existence of Congenital and Acquired Heart Disease. A. Dietrich.
17 *Radium in Surgery. Sir F. Treves.
18 Infantile Mortality as Seen in a Children's Hospital. D. Forsyth.
19 Gonorrheal Diseases of the Eye. S. Stephenson.

17. See abstract No. 11.

Clinical Journal, London

February 3

20 Treatment of Syphilis by Arylarsonates. J. E. Lane.
21 *Muscular Rheumatism. W. Murrell.
22 Recurrence After Operation for Radical Cure of Inguinal Hernia. W. H. Battle.

21. **Muscular Rheumatism.**—Murrell defines muscular rheumatism as a chronic painful affection of the white fibrous tissue connected with the muscles and implicating the aponeurosis tendons, fibrous septa, fasciæ, and adjacent periosteum. Though the disease is sometimes spoken of as myalgia, the two conditions are not identical. The seizure generally

comes on suddenly and commonly attacks middle-aged people, especially those of gouty tendencies. There is little or no constitutional disturbance and little, if any, elevation of temperature. Conditions which may be mistaken for muscular rheumatism are myalgia, lumbago, indurations or nodule formation of the fibrous tissues, pleurodynia. rheumatic torticollis, and the pain attending the onset of many of the acute febrile diseases. As instances of the last-named conditions he cites the well-known pains of malaria, dengue and beriberi. Some cases of so-called muscular rheumatism, he states, are due to localized neuritis, which may be alcoholic in origin, but are more frequently the result of an old and imperfectly treated syphilis.

Quarterly Journal of Medicine

January

23 *Hysterical Paroxysmal Edema. F. H. Edgeworth.
24 The Venous Pulse in Paroxysmal Tachycardia. J. Cowan, D. McDonald and R. I. Binning.
25 *Effect of the Administration of Calcium Salts of Citric Acid on the Calcium Content and Coagulation Time of the Blood. T. Addis.
26* Congenital Family Cholemia. H. P. Hawkins and L. S. Dudgeon.
27 Cardiovascular-Respiratory Murmur and Its Relationship to Other Physical Signs. T. Lewis.
28 Prodromal Rashes of Smallpox. R. S. Thomson and J. Brownlee.
29 Speed Limit of the Human Heart. A. F. Hertz and G. W. Goodhart.
30 Chronic Infectious Endocarditis. W. Osler.
31 Pathology of Uremia. F. Golla.

23. **Hysterical Paroxysmal Edema.**—Edgeworth reports seven cases and analyzes them. He sums up by saying that the evidence recorded suggests that cases of paroxysmal edema may be divided into two categories, those of Quincke's edema and those of hysterical origin. The former are allied to Henoch's erythema. the latter to hysterical chronic edema. The former are probably due to some blood change, the latter to some disturbance in the central system.

25. This article will be discussed editorially in The Journal.

26. This article will be discussed editorially in The Journal.

Journal of Tropical Medicine and Hygiene, London

February 1

32 Methods Employed in Combating Disease Among Coolies in Assam. J. D. Gregorson.
33 Pulmonary Bilharziosis. G. A. Turner.
34 Biliary Cirrhosis of Children, Otherwise Known as Infantile Liver. F. Pearse.
35 Avian Hemoprotozoa of the Genus Leucocytozoon. L. W. Sambon.
36 Hemogregarines of Snakes. L. W. Sambon.

Bulletin de l'Académie de Médecine, Paris

January 19, LXXIII, No. 3, pp. 95-133

37 Marmorek's Serum in Tuberculosis. (De quelques nouveaux documents relatifs au traitement de la tuberculose par le sérum de Marmorek.) C. Monod.

Lyon Chirurgical, Paris

February, I, No. 4, pp. 333-452

38 *Scoliosis from Primary Lumbar Malformation. P. Vignard and G. Monod.
39 *Goiter of Parathyroid Origin. L. Bérard and H. Alamartine.
40 *Congenital Hour-glass Stomach. (A propos de l'estomac biloculaire congénital.) R. Leriche.
41 *Mobilization *en Masse* of Colon on Left Side. (Mobilisation en masse du colon gauche.) P. Cavaillon and A. Chalier.

38. **Scoliosis from Primary Lumbar Malformation.**—This illustrated article discusses the deformity in the lumbar region that may result from traumatism, an inflammatory or trophic process or from disturbance in development. When the fifth lumbar vertebra is abnormal, there is a lateral slope and torsion with asymmetrical abnormal resistance, as Monod describes in detail. Treatment should be removal of the cause (tuberculosis, nutritional disturbance, chloro-anemia or prolonged convalescence from an infectious disease) and immobilization in a plaster bed in the dorsal decubitus position, with or without longitudinal extension. Later, simple gymnastic exercises and the use of a seat sloping up on one side should be advised. When the compensating curvature is already formed and more or less fixed, immobilization is also the main reliance. After a few weeks the spine becomes supple and relaxed, favoring restoration to normal. The latter does no good, however, unless the primary displacement is corrected and kept corrected.

39. **Parathyroid Goiter.**—The case described shows the possible existence of islets of parathyroid tissue in the thyroid gland, similar to the aberrant suprarenal cells responsible for intrarenal hypernephroma. The fetal adenoma in this case was removed from a woman of 43 presenting symptoms of mild exophthalmic goiter. The goiter was first observed at puberty, but it began to increase in size with the menopause.

40. **Congenital Hour-glass Stomach.**—Leriche has examined 160 fetuses and has never found a trace of anything suggesting hour-glass stomach in the slightest degree.

41. **Mobilization of the Left Colon.**—Cavaillon and Chalier give an illustrated description of a technic worked out on the cadaver for extirpation of the sigmoid flexure and rectum by an abdomino-perineal operation; it includes mobilization of the splenic angle and left colon. The authors refer in a footnote to an article in The Journal (Feb. 15, 1908, page 573) advocating much the same technic. It permits the intestine to be rendered permeable by re-establishing its continuity without the necessity for an artificial anus.

Presse Médicale, Paris

January 23, XVII, No. 7, pp. 57-64

42 *Comparative Value of Different Technics for Pubiotomy. (Hébotomie.) C. Jeannin.
43 *Mental State of the Survivors of the Sicily Earthquake. (L'état mental des sinistrés de Sicile.) P. Hartenberg.
44 *Action of Salt in Gastric Digestive Disturbances. (Action du chlorure de sodium sur les troubles de la digestion stomacale.) N. Floresco.

42. **Pubiotomy.**—Jeannin discusses the different methods and declares that the subcutaneous is too dangerous, although it is preferred in Germany. The Calderini flap gives more ample access with less predisposition to hernia than the other technics.

43. **Mental Condition of the Survivors of the Sicily Earthquake.**—Hartenberg remarks that the conditions of the catastrophe were peculiarly distressing. The earthquake occurred during the night, surprising the people in their sleep, while the pouring rain and the cold added discomfort to the horror; then the extent of the destruction apparent as day dawned, the grief for relatives and for loss of property combined with the pains of the wounds and later with hunger thirst, the sight of the hundreds of corpses and the constant apprehension of new quakes, combined to constitute a series of the most intense impressions that man is capable of experiencing. After the first agony of suspense, people began to run, straight ahead and without aim, oppressed by panic terror, an atavistic relic of those flights of primeval man before burning forests and inundations; half-clad men and women ran screaming across the country. Many of the wounded did not feel the pain of their wounds during these first hours. One man with several wounds and fractures ran for hours without knowing that he was injured. After the first stage of panic came scenes of savagery in the instinct of self-preservation, but in the midst of these scenes instances of devotion and heroism were observed on all sides the desperate efforts of many severely wounded resulting in the saving of numerous lives. Besides the praying multitudes others were found praying to the titans that are supposed to live in the depths of the crater of Mount Etna—a survival of legendary traditions from the days of Homer. Numerous cases of insanity are encountered, but the experts regard them as probably curable. There were many instances of the supreme pathologic reaction, that is, suicide, single and of whole families. The commander of a ship anchored in the harbor saw with his telescope numbers of groups of people men, women and children, join hands and jump from the docks into the sea.

44. **Action of Salt on Disturbances of Gastric Digestion.**—Floresco states that salt not only is the source of the hydrochloric acid of the gastric juice, but has a local action on the mucosa of the digestive tract and also a general indirec

action on the gastric secretion from the impregnation of the tissues and juices with the sodium chlorid. He describes experimental research which shows that disturbances in the gastric digestion (vomiting, regurgitation and dyspepsia) are influenced and arrested by eating bread sprinkled with salt. The reaction of the stomach content is alkaline in these conditions, and the salt transforms the reaction by the production of gastric juice and, by its local and general action, it closes the cardia by reflex action. He describes the mechanism of vomiting and of seasickness, etc., and relates experiences which seem to show that it is possible to arrest these disturbances by this simple measure of eating bread sprinkled with salt. It has proved invariably effective in his experience, overcoming the muscular, circulatory and respiratory phenomena which cause the vomiting.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

December 31, XI, No. 24, pp. 929-980

45 *Action of General and Spinal Anesthesia on Kidneys and Urinary Secretion. (Einwirkung der allgemeinen Narkose und der Spinalanalgesie auf die Nieren und ihr Sekret.) M. Hirsch. (Commenced in No. 20.)
46 *Kidney Affections During Pregnancy. (Erkrankungen der Niere in der Gravidität.) R. Pollak. (Commenced in No. 12.

45. **Action of Anesthetics on the Kidneys and Urinary Se-retion.**—Hirsch analyzes 207 articles that have been pubished in late years bearing on this subject. It seems evident hat the effect of chloroform and ether on the kidneys is nerely one manifestation of a general intoxication of the ystem from the drug. The old theory of a delayed toxic ction on the kidneys has been sustained by recent research which has revealed degeneration of the parenchymatous organs throughout, but most prominent in the kidneys. He iscusses the mechanical, contact, toxin and blood theories ffered in explanation of this action of the anesthetic on the idneys, his impression being that each contributes its share o the syndrome observed. Even spinal anesthesia is not ree from this injurious action on the kidneys; this has roved a great disappointment to those who had hailed the pinal technic as exempt from injury to the kidneys. His eneral conclusions from all the material reviewed are that hloroform or ether can be used with the ordinary technic if he kidneys are known to be sound, but if the kidneys are athologic, chloroform is absolutely contraindicated. For hese cases the experiences to date show that the least harmul of all technics is general anesthesia with ether plus xygen, preceded by an injection of morphin. Under all conitions, he continues, the amount of the anesthetic used hould be the smallest possible; this is favored by shortenng the duration of the anesthesia to the minimum by rapid perating, by doing all the preliminaries before commencing administer the anesthetic, and by stopping the anesthetist t the earliest possible moment. Another point is the choice f the drop method; much less of the anesthetic is used when dministered drop by drop, and the state of tolerance is more pidly reached. A preceding injection of morphin also reuces the amount of chloroform needed, while it has a tenency to counteract its injurious effects. In operating, everyhing should be avoided which would favor the degenerative tion of the anesthetic. Chief among these is loss of blood, hich should be combatted in every possible way. Terrier lled attention long ago to the fact that loss of blood during e operation favored postoperative albuminuria, while trassmann found that withdrawal of blood in his experients on animals contributed to the intensity of the chlororm intoxication. Careful hemostasis and prevention of illing during the operation will, therefore, aid in preventing jury from the anesthetic. It is also important to refrain om administering a general anesthetic several times to the me patient within a short interval. If the chloroform inxication is superposed on a preceding similar intoxication, fore the kidneys have had time to recuperate completely, ere is liable to be serious trouble. The danger in the second esthesia is far more imminent than in the first. The interl should be at least a week, and the second anesthesia ould never be attempted until the urine is free from albumin and has lost its transient reducing power. It is a great advantage when oxygen can be administered with the chloroform or ether. Mixed with oxygen, the drug is much less injurious for the organs than the anesthetic alone. No benefit is derived from mixing chloroform and ether—the combination, he declares, seems even more injurious than either alone.

46. **Affections of the Kidneys During Pregnancy.**—Pollak summarizes the principal points in 611 articles on this subject, classifying them under various headings. In case of hematuria, various authors advise expectant treatment, the patients being kept in bed and the diet regulated to protect the kidneys against further injury. During the attacks, styptics should be tried, and Yff has reported good results from salol, 1 gm. (15 grains) three times a day. Treub induced premature delivery in one case, and Chiaventone punctured the amniotic sac to relieve the ureters and vessels from compression. In tuberculosis of the kidney as one manifestation of general tuberculosis, the pregnancy is almost certain to have an aggravating effect, and no treatment is of any avail, but primary renal tuberculosis with pregnancy should be treated by removal of the tuberculous kidney if only one is affected. Israel operated in a case of this kind at the fifth month and the pregnancy proceeded to term. The patient was in good health seven years later. He is convinced that there is no affection of the kidneys which displays such a progressive character under the influence of pregnancy as tuberculosis. It is difficult to determine whether or not both kidneys are affected; sometimes, besides cystoscopy, cryoscopy and catheterization of the sound ureter, it may be necessary to expose both kidneys. If the integrity of the second kidney is dubious, the pregnancy should be interrupted. This will not cure the tuberculosis, but it will mitigate the symptoms and retard the progress of the disease. In all this experience there is no record of neoplasms in the kidneys complicating pregnancy. These growths are observed before puberty or not until after 40. The evidence to date seems to show that the remaining kidney after a nephrectomy becomes hypertrophied and compensates for its absent mate, so that a nephrectomized woman may pass through a normal pregnancy. Reeb has reported eleven such cases of normal pregnancies after nephrectomy for calculi or pyonephrosis; one of the women had three. Of the four women whose kidney was removed on account of tuberculosis, three have borne children since and are in good health. The fourth died in childbed; the remaining kidney had not been sound in this case.

Deutsche medizinische Wochenschrift, Berlin

January 28, XXXV, No. 4, pp. 137-184

47 *Origin of Diabetes. (Entstehung des Diabetes.) F. Hirschfeld.
48 Shape of Leucocytes in Urine in Tuberculosis of Urinary Passages. (Form der Leukocyten im Harn bei Tuberkulose der Harnwege.) B. Goldberg.
49 Acute Postoperative Dilatation of Stomach. Technic of Posterior Gastroenterostomy. (Zur Frage der sogenannten akuten postoperativen Magendilatation.) G. Axhausen.
50 Movable Cecum and Chronic Appendicitis. Wiemann.
51 Points of Support in the Foot. (Die Stützpunkte des Fusses beim Gehen und Stehen.) Momburg.
52 Diagnosis of Suppuration in Nasal Accessory Cavities and Advantages of Suction Treatment. (Nasennebenhöhleneiterungen.) Martens.
53 Testing of Disinfectants. (Disinfektionsmittelprüfung.) H. Schneider.
54 Protecting Glasses of Optical Glass. (Schutzbrillen aus optischen Glase.) Axmann.

47. **Origin of Diabetes.**—Hirschfeld has recently reported some cases of diabetes in which the latter developed after some infectious disease. The diabetes was accompanied by gastrointestinal symptoms, but there was no pronounced polyuria, although the glycosuria lasted for several months. Another special feature of the cases was the accompanying enlargement of the liver, which gradually subsided completely. In a still more recent case the onset of the diabetes occurred six weeks after a severe infectious sore throat; there was also enlargement of the liver in this case. In another case, a man of 46 presented symptoms of diabetes such as accompany a transient affection of the pancreas. He had had previously numerous attacks of influenza. After a concussion from jumping from a moving trolley car, the diabetes re-

turned in more severe form and became chronic. These and other experiences have convinced Hirschfeld that infection is an important factor in the origin and aggravation of pancreatitis and diabetes, and that chronic pancreatitis, such as is found so frequently in diabetics, generally has developed on the basis of repeated acute or subacute inflammations. Glycosuria lasting only a few weeks or months corresponds to the acute transient pancreatitis. The same mode of origin, he thinks, should be accepted for both cirrhosis of the liver and the cirrhosis of the pancreas, which is the basis on which diabetes develops, namely, inflammation or atrophy from the injurious influence of some primary inflammatory focus, conveyed by the blood. The inflammation in the pancreas is seldom so acute that the connection between it and the resulting diabetes can be detected. As a rule, the liver and the pancreas become simultaneously affected, but the liver affection generally retrogresses, although traces of the process can be discovered by the pathologists. If the liver is in any way deteriorated, as from the action of alcoholics or malaria, the process in the liver predominates, and, although cirrhosis may develop in the pancreas, yet no diabetes results. He thinks that the portal vein is very rarely the route by which the influences arrive responsible for the process in the liver and pancreas. He cites some cases recently described by Tsuchiya in which cirrhosis in the liver was the direct result of invasion of the liver through the portal vein by helminths, the *Schistosoma japonica*. The pancreas was intact. Hirschfeld accepts this as confirming his view that when the infectious agent arrives by the portal route the liver alone is affected, but when it comes by way of the blood both liver and pancreas suffer. It seems to be amply established by recent research that the pancreas is found nearly always more or less pathologic in every case of cirrhosis of the liver that comes to autopsy.

Medizinische Klinik, Berlin

January 24, V, No. 4, pp. 117-156

55 Modern Treatment of Pleurisy with Effusion. (Pleuritis exsudativa.) F. Lommel.
56 *Pathology of Median and Ulnar Paralysis. (Medianus- und Ulnarislähmung.) M. Bernhardt and M. Zondek.
57 Pneumococcus Pneumonia. B. Buxbaum.
58 *Massage in Correction of Deformed Nose. (Kosmetische Umförmung einer knorpligen Nasendifformität durch Massage.) Orlowski.
59 Value of Addition of Suprarenal Preparations to Local Anesthesia. (Wert der Kombination der Lokalanästhetika mit Nebennierenpräparaten.) O. Stoll.

56. **Median and Ulnar Paralysis.**—Bernhardt and Zondek report a case of median and ulnar paralysis after fracture of the lower epiphysis of the radius and ulna. The coaptation was not perfect and considerable dislocation remained, but early functional and electric treatment restored complete function. The galvanic current was passed transversely through the forearm several times a week, while the muscles in the hands were treated with both galvanic and faradic currents until now there is scarcely any difference between the two arms, except for a slight atrophy of the musculature. In another case the ulnar paralysis developed thirty years after a fracture of the right elbow. He has noticed that these tardy injuries develop mostly in persons with cervical ribs. In another case the ulnar paralysis was a bicycle injury, the second case of the kind in his experience.

58. **Massage of the Nose to Correct Deformity.**—Orlowski reports successful application of massage to correct a cartilaginous deformity of the nose. The massage must be gentle, petrolatum being used copiously; results should not be expected before two or three months. The best results were obtained with what he calls protuberant tip—behind the tip the nose looking as if inflated, the nostrils rigid.

Münchener medizinische Wochenschrift

January 26, LVI, No. 4, pp. 161-216

60 *Retroflexion of the Uterus in General Practice. (Die Retroflexio uteri in der allgemeinen Praxis.) M. Henkel.
61 *Treatment of Placenta Prævia. A. Fiessler.
62 Differential Diagnosis of the Leukemias. W. H. Schultze.
63 *Treatment of Flat, Superficial Carcinoma. (Behandlung der flachen Hautkarzinome.) E. Rehn.
64 Changes in Size of Heart in Hot and Cold Bath. (Veränderung der Herzgrösse im heissen und kalten Bade.) R. Beck and N. Dohan.
65 Further Experiences with Marmorek's Antituberculosis Serum Schenker.
66 *Roentgen-ray Cure of Hyperidrosis and Oily Seborrhea. Kromayer.
67 Pyocyanase in Diphtheria. J. Grosz and H. Ban.
68 Treatment of Syphilis with Gray Oil. (Zur Syphilisbehandlung mit grauem Oel.) Geyer.
69 Endemic Occurrence of Pneumococcus Angina. A. Schomerus
70 Treatment and Prevention of Nontraumatic Neuroses in the Insured. (Nicht-traumatische Rentenneurosen.) E. Beyer
71 Lens Holder for Examination of Eye. (Einfacher Linsenhalter.) F. Kehr.
72 *Instruction in Obstetrics. (Der klinisch-geburtshilfliche Unterricht.) G. Vogel.

60. **Treatment of Uterine Retroflexion in General Practice**—Henkel reviews this subject from various standpoints, emphasizing the progress realized of late years and the necessity for individualizing treatment to the special indications; no one procedure is applicable to all cases.

61. **Treatment of Placenta Prævia.**—Fiessler reports the experiences at Sellheim's clinic at Tübingen with 111 cases of placenta prævia in the last ten years. He insists that the only proper way to open the uterus rapidly is to do it under complete control of the eye. The vaginal technic for Cesarean section is being gradually abandoned, he thinks; only six cases were reported during 1907. The extraperitonea Cesarean section, which Sellheim has introduced, is particularly advantageous for women with placenta prævia. It has been applied in nine such cases in the clinic, and all the women left the clinic in good health in three weeks, and with living children, except in one case, in which the child was dead before the operation, and in one in which the prematurely born child succumbed to infection of the umbilicus This technic allows the uterus to be rapidly opened, in the absence of labor, with absolute avoidance of the slightest unintentional laceration, and with the possibility of complete control of the hemorrhage at any stage, especially during the dreaded third stage of labor with placenta prævia.

63. **Treatment of Cancer of the Face.**—Rehn is assistant to Lexer at the Königsberg surgical clinic, where he has been able to observe cases of apparent spontaneous retrogression of facial cancer with long intervals of apparent cure. But there are still always nests of cancer cells latent in the depths, and no one should be misled into regarding them as actually cured until the scar has been completely excised The experiences related indicate that Roentgen-ray treatment even of basal-celled carcinoma, is uncertain and unreliable even in the absence of involvement of the glands. It is particularly dangerous from the fact that Roentgen rays build up a wall around the tumor so that it can not spread on the surface, but there is nothing to prevent its burrowing into the depths, a condition which occurs almost constantly. He always insists on incising the scar left from the apparent healing of a superficial cancer of the face spontaneously o under Roentgen treatment, and inevitably finds that, while healed on the surface, it is still lingering in the depths. Th knife is still, as in the past, he asserts, the only safe mean of treating cancer.

66. **Roentgen-Ray Treatment of Hyperidrosis and Oily Seborrhea.**—Kromayer has been successful in treating hyperidrosis with powerful *x*-ray treatment. He has now an experience of twenty cases which confirm his previous announcements as to its efficacy and the necessity for dose sufficient to induce a vigorous Roentgen dermatitis. H declares that the physical properties of the Roentgen curren should be the gauge for dosage, not any subjective method.

72. **Instruction in Obstetrics.**—Vogel protests most decidedly against Krönig's views mentioned recently in thes columns, Jan. 16, 1909, page 258. He regards them as backward step and fraught with grave dangers should the be accepted, as he explains in detail.

Wiener klinische Wochenschrift

January 28, XXII, No. 4. pp. 116-150

73 *Routes of Infection in Tuberculosis. (Infektionswege der Tuberkulose.) J. Bartel.
74 *Immunization Against Tuberculosis. Id.
75 *Pregnancy at Term Complicated with Cancer in Uterus, Ovaries and Appendix as Metastases of a Gastric Cancer. Gobiet.
76 *Late Syphilitic Lesions in Breast. (Lues-Spätformen der männlichen und weiblichen Brustdrüse.) K. Deutsch.

73. Abstracted in The Journal, Oct. 10, 1908, page 1252.

74. Abstracted in The Journal, Oct. 24, 1908, page 1447.

75. **Pregnancy Complicated with Cancer.**—Gobiet's patient was a woman of 37 at term, but delivery was interfered with by carcinoma of the cervix and of the right ovary. Seven days after the missed labor, symptoms of septic poisoning developed; the woman was brought to the hospital, and the uterus removed, unopened, and the right ureter implanted in the bladder. Palpation nine days later, when the dressings were being changed, revealed an extensive carcinoma in the stomach, evidently the primary tumor. No attempt was made to remove it, but great improvement followed Roentgen-ray treatment. He reviews 172 cases on record of metastatic cancerous affections of the ovaries. The primary tumor was in the stomach in 126 cases, in the bowels in 16, in the breast in 12, in the uterus in 8, in the gall bladder in 7, and once each in the liver, pancreas and suprarenals. His own case is remarkable for the metastasis in the cervix. The few cases on record in which this occurred have always been in pregnant women. It seems wise to examine the ovaries in all cases of gastric cancer, removing them on the slightest suspicion. Only one case is on record in which the pregnancy continued to term with metastatic ovarian cancer. His case is an example of the great benefit that may be derived from removal of all visible metastases with palliative treatment of the primary tumor, thus allowing a long survival in comparative comfort.

76. **Syphilitic Affections in the Breast.**—In the three cases related by Deutsch, specific treatment was supplemented by operative measures in one case with excellent results. The patient was a woman of 36. Under specific treatment the gumma subsided to some extent, but the marginal portions required excision. Another patient was a woman of 48 with diffuse syphilitic mastitis with local neuralgic pains. The lesions subsided completely under mercurial treatment. The third patient was a man with syphilitic mastitis which promptly subsided under specific treatment. Deutsch comments on the importance of serodiagnosis, which now allows prompt differentiation in such cases.

Zentralblatt für Chirurgie, Leipsic

January 23, XXXVI, No. 4, pp. 106-136

77 *Modification of Gastrojejunostomy. K. Dahlgren.
78 Double Clamp for Operations on Stomach and Intestine. (Doppelquetschzange für Magen- und Darmoperationen.) F. Karewski.
79 Technic of Suprahyoid Pharyngotomy. A. Schlesinger.

77. **Improved Gastrojejunostomy.**—Dahlgren cuts out an oval piece in the wall of the stomach, instead of making the usual linear incision, in doing gastrojejunostomy. This insures the evacuation of the stomach much more readily while it protects against the growing together of the opening. Rapid evacuation of the stomach seems to have a favorable effect on the general health in such cases. He gives an illustration of the clamp he uses in making the oval opening.

Zentralblatt für Gynäkologie, Leipsic

January 23, XXXIII, No. 4, pp. 121-160

80 *Extraperitoneal Cesarean Section. (Ueber den extraperitonealen Kaiserschnitt.) A. Döderlein.
81 *Results of Operative and Diagnostic Direct Illumination of Abdomen, Rectum and Bladder. (Anwendung der direkten Beleuchtung der Bauchhöhle, des Dickdarmes und der Harnblase bei den Operationen und zu diagnostichen Zwecken.) D. v. Ott.
82 Technic and Criticism of Research on the Placenta. (Placentarforschung). W. Liepmann.
83 *Toxicity of Blood Serum in Eclampsia. (Giftigkeit des Blutserums bei Eklampsie.) R. Graf and K. Landsteiner.

80. **Extraperitoneal Cesarean Section.**—Döderlein proposes to make the section extraperitoneal, but to obtain access to the lower segment of the uterus on one side instead of working down on the median line, as others propose. The bladder is filled with enough water to outline it, and he pushes its right side toward the middle and then works upward the vesicouterine fold, pushing it up with a tampon sufficiently high to expose enough of the uterus to deliver the child with ease. There is no danger of hemorrhage with this technic and the incision need not be very large. In one of the two cases reported in which he has applied this technic, the vesicouterine reflection of the peritoneum tore as the child was being extracted, thus opening into the peritoneum, but the tear was sutured at once and no harm done. In future he intends to mobilize this vesicouterine reflection a little more extensively. He calls the technic "lateral extraperitoneal Cesarean section."

81. **Direct Illumination of the Abdominal Cavity.**—The Journal, Aug. 23, 1902, page 458, published an illustrated description of Ott's method of illumination by introducing electric lamps inside the abdominal and other cavities. He here reports his experiences with 761 cases of vaginal operations and 361 abdominal since he has introduced this method of direct illumination. It renders the vaginal technic so simple and easy, he says, that he now prefers it to the abdominal route, and the mortality has dropped from 2.14 to 1.48 per cent., while the mortality in 572 abdominal operations was 9.09 per cent. He regards the direct illumination as a great advance in abdominal surgery and claims to have been the first to introduce the principle into gynecology.

83. **Toxicity of the Blood Serum in Eclampsia.**—Graf and Landsteiner relate the results of extensive experimental research which have demonstrated beyond question the enhanced toxicity of the blood serum in eclampsia in comparison to normal serum. At the same time their research does not indicate any special eclamptic poison, but merely that the serum contains an abnormal excess of the toxic substances naturally in the serum. The waste poisons seem to be accumulated in abnormal proportions. The next step is to determine whether or not the serum acquires this extra toxicity in other pathologic processes besides eclampsia.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 15, XXX, No. 6, pp. 57-64

84 Trypanosomiasis and the Injurious Effects of Treatment with Arsenious Acid and Atoxyl. A. Massaglia.
85 Experimental Study of Autohemoagglutinins. G. Rubino.

January 17, No. 7, pp. 65-80

86 Etiology, Diagnosis and Treatment of Uterine Hemorrhage. P. Romeo.

January 19, No. 8, pp. 81-88

87 Three Cases of Otitic Abscesses in the Neck. (Ascessi sottoaponevrotici latero-cervicali otitici.) A. Bianco.

January 26, No. 11, pp. 113-120

88 The Treponema Pallidum in Syphilitic Placentas. C. Mario.

Policlinico, Rome

January 24, XVI, Practical Section, No. 4, pp. 101-132

89 Moro's Percutaneous Tuberculin Reaction. (La reazione cutanea secondo Moro.) G. Germonig.
90 *Abortion from Lactation. (Aborto da allattamento?) L. Andalo.

January, Surgical Section, No. 1, pp. 1-48

91 Experimental Research and Cure of Traumatic Lesions in the Muscles and Regeneration of Muscle Tissue. R. Caminiti.
92 *Rare Variety of Femoral Hernia. (Ernia crurale pettinea di Cloquet.) V. Gaudiani.
93 *Obstruction of Small Intestine by Ball of Vegetable Fibers. (Contributo clinico alla patogenesi delle ostruzioni del digiuno di Fitobezoar nell' uomo.) P. Frascella.

January, Medical Section, No. 1, pp. 1-48

94 *Endemic Focus of Febrile Variety of Infectious Splenic Anemia in Children. U. Gabbi.
95 *Case of Splenomegaly Cured by Splenectomy. A. Zancan.
96 Action of Strophanthin. (Sull' azione della strofantina.) U. Deganello.

90. **Abortion in Nursing Mothers.**—Andalo has witnessed several cases of abortion occurring in women still nursing an infant, and he explains it as the result of the preponderance of the lacteal secretion over the gestation process in the uterus. The women had never aborted before, nor have they since, and there was no trauma to explain the abortion.

92. **Femoral Pectineal Hernia Behind Femoral Vessels.**—Gaudiani compares a case personally observed with fourteen in the literature, including Cloquet's own description of this rare variety of femoral hernia. The patients were females in twelve of the cases and all were of advanced years. Symptoms of strangulation indicate the necessity for immediate operation, as the hernia is generally not differentiated until late. The cases terminated fatally in 8 of the 15 tabulated. In his own case the patient succumbed to pneumonia a week after the operation.

93. **Ileus from Obstruction by Ball of Vegetable Fibers.**—Frascella's patient was a woman of 66, suddenly presenting symptoms of ileus. The vomiting was incessant, but not fecaloid; the meteorism was limited to the median central zone of the abdomen, while the pain was in the umbilical region. A laparotomy revealed a concrement as large as an egg in the small intestine, and the symptoms of ileus subsided after its removal. The concrement proved to be a hard mass of vegetable fibers welded together by mucus, a typical phytobezoar.

94. **Endemic Foci of Febrile Infectious Splenic Anemia.**—Gabbi wrote from Messina to describe several endemic foci of a febrile variety of splenic anemia in children under the age of 4, generally boys, several children in one family being frequently affected. The syndrome includes intense anemia, tumefaction of the spleen and gastrointestinal disturbances, but no glandular involvement, no lesions of the bones or affections of the organs of respiration or circulation. The children affected were not always the weakest in the family, and there was no trace of rachitis or syphilis in the parents, who were mostly fisherfolk. No signs of malaria or of leukemia could be discovered in the blood of the children, even in those who succumbed to the progress of the disease. None of the localities has a reputation for malaria, but all are on the seashore. None of the physicians practicing in the inland knows of any such affection in their practice. In two cases Gabbi discovered the Leishman-Donovan bodies in the fluid obtained by puncture of the spleen, and he is inclined to believe that the affection is a tropical disease imported from northern Africa, quite distinct from the afebrile type of splenic anemia.

95. **Splenectomy for Splenomegaly with Cirrhosis of the Liver.**—In Zancan's case a farmer's wife in the Venice province presented the syndrome known as Banti's disease. There were no signs of malaria, syphilis or leukemia, and no benefit was derived from internal measures. The spleen was then removed; it weighed 1,450 gm. an hour after its removal, measuring 16 by 28 cm. There was nothing in the history to explain the development of the affection, and animals inoculated with scraps of the spleen failed to develop any symptoms or morbid process. The patient is in the best of health, two years after the operation, and has gained over 22 pounds in weight.

Riforma Medica, Naples

January 18, XXV, No. 3, pp. 57-84

97 Tumors at Base of Brain. (I tumori della base dell' encefalo.) G. Rummo.
98 *Cholesterin in Cerebrospinal Fluid of Paralytics and Its Share in Serodiagnosis. (La colesterina nel liquido cefalo-rachidiano dei paralitici, e sua partecipazione alla reazione di Wassermann.) G. Pighini.

98. **Serodiagnosis in General Paralysis.**—Pighini has examined the cerebrospinal fluid in 10 cases of progressive paralysis, 7 of dementia præcox, 5 of epilepsy, and 6 others of various affections. He found cholesterin in 8 of the 10 cases of the first group, the others being long chronic cases. The serodiagnosis was positive in 90 per cent of the cases. Cholesterin was also present in the fluid in 5 out of 7 patients with dementia præcox and in 3 of the 5 epileptics. He is convinced that the cholesterin is the main factor in the complement-fixation test, and that cholesterin is never present in the cerebrospinal fluid or in the serum under normal conditions.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Clinical Diagnosis and Treatment of Disorders of the Bladder, with Technique of Cystoscopy. By Follen Cabot, M.D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School, New York. Cloth. Pp. 224, with illustrations. Price, $2.00. New York: E. B. Treat & Co., 1909.

Bacterial Food Poisoning. By Prof. Dr. A. Dieudonné, Munich. Translated and Edited, with Additions, by Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Department of Health, City of New York. Cloth. Pp. 128. Price, $1.00. New York: E. B. Treat & Co., 1909.

Athletic Games in the Education of Women. By Gertrude Dudley, Director of Women's Department of Physical Education, University of Chicago, and Frances A. Kellor, Author of "Experimental Sociology." Cloth. Pp. 268. Price, $1.25. New York: Henry Holt & Co., 1909.

The American Medical Association of Vienna, 1909. (Course-Book, giving full information in regard to Courses, Lectures, Fees, Pensions, Rooms, etc.) Paper. Pp. 73. Price, 25 cents. Address the Secretary, care of Café Klinik, Vienna, Austria.

Pneumatocèles Spontanées d'Origine Mastoïdienne. Travail de la Clinique d'Oto-rhino-laryngologie de l'Hôpital Saint-Pothin. Par le Dr. Henri Teste, Médecin Stagiaire au Val-De Grâce. Paper. Pp. 114. Lyon: A. Rey & Cie, 1907.

Surgical Diseases of Children. By Samuel W. Kelley, Professor of Diseases of Children, Cleveland College of Physicians and Surgeons. Cloth. Pp. 768, with illustrations. Price, $5.00. New York: E. B. Treat & Co., 1909.

Nineteenth Annual Report of the North Dakota Agricultural Experiment Station. Part II.—Report of Food Commissioner. Agricultural College, Fargo, N. D. Public Document No. 31. 1908. Paper. Pp. 192.

The Body at Work. By Alex. Hill, M.A., M.D., F.R.C.S., Sometime Master of Downing College, Cambridge. Cloth. Pp. 448, with illustrations. Price, $4.50. New York: Longmans, Green & Co.

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NEW PATENTS

Recent patents of interest to physicians.

910982. Forming metal salts. W. H. Allen, Detroit, Mich.
910784. Desiccating milk. J. H. Campbell, New York and C. H. Campbell, Philadelphia.
910643. Apparatus for magnetic treatment of diseases. R. S. Clymer, Allentown, Pa.
910504. Truss. A. C. Cooke, Rockyhill, Conn.
910662. Making caustic alkalies. W. T. Gibbs, Buckingham, Quebec, Canada.
910821. Vibratory apparatus for therapeutic use. J. C. Johansen, Copenhagen, Denmark.
910930. Medical electrical device for medical and therapeutical purposes. F. A. Ligowsky, Cincinnati, Ohio.
910854. Stethoscope. C. J. Pilling, Philadelphia.
910859 Washing device for cleaning wounds. J. Reusch, Wiesbaden, Germany.
910728. Ambulance. I. H. Russell, Washington, D. C.
910729. Gas-syringe with branched-out discharge pipe. K. Schmidt, Neuruppin, Germany.
910884. Scalp sprayer. W. B. Van Eps, Rochester, N. Y.
911243. Orthopedic apparatus. K. Johannesen, Detroit, Mich.
911324. Combined shoulder and body brace. J. D. Orear, Mexico, Mo.
911523. Antiseptic syringe. C. Piers, Chicago.
911269. Producing certain proteids from buttermilk. L. H. Reuter, Berkeley, Cal.
911331. Disinfecting apparatus. W. H. Rose, Baltimore, Md.
911528. Therapeutical apparatus. A. H. Shoemaker, Seattle, Wash.
911185. Device for treating the human body with heated air. D. Turnauer, Vienna, Austria-Hungary.
911532. Artificial leg. O. A. Watson, Columbus, Miss.
911101. Audiphone-transmitter. C. E. Williams, Natick, Mass.
911803. Ferment and producing it. A. D. Barr, Jersey City, N. J.
912231. Apparatus for generating and administering gases for general anesthesia. C. R. Cummins, Philadelphia.
911952. Cooler and aspirator. J. D. Devoss, Indianapolis, Ind.
912106. Multiple fluid sprayer. E. J. Frazier, Buffalo, N. Y.
911875. Apparatus for measuring the humidity in or determining the evaporating power of the air. M. M. Hastings, Washington, D. C.
911724. Syringe. F. S. Honsinger, Syracuse, N. Y.
912130. Artificial leg. D. B. James, Jackson, Tenn.
911727. Vapor bath cabinet. L. C. Jaques, Spokane, Wash.
912016. Massaging device. W. I. Miller, Cleveland, Ohio.
912024. Medical implement. W. M. Parks and B. B. Cross, Gas City, Ind.
912263. Sputum cup. H. J. Potter, Cambridge, Mass.
911627. Surgical instrument. B. S. Stephenson, Brooklyn, N. Y.
912205. Apparatus for applying internal massage. F. L. Talcott, New York, N. Y.
912214. Invalid-bed. L. W. Ward, Buckhannon, W. Va.
912769. Maternity corset. H. S. Anderson, Chicago.
912532. Combined respirator and inhaler. H. Brat, Charlottenburg, Germany.
912280. Sanitary appliance. H. G. Brott, San Jose, Cal.
912452. Combined sterilizer and irrigator. M. H. Evans, Joplin, Mo.
912691. Spraying nozzle. F. and F. Koenigkramer, Cincinnati, O.
912966. Spraying apparatus. E. H. Lamiell and H. L. Hurst, Canton, Ohio.
12920. Reissue, putting up bandages. J. E. Lee, Conshohocken, Pa.
912588. Osteopathic table. W. M. Marseilles, Clinton, Mo.
912869. Treating phenacetin and product. A. G. Meyer, San Francisco, Cal.
912708. Massage device. T. H. Midgley, Kalamazoo, Mich.
912622. Manufacture of hydrated sodium carbonate. W. E. Ridenour, Philadelphia.
912894. Spraying appliance. J. C. Ryan, Gasport, N. Y.
912742. Inhaler. P. W. Shute, White Pigeon, Mich.

The Choice of an Automobile

And How to Care For It

A DISCUSSION OF THE FEATURES DESIRABLE IN THE PHYSICIAN'S MOTOR CAR

Most of the following articles are by physicians, but some are by experts connected with automobile companies. THE JOURNAL expresses its thanks for these contributions on one of the most practical subjects that affects the physician

EVERY CAR REQUIRES INTELLIGENT CARE

Largely through the influence of the last Automobile Number of THE JOURNAL,[1] I purchased, last October, a slightly used, fourteen horse-power runabout (109), and have used it daily since, except in wet weather, when I use my horse and buggy. I run the car and care for it myself.

I have been pleasantly disappointed in having very few tire troubles. This I attribute mostly to keeping the tires pumped up tight and driving carefully.

By caring for the car myself I have made its up-keep expense much less than that of my horse and buggy, but I warn any physician that, if he has not a mechanical turn, he had best leave the car alone or employ a chauffeur. No matter what the manufacturers may say, all cars require intelligent care and attention. The auto is a great time-saver in the city and makes country trips a pleasure.

M. P. HUGHES, M.D., Gadsden, Ala.

Fig. 1.—Dr. B. S. Herring, Wilson, N. C., amid pleasant surroundings. (Auto 161.* Article on page 825.)

A RUN OF FEVER AND ITS COMPLICATIONS

About two years ago I contracted the automobile fever through contact with my neighbors who had purchased cars. This disease was prevalent in this state at that time and during the following year. By the end of last year in this vicinity it had assumed an epidemic form, as practically all my neighbors and townspeople were afflicted. In some cases it was a mild type and in others a very aggravated form.

The manner in which it was contracted and the mode of onset was the same in most cases that came under my observation, viz., a dizzy whirl through the country with an automobile agent, whose tongue worked as smoothly and glibly as that of a detail man of a proprietary medicine house. This, together with the ever-changing panoramic scenes, the purr of the motor and odor of gasoline, produced complete relaxation, making the victim a splendid subject for the invasion of the automobile microbe.

Though my case was an aggravated one, I waited for THE JOURNAL'S second Automobile Number[1] and then decided to purchase a car. I have been driving it for eight months and would not think of going back to the horse-drawn vehicle. True, one may get a little grease on one's hands and clothes occasionally, but the saving of time on the road, the ability to do more work, and more time for recreation more than compensate for these trifling annoyances. The time is fast aproaching when a doctor's patients will demand of him a rapid method of transit.

I have not found it more expensive than keeping a team. The first cost, however, is considerable and the necessarily rapid deterioration of the machine, being subjected to so many strains in operating over all kinds of roads, is to be taken into consideration. I am persuaded that with the more general use of the automobile, the manufacturers can manufacture them at a greatly reduced figure.

Fig. 2.—The whole Smith family posed for this—so remarks Dr. E. O. Smith, Marquette, Kan. (Auto 137.*)

This new demand in equipment for the physician should be met by a higher medical fee, that he may keep abreast of the times and lay by something, which he can not do with the present inadequate fee charged.

I am not prepared to name the best type of motor car for the physician. Suffice it to say that during the past eight months I have been driving a gasoline motor (137*) and have not been delayed ten minutes on the road from any cause. The engine has always gone when cranked, the tires have never punctured or blown out, and the mileage traveled has amounted to several thousand. This car is equipped with a two-cylinder eighteen horse-power motor, friction transmission and pneumatic tire (138). It is strong and durable, simple in construction and easy to operate.

E. O. SMITH, M.D., Marquette, Kans.

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[1] THE JOURNAL A. M. A., March 7, 1908.

* For key to automobile names, see editorial explanation.

A SYMPOSIUM ON TRANSMISSION

SHAFT AND CHAIN DRIVE

Two devices may be used for the same purpose, but each under a different set of circumstances, and in their proper place they may perform their offices equally well, so a man without prejudice finds some difficulty in discussing their relative merits. To indicate the best one to use in given conditions is one thing, but to give a verdict of absolute superiority is another, and sometimes practically impossible. So I shall perforce confine my remarks to generalities.

From the earliest attempts to produce a self-propelling vehicle, capable of traveling over ordinary roads, invention has concerned itself with the means for utilizing the sources of power which were widely distributed, easy of access and cheap, it being obvious that no machine which depended on unusual fuels and peculiar forms of energy obtainable only in favorable localities could obtain universal vogue.

At first the steam engine presented the only solution of the problem. Under its boiler most any kind of fuel could be burned, but such a cumbersome piece of machinery left but little room for passengers and presented no opportunity to develop a pleasing contour.

The use of liquid fuel helped matters a little and the perfection of higher speed engines, which lessened the weight for a stated power, enlarged the possibilities still further; but it was the gasoline engine which, both figuratively and literally, gave an impetus to the automobile that has carried it to the perfection of the present day.

The question of power and its application being of paramount importance, it is but natural that the inventor should devote all his mental energy to the perfection of the engine and the means for altering the ratio of its movement to that of the final driver, which means has come to be called the "transmission."

When one has labored hard on what he considers the crux of a compound problem, he is apt to seize on the most obvious means for solving the less vital elements, and in the case of the automobile, when the engine and transmission were designed to fill the peculiar requirements of a universal vehicle, the inventor having choice of several well-known and commonly used methods of transmitting power between rotating shafts, became a prey to brain-fag and considered his problem solved.

A dreamer, who can live on food as unsubstantial as his dreams, may let his fancy take wings and fly, but a manufacturer must time his ambitions to the demands of his public or take to "banting" of necessity, and the dear, unambitious public wanted only a substitute for the horse, not a rival to the locomotive. The earlier machines, therefore, were built along the lines of accepted design in carriage building and a small engine of three or four horse-power, and a single cylinder, of course, was all that was required to meet all the demands of the time.

Considerations of economy of space and the best disposition of the load naturally pointed to a place about midway of the two axles and under the floor, and because vibration was a necessary evil in a single cylinder, it should be laid horizontally, with its piston movement parallel to the movement of the carriage. Thus having the driving shaft parallel with the rear axle, what more natural than to use the simplest possible means for connecting them, that is, a chain? There were, however, some of the earlier machines that used a belt for this purpose and one which went so far as to use several belts on pulleys of various sizes to take the place of a geared transmission. But mud and water are not good for belts; and a machine, however well designed in other particulars, would be useless with such a frail transmission, and so the chain became the standard "final drive."

A decided advantage possessed by the chain is that it does not add to the burden of the bearings. It is loose and free and does not add one iota of friction to the bearings and all the effort that it transmits becomes turning effort at the rear axle. The friction of the rollers, as they enter the interdental spaces in the sprocket, is the only loss and this is a negligible quantity. With properly designed stay rod or radius rod attachments, the rear axle may be anchored to the driving shaft so that while each is free to move through a limited arc, the distance between the two centers can not be altered; thus any variation of load or any movement due to a rough road will not vary the slack of the chain.

But such attachments present some mechanical difficulties and it is common to see cars wherein the radius rod attachments are of lesser length than the distance between the driving shaft and rear axle and any vertical movement would of necessity alter the slack of the chain. But however well the radius rods may be attached, either the body or the rear axle must move on an arc and not in a true vertical line. Hence a full elliptic spring is almost a necessity in cars driven this way.

When the chain is new and the sprocket is new, there is no lost motion except in the slack of the chain, and so far as transmitting power is concerned, it is an ideal drive. But the wear on chains is cumulative, that is to say, the wear on all the links must be added together and a slight wear will increase the slack considerably. On the other hand, the occasion for wear at each chain joint is not very good. Nevertheless it is difficult to make a chain so uniform in structure that the wear will be uniform throughout its length in every link. This means that the centers of revolution are constantly changing their relative distance from each other as different portions of the chain pass in and out of the sprocket. Too much slack has to be left on a worn chain in order to take care of the less worn places.

It is not an easy matter thoroughly to protect a chain from dust and dirt. Any device which provides a good covering, and at the same time permits the necessary adjustment for wear, becomes somewhat cumbersome and heavy and is rather an unsightly addition to the car.

While the chain does not need much oil, it is not the easiest thing in the world to put that little oil where it is most needed.

In the old bicycle days it was not such a matter to take off the chain, soak it a little while in hot vaselin, let it cool, wipe off the vaselin from the surface; then the chain was ready for a two or three months' run. The automobile chain, however, is heavy and unwieldy, and one hesitates before taking it off; yet with the new form of chains with well-hardened rollers, a single oiling will last a long time. But as an offset to these disadvantages, the chain is easily repaired. It is no difficult matter to carry two or three spare links in the tool-kit; a repair of a chain on the road, while not a kid-glove affair, may be made in a few minutes, and that is very important. To the man on a country road the easy repair of the vulnerable parts not only saves embarrassment but if he is a physician, may save a life.

As the desires of the public grew with their increased knowledge of what was possible, the cars increased in weight and capacity and the proportion of the weight of the engine to that of the whole car became less and less, so that its disposition in the frame became of less moment than in the earlier types. It is manifest that an engine placed in easy access under a hood in the front of the car offers not only greater accessibility but greater cleanliness; therefore, as the necessity for multiplying cylinders became apparent, the advantages of the upright form appealed very strongly to the automobile builder, and in this form of drive the shaft being at right angles to the rear axle, some form of bevelled gear became an absolute necessity.

Now it is admitted, at the start, that however well designed a bevelled gear may be, it is a physical impossibility to make one entirely without end-thrust or friction, and these two sources of loss, while not great, must be reckoned with and advantages must be found to more than offset them. The willingness of the automobile-buying public to pay a reasonable price for a perfectly designed and constructed piece of machinery has led to the construction of machines for finishing these gears, which produce a gear without lost motion and therefore without noise, with a minimum of friction and the smallest losses due to end-thrust.

Nevertheless this end-thrust exists. Suitable ball bearings are provided to reduce the friction of the end thrust but this does not entirely prevent loss of power, for it is not in the creation of friction that power is lost but in the indirect application.

But such a device may be perfectly housed, absolutely free from dirt, is comparatively small and compact, and requires no adjustment by the user after once being set, except at long intervals; and with any reasonable margin of safety there is almost no possibility of a disabling break. However worn, the gear will still drive the car.

The lost motion due to wear is not cumulative; that is to say, each tooth is an independent driver and is not affected by the wear on any other tooth, but it has to be driven through universal joints and these are sources of weakness, and unless paired, will give to the rear axle an unequal motion.

In traveling over a rough road the application of power to the final drive is alternately from the engine and from the rear axle; that is to say, the road tends constantly to accelerate and to retard the motion of the car and any looseness in the final driver results in irregularity of motion and the sudden application of strains to this member.

In the shaft drive there is almost no lost motion. As a consequence this source of loss and danger is almost entirely eliminated, whereas, in the chain drive, if the chain is much worn or irregularly worn, it is augmented. The chain is used, however, as a rule, on lighter cars, where the evil results of this imperfection would be greatly reduced.

The weight of the car, the disposition of the engine, the kind of roads over which it is to travel generally, make all the difference in the world.

A heavy car with the engine well forward, intended as a touring vehicle to be used on all kinds of roads and in all weathers, should, in the very nature of things, be driven with a shaft, but a light car with no great surplus of power, with the engine near its center, while it would drive with a shaft, would encounter greater losses and be subject to more nconveniences than though it were driven with a chain. For a light car with the heavy engine placed over the front wheels so that the shaft would be at a right angle to the rear axle, would meet the obstructions in the road to great disadvantage, absorb much power and make heavier front springs necessary; and if it were a two-cylinder opposed engine, as generally used on these lighter cars, it would shake as though with ague. And if the engine were set to the best advantage in other ways, a double system of bevel gears would be reuired for a shaft drive.

It would seem to me that the debatable point for the phyician is the relative merits of a light or heavy car for his articular service, but that does not come within the scope of his question.

Frederick Purdy, Kenosha, Wis.

HAFT DRIVE VS. CHAIN DRIVE AS VIEWED BY A PHYSICIAN OF MANY YEARS' EXPERIENCE

I have used several cars having chain drive (105) and several with shaft drive (106). The latter is to be preferred from many standpoints. In the first place, it is clean and requires ttle or no attention, which is an important factor in the use f a car by a professioal man. It is less noisy, is much more ndurable, and as a consequence is less expensive to maintain. here is no kind of weather during which the gearing is ot protected.

With the proper construction of the rear axle, there is o little wear on a good shaft drive that, after years of se, the gearing shows little or no wear and is not noisy, if roperly oiled.

In muddy weather the mud and water, coming in contact ith the chain, prevent its proper oiling and cause it to wear out rapidly; besides, it is a common occurrence to have a stone thrown by the wheels into the chain at its junction with the sprocket, completely locking the wheel and often breaking the chain. Dust is equally bad.

The sprocket wheels wear out, and are expensive to purchase and more so to install. A perfect cover for chain and sprockets that will not jar loose and become noisy and dangerous to the car, so far as I am aware, has not yet been discovered.

The only argument that I ever heard against a good shaft drive is that it requires more power to propel the car. While this may be true, the additional power required is so inconsiderable that this disadvantage is greatly overbalanced by the advantages. As further proof of the superiority of shaft drive over gear drive, nearly all the best factories are adopting that method of propelling their cars.

C. P. Thomas, M.D., Spokane, Wash.

A COMPARISON OF CHAIN AND SHAFT DRIVE

There is so much unintelligent discussion of the relative merits of chain and shaft drive, particularly in the case of salesmen praising their respective goods, that the following may not be amiss, as it can be taken, I believe, as a reasonable statement of the points to be considered:

The form of drive in every automobile, like practically every other part of the car, is necessarily a compromise. Every construction has some bad features, but is considered by the designer to possess, in relation to the other parts, enough good to more than outweigh the bad.

The transmission of power through chains is more efficient, through having less friction loss, than transmission through bevel gears. It is impossible to state how much more efficient, as that depends entirely on circumstances. On the other hand, chains have three disadvantages—noise, stretching and dirt. By the use of ample sprocket surface, accurately cut, noise may be reduced to a minimum. By the use of ample chain capacity and by providing expeditious means for taking up stretch, the stretching feature may be so reduced as to be of no importance. Side chains are entirely free from the objection of dirt, as they extend from one open sprocket to another open sprocket so that dirt does not do any particular damage, and in the second place, they are well away from the range of the dirt which is thrown by the wheels.

With the old-fashioned single chain under the body, the question of dirt is more serious because the chain is in direct range of the dirt and mud thrown by the wheels as they strike the ground, in addition to which the rear end of the chain runs into the housing which contains the differential mechanism, whereas the front sprocket is intimately connected with transmission and motor, so that the chain acts as a conveyer to collect the flying mud and distribute it over the three most important pieces of mechanism in the car.

The bevel drive is free from the three objections named for chains. It has, however, inherent objections of its own. It is somewhat less efficient, very much more expensive to build, involves of necessity a live rear axle and if anything goes wrong about it, the repairing of such troubles must be made in a well-equipped shop at a very considerable expense to the owner; whereas, with the chain drive, if trouble happens, repairs can generally be made by the roadside by an amateur.

The single chain drive also involves a live rear axle, being superior to the shaft drive only in efficiency and inferior to it in every other respect.

The double side chain drive eliminates the necessity of a live rear axle, the differential being placed on the jack shaft, which is only a driving member, whereas the live rear axle is not only a driving member containing the necessary machinery for driving, but is in addition thereto a load-carrying member, having only the tires between it and the ground, whereas the jack shaft has both springs and tires to save it from road shocks and, in addition, does not have any load to support.

The double side chain drive also has its objection, which is the necessity of a bevel gear in addition to the chain. This objection is, however, minimized because this construction allows the two bevel gears to be nearly of the same size, which makes them more efficient than when there is a considerable difference, as is necessary for a large gear reduction between engine and wheels. With this combination a little of the reduction is taken by the bevels, but a further reduction *ad libitum* can be made through the sprockets. Thus, in the case of a high-speed motor driving a low-speed car, a shaft drive becomes a practical impossibility, the choice being between single chain or double side chains, the latter of course being highly preferable.

From the above it can readily be seen that so many different elements must be considered that when the callow salesman makes the offhand general statement that chains are better than shaft or that shaft is better than chains, he knows considerably less about it than any one who has carefully read the above remarks.

Fig. 3.—Dr. H. H. Judd, Wallace, Idaho. A holiday in August through the cottonwood underbrush. Not as smooth as it looks. (Auto 122.)

Frank Briscoe, Detroit.

TRANSMISSION GEAR

Of the three types of transmission gears used in automobiles—the friction, planetary and sliding—an experienced motorist will usually favor the sliding type.

A number of manufacturers have experimented with the friction type, but sooner or later most of them abandon it. The friction gear gives almost any rate of speed desired by moving the friction wheel to different positions on the revolving plate keyed to the engine shaft. With much use the friction wheel is liable to slip on the plate, the bearing surface being so small; this is one of the principal objections to this type of transmission.

The planetary type gives two speeds forward and one backward. Revolving discs filled with gear wheels, the central one fastened to the engine shaft, are surrounded by clutch bands, made of spring steel and lined with wood fiber or leather. These revolving discs are usually encased and the case filled with lubricating oil. Most cases allow the oil to leak out, then the gear wheels run dry, wear and get noisy. In addition to this, the band linings wear out when the clutch bands slip. This causes loss of power and speed and leads to endless annoyances, loss of time and causes lots of expense. This type of gear is used in many makes of cars and is greatly superior to the friction type. Most light cars use this type of transmission.

The sliding transmission gives three speeds forward and one backward. This extra speed forward (intermediate) is of much value. In this type of car there is a friction clutch locking with the fly-wheel, of large friction surface, a powerful bite, which when properly adjusted seldom gives trouble. There is great durability to this style of clutch.

The intermediate gear shines in many places where the high can not be utilized On hilly and muddy roads it is of great value in making speed. The friction and planetary types of transmission are easier for the novice to manipulate, but when he becomes an expert, the sliding type will give him more satisfaction and be just as easy to handle.

The sliding transmission, for the smoothness and quietness of its running qualities, its strength and durability, as well as its ease of manipulation when once learned, to my notion, surpasses all other types and at the present time leads.

C. E. Rogers, M.D., Montevideo, Minn. (160).

FRICTION DRIVE—ITS PROVED EFFICIENCY

The automobile public has all but ceased arguing the question of friction transmission efficiency. In the minds of thousands of car-owners, drivers and experts, it is a demonstrated and accepted fact.

There are, however, certain enthusiasts who do not grant to friction transmission the credit due it. If this brief statement may lead some of these unbelievers to a more earnest study of the whole transmission question, and friction transmission in particular, it will have served a good purpose.

Many authorities agree that the use of the aluminum disc as the driving member, and board-fiber or friction-paper wheel as the driven member, is the highest development of the friction transmission as used in the construction of automobiles, and gives to the car certain distinct advantages which no type of gear transmission, no matter how expensive in construction, can give.

From the standpoint of economy there is hardly a comparison between friction and gear transmission. The simple friction transmission costs much less to build and its low cost enables a manufacturer to sell a car with more quality in other parts than a manufacturer of gear-driven machines can possibly afford to sell at a similar price. The simplicity, too, of the friction drive eliminates practically all the expense of up-keep. The only part to wear out on a transmission is the board-fiber rim of the driven wheel, and it can be replaced by any one in an hour's time, at an expense of not more than $3. For a car in ordinary service, this board fiber rim seldom needs to be replaced more than once a year.

Fig. 4.—Dr. J. A. Palmer, Erie, Kan., with his wife, daughter and repair man. (Auto 162. Article on page 816.)

Aluminum solved the problem of the driving wheel. The aluminum friction disc, against which the driven wheel revolves, will not wear smooth. Thus perfect friction is assured under all conditions. Every user of gear transmission knows how these figures on the up-keep of friction transmission compare with the cost of gear up-keep.

The service—the constant, dependable efficiency—is more important. Repeated and indisputable road tests definitely prove that the friction transmission actually transmits under all conditions, a higher percentage of the power generated than any type of gear transmission.

The friction drive, because of its simplicity, does away with a large share of the unexpected breakdowns which car-owners experience. It gives a flexibility of control attained with no other transmission. It permits the widest range of speed—from one mile per hour up to the highest speed. It eliminates shock and jar in starting and stopping. It serves most efficiently as clutch and brake. Its every operation is silent.

The following description of a friction transmission that is being placed on the market at the present time will, no doubt, prove of interest to the reader. This transmission system embraces but two elements—a friction disc and a friction wheel, the former mounted on the rear end of a continuation of the crank shaft and the latter on a cross, or jack shaft lying in rear of the disc face, from which the chain transmits to the rear axle.

By lever, the friction wheel can be slid along the jack shaft so that it comes in contact with the face of the friction disc at its center, or at any point from this through the periphery of the right side for forward speeds, and on the opposite side of the disc for reverse speeds. Once the friction wheel is positioned for the desired speeds, the friction disc has to be carried rearward in order to press firmly against the board fiber, tire or rim of the friction wheel. This is accomplished by sliding the entire continuation shaft with the disc rearward, which is made possible by keying a 3-arm spider on the forward end of the continuation shaft and inserting three studs in the rear face of the fly-wheel so that ball-and-socket joints in the spider arm may slip back and forward on these studs.

In describing the above transmission the *Scientific American* editorially says: "The simplicity of this device is as great as its antiquity. Its cost of maintenance is extremely low, while its reliability is very great." The *Scientific American* adds that the device has been applied to trucks of the heaviest type with equal success.

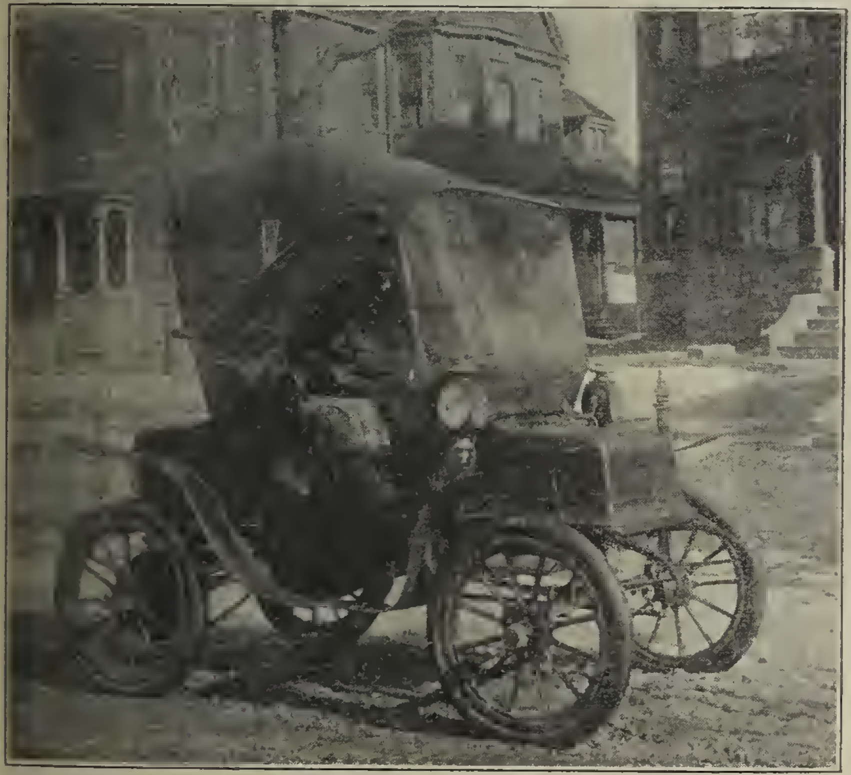


Fig. 5.—Auto (163) of Dr. W. P. Armstrong, Springfield, Ill., showing protection from storm and wind.

Even the most confirmed doubter will agree that this application of friction transmission is the supreme test for real efficiency. Can there be any question that its constant reliability, its utmost ease of control, its record economy of maintenance, its sure going, even in muddy, slippery streets, and its hill-climbing—all the while carrying loads of from two to three tons, is absolute proof of the efficiency of the friction drive?

The use of the friction drive on heavy trucks is not of direct personal interest to all owners of pleasure cars, except as it indicates the assured and even greater reliability of friction transmission in pleasure cars. In these lighter cars, subjected to the usual service, either in town or country or on long, hard drives either in level country or among hills, the reliability of the above type of friction drive is absolute.

G. B. Louderback, Anderson, Ind.

TWO TERSE TESTIMONIALS

I have always been (and am yet) a great admirer of a good horse. I have owned and driven such good ones as Dr. Russell, 2:20½; Doncella, 2:16, and a number of fine show horses, but last July I purchased an automobile (101) and for me it has the horse completely outclassed. As a matter of fact, you can no more compare a horse with an auto than you can compare the old horse car with a modern trolley car. A machine is a great time saver. I would sooner drive and care for a car than any horse I ever saw. I have driven my machine 5400 miles and found it thoroughly reliable. A doctor should buy some good car, with two or four cylinders, with low wheels and pneumatic tires. Such a car rides easier than a high-wheel one, allows traveling at a more desirable rate of speed, looks better, and is probably no more expensive. Take my word for it, sell your horse and buy a car, such a one as I speak of, and you will thank me for giving you this good advice.

L. B. Russell, M.D., Hoopeston, Ill.

Fig. 6.—This is the comfortable-looking car (133) in which Dr. H. H. Roberts, of Lexington, Ky., toured through several states for a vacation. (Article on page 815.)

During the last six months of 1908 I used continuously a four-cylinder machine (115) and found it satisfactory in every respect. I can make my visits in one-half the time that I could with a horse and buggy. I have little trouble. The machine is about as expensive as keeping one horse in the livery stable. Our hilly pikes are very poor, making automobiling more difficult and expensive. In a level country with good roads, nothing can compare with a machine. In rough country with poor roads, high wheels would be preferable. The mud roads that I have to contend with could not be negotiated with any type of machine during the winter and spring, and I use horse and buggy until the first of May.

Every physician must find out for himself by experience what sort of car is best suited to his needs and community. In a rolling country speed must be sacrificed for power and endurance; in the level, the opposite. If it can possibly be afforded, a reliable magneto should be purchased. The purchaser should insist on getting the heaviest tires his machine will carry. Most runabouts that have 3 inch tires would be better with 3½ inch tires. The difference in cost will be more than overbalanced by the longer endurance and lessened trouble. A non-puncturable tire would be the greatest boon.

The ordinary acetylene generators on small cars are worthless to physicians. A gas tank will save trouble and worry. One should get the best machine one can afford, with plenty of power; gas and lubricating oil are both cheap.

Look after your machine yourself unless you can afford to employ a competent chauffeur. Learn its anatomy and physiology. If you have no taste for mechanics, and can not afford to employ a mechanic, don't buy a machine.

J. C. Larkin, M.D., Hillsboro, Ohio.

THE AUTOMOBILE FOR PLEASURE

THE AUTO AS A MEANS OF RECREATION

The automobile has within the last five years become almost as necessary a part of the active physician's equipment as the telephone and that part of the subject will be very thoroughly covered in the Automobile Number.

I should like to say a word, however, on the use of the automobile as a means of recreation for the physician. I have become a great convert to the motor car tour as the best means of taking my vacation and I recommend it enthusiastically to my colleagues.

I have made three trips during the last three years, the first one of about 3,000 miles through New York and New England, the second of about 4,500 miles through central Europe, and the last of about 3,000 miles through the White Mountains, the New England seacoast, the Cape Cod country, Long Island Sound and Long Island.

There is no more fascinating way of spending a vacation of from two to six weeks than in an automobile tour. One sees the country to better advantage than when using any other means of locomotion, unless it be walking, and this, of course, is very slow and the amount of ground which can be covered very small as compared with the country which can be seen in that length of time with a machine.

I have devoted a good deal of study to the type of machine best adapted for a touring car. Here in America one wants a machine with good clearance (from 10 to 11 inches), of considerable power (about forty horse-power), a four-cylinder car (166), with cylinders 5x5½ or 5x6. Probably the more reliable car is a chain-driven car, although such a car is more noisy than a shaft drive and, if one has but a single car to use both for touring and town work, a shaft drive is preferable. The best type of body is that known as the sheltered phaeton type, which can be used for a touring car in the summer and can easily be converted into a limousine for winter use. I have had two of these bodies built (167) and have found them exceedingly satisfactory. Such a body can accommodate very well five people besides the driver and sufficient baggage can easily be carried for a three or four weeks' trip, two light automobile trunks being carried on a trunk rack behind, a goodly-sized dress-suit case under the front seat and the chaffeur's baggage in a circular telescope carried within the two extra tires, and the small hand luggage inside of the tonneau and on top inside the rail.

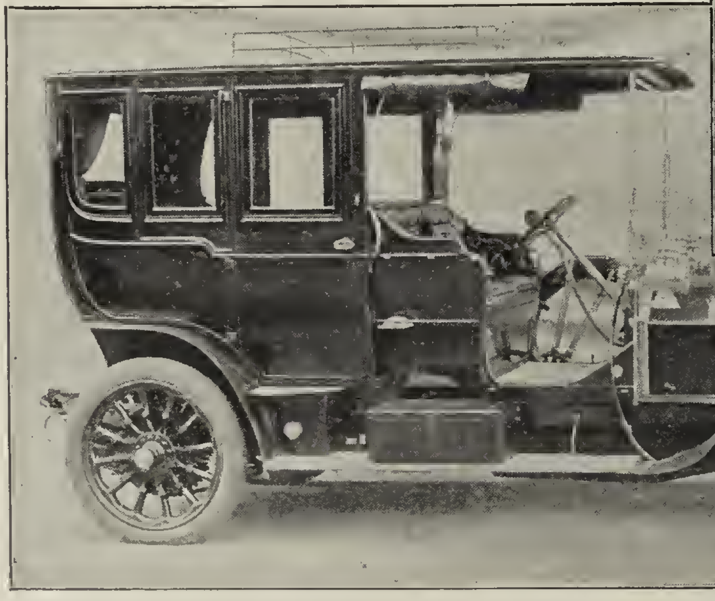


Fig. 7.—Limousine of Dr. Arthur Dean Bevan, Chicago. This is convertible into a summer touring car by the removal of the panel containing the window and the substitution of a low summer door instead of a high winter door.

Fig. 8.—Dr. H. B. Engle, Newton, Iowa, and his car (115).

In touring the speed should not exceed twenty to twenty-two miles an hour. A car at this rate of speed is under perfect control and one can see the country to the best advantage. One can run from 100 to 200 miles and do it with comfort; the average, however, should not exceed 125 miles. Through central Europe my party found it most enjoyable to average about 125 miles, doing this in about six hours' driving, three in the morning and three in the afternoon after lunch. This usually brings us to our resting-place about 4 o'clock in the afternoon and gives us the opportunity of a good walk or exercise and sight-seeing.

The dependability of the modern car is so great that in the three tours which I have made, amounting to over 10,000 miles, we have never had a car in the shop and have never missed our regular connections, even our midday luncheons. The principal difficulty encountered is tire trouble, and with the larger wheels that are now used, this can be reduced to a minimum by careful driving.

As a most enjoyable trip I would recommend for the coming year shipping a car to Liverpool or Cherbourg and going through France, the Black Forest country, Austria, and to Budapest to the International Medical Congress, and back by way of the Austrian Tyrol, Switzerland, northern Italy, central France, especially the château country, and home. I know of three or four physicians who are contemplating visiting the International Congress this summer in this way. I think no more enjoyable six weeks' or two months' trip for one who has a good touring car could be planned. The trip from Cherbourg to Budapest could be made comfortably in about ten days. It would be well to take two weeks or more to the trip, staying a few days in Paris. While in Paris the owner of the car should join the French Automobile club and deposit with this club the amount of duties necessary for all the various countries through which the tour is to be made. The club in return will furnish papers which will be accepted by the custom-house officers at all frontiers. This will save much time and annoyance. When the car returns to Paris the money deposited is collected from the club, minus a nominal fee.

Arthur Dean Bevan, M.D., Chicago.

THE LIFE OF A MOTOR CAR

At the time I entered the automobile game there was practically no information as to what could be expected to be the average life of a motor car. This to me was an important question, as limited life might make the game too expensive to enter. Seven years ago, I fell in love with motoring. I wooed and won—with the aid of a check-book—what was then dignified by the imposing title of a "touring car,' and what would be now called a little light "runabout" (115). It was a one-cylinder, nine horse-power machine, and I told of my troubles, tribulations and final triumphs in the first Automobile Number of The Journal.

During all these seven years I have clung to this one car, which has been running on and on like Tennyson's brook, just as merrily as ever, and, because of my intimate acquaintance with its whims and caprices, it has been running with even less grief and trouble than in the days of old. It is to-day just as reliable, powerful and speedy as when new, and is certainly capable of many more years of satisfactory service.

I have always taken care of the machine myself, and believe that this is the best thing to do, as no one but the driver can know the real condition and needs of the car. Any part showing wear has been replaced and—excluding tire expense, which, like the poor, we always have with us—the principal items have been a new differential at $25, a new chain about every eighteen months, and new gears on the cam shaft. I know the cost of keeping a team and feel sorry for those who have to buy horse-feed at the present prices. It is much cheaper to patronize the oil trust. It is not a question any more of buying a car, but what car to buy. I have found the motor vehicle a great success, but do not want to leave the impression that driving an automobile is one continual round of unalloyed bliss. A machine should not be expected to run from season to season with only gasoline and no attention. It is not an unmixed blessing, but the advantage and pleasure are infinitely greater than the trouble. I would not, if offered it as a gift, care for and drive the best team in the state.

Fig. 9.—Dr. G. Milton Linthicum, Baltimore, and his car (174), in front of the new library building of the Medical and Chirurgical Faculty of Maryland.

After the excellent service my little machine has given me, I feel somewhat ashamed to confess that last month I purchased another car, becoming, perhaps unfortunately, infected with the mania for more speed, more room and more power, and am getting a thirty horse-power, four-cylinder machine with magneto, shaft drive, selective transmission and convertible into either a two or five passenger car (116). I have not deserted my first love, but shall keep both machines, as I feel that a reserve car will be a valuable asset, and if the new vehicle of my joys and sorrows gives as good service as the old I shall certainly be happy.

Harry P. Engle, M.D., Newton, Iowa.

BUY A GOOD CAR, NOT A CHEAP ONE

Four years ago my first venture was a two-cylinder car of twenty horse-power (131), which gave splendid service for about four months, then began to balk and rattle and go wrong. During the next six months, I spent enough money trying to keep the thing going to more than take up my spare change. At the end of the year I sold the car to the other fellow.

I used next a high-wheeled car (132), for just sixty days. I was glad to sell it for half price, for I felt that it was not only impracticable, but absolutely dangerous in crossing street-car tracks, starting down inclines, etc.

Still I did not give up the idea that the automobile was a "good thing" for the physician. I bought a light-touring car, four-cylinder, forty-five horse-power (133, page 813). I have run this car over 6,000 miles at an expense for repairs of $7.50, this being caused by the breaking of one of the front springs.

Last summer I toured Kentucky, Ohio, Michigan, Canada New York and Pennsylvania, nearly 2,000 miles, without a single adjustment and with only one puncture, on a boulevard in Detroit, a three-inch spike causing the trouble.

For all-around usefulness the light-touring car of high horse-power, with seating capacity for five, is the ideal car for the physician. It is not too large to use in practice, and gives service for pleasure and business. A great mistake is made in buying small cheap cars. They are frail, lack proper power for driving over all kinds of grades and roads and are constantly giving trouble. In the larger car all the parts are well constructed, the material is the best and the tires are larger.

I find that much trouble is caused, in some cars, from tires being too light. I believe that some makes of the high-wheeled car may give satisfaction in the country; but for the difference in price between this and a first-class car, the high-priced car is the cheaper in the long run. A car of this type can be bought for from $2,000 to $2,500. The old adage, "Nothing is good that is cheap," holds good of the automobile. Any car will give service when it is new, but what the physician desires is a car that will give service at all times and is of sufficient power to meet any emergency.

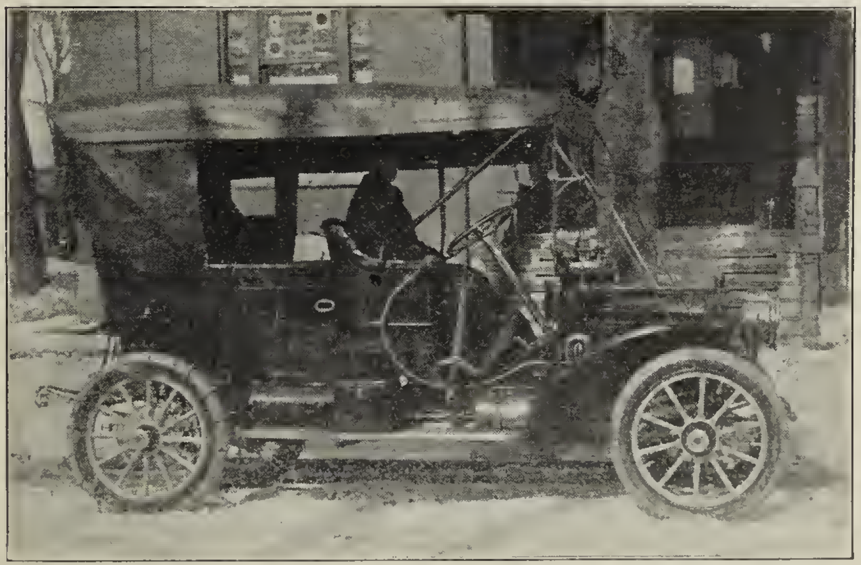


Fig. 10.—Car (177) and chauffeur of Dr. W. B. Caven, Toronto.

It is important for the physician to run the car himself; to learn the construction thoroughly. I find this not only a pleasure, but a diversion. Three hours' work a week will keep the car in perfect order.

My records show that I have run my car every day, winter and summer, at an expense of $18 per month. The rapid means of getting about is a source of great satisfaction, as well as the time saved. If I had to pay double, the amount would be far better spent than in keeping two horses. Therefore, I believe that unless one is able to buy a good car it is better to defer the matter until one feels justified in making such a purchase.

H. H. Roberts, M.D., Lexington, Ky.

SEVENTY-FIVE MILES FROM A REPAIR SHOP

My automobile experience consists of one year with a two-cylinder twenty-two horse-power touring car and more recently with a four-cylinder eighteen horse-power runabout, both of the same make (122). Considering the amount of abuse that a car must receive in this rough country and the primitive condition of the roads, this touring car gave excellent results. As a time-saver an auto has no equal, not to speak of the comfort and pleasure one can have while making distant calls.

As I am about seventy-five miles from a repair-shop it became necessary for me to diagnose and treat all cases of breakdown, but I found this not so difficult after a period of careful observation and a few "experiences."

The tire question was the most annoying single trouble because of the ruts which were baked to almost stony hardness by the sun and wore the side of the tire very rapidly. I obtained the best service from a set of tires (123) covered with leather protectors at certain times, the life of a tire being thus prolonged considerably.

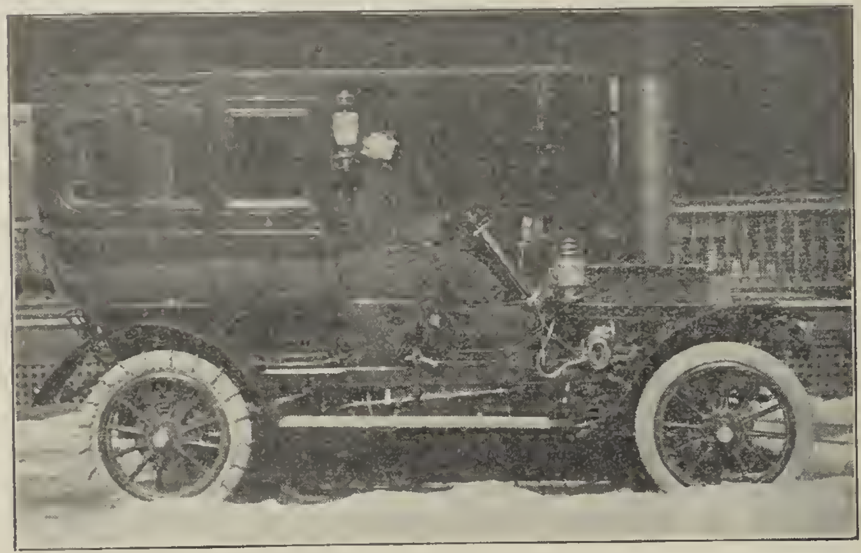


Fig. 11.—The car (175) of Dr. Herbert A. Bruce, Toronto.

My deductions are in favor of a four-cylinder runabout, which gives the maximum power and flexibility with the minimum weight.

High centers in the road are annoying, and therefore a car with maximum clearance is indicated. Most shaft-driven cars are preferable in this respect.

By the aid of good acetylene lamps, night driving becomes a pleasure, and these added to a good top and a weather-proof front allows one to drive in any kind of weather with great comfort. H. H. Judd, M.D., Wallace, Idaho.

IMPORTANCE OF LUBRICATION

After having used an automobile for over six years, and in my earlier machines putting up with trials, such as balky engines, broken crank shafts, defective ignition, poor tires, etc., I am at present more firm in my belief that an automobile is the best form of conveyance for a physician than when I placed the order for my first machine (143) after listening to all the advantages of the automobile as portrayed by an enthusiastic agent.

I used that car a year, during which time it was in the repair-shop rather often, but I had enough use of it to feel encouraged and more ambitious, so I bought a touring car (144), which proved satisfactory—standing up well under hard daily use and a trip completely around Long Island, which seems little enough now, but in 1905 was considered quite a feat. Then a four-cylinder shaft-driven car (150) was put on the market, and, as it seemed much superior to my one-cylinder chain-driven, I decided to try one. I used this car a year with practically no repairs, and then bought one of the model "R" cars, as it was much better-looking. This machine has given me most splendid service, is economical with gasoline and oil, and requires very little attention. In fact, I used it constantly for one stretch of three months without even having to clean a spark plug. Correct regulation of the oil-supply explains that achievement. Desiring a larger car, I have just purchased a touring car (146), but have used it very little.

In selecting a car a physician needs a four-cylinder, shaft-driven, light touring car, or runabout, of a standard make, equipped with a magneto and an oiling system that oils all or nearly all the places to be oiled, thus doing away with oiling by hand every day. James E. Tytler, M.D., New York.

THE IMPORTANCE OF INSTRUCTION IN USE OF A CAR

The second automobile number of The Journal removed any doubts I had on the subject of the automobile and to-day I am the owner of a friction-drive gasoline car (162). Without previous experience or special mechanical ingenuity, I have handled this car about four months, and made my trips and returned with my own power. My manual of instruction came a couple of weeks after the car!

Some one ought to get out a manual that would be of some use to the beginner. For instance, in going down a steep hill the current should be switched off and the power kept on at slow speed; then the brake will scarcely be needed. Not knowing this in my first attempts, I made some records, the brakes not holding very well. Again, in going up a steep hill the car can be held anywhere by keeping on the power. I learned this by experience, fortunately without any accident.

The inexperienced driver without an instructor will do well to bear these points in mind. Half an hour of proper instruction would have put me in complete control of the car.

I have climbed all the hills of any size in the county, have gone through mud-holes and stretches of muddy roads that would test a good team. I don't want to travel any faster until the air ship becomes recognized as a safe method of transit.

Fig. 12.—Car (108) of Dr. F. E. McClure, Detroit, taken in front of the building in which is his office.

The expense of maintenance is not great or out of proportion to the service derived. My 12-year-old son keeps my car in order, takes off tires, repairs tubes, oils the various parts, and all with manifest pleasure. What a different spirit when the old horse requires grooming! The pleasure experienced in handling a good car removes the burden of country practice. A trip of ten or twelve miles is now an actual pleasure; there is no sense of fatigue and one is always ready for another run on return.

My final advice to the prospective purchaser is: Get a car large enough to carry some of your family or friends. Combine business with pleasure—turn the old horse out on pasture and add ten years to your existence.

J. Allen Palmer, M.D., Erie, Kans.

A GOOD INVESTMENT

Three years ago I sold my horse and bought a second-hand machine (107) of standard make and drove it 1½ years, but with an amount of trouble and expense entirely out of proportion to its value. During the summer of 1908 I drove another second-hand machine (108) with less trouble than the first because it was of a later and simpler construction. In September, 1908, I bought a new 1909 model of the same make (108), which, with an equipment or top, curtains, lamps, horn and odometer, cost me $603.50. Since that time I have driven it every day and almost every night, through rain, snow and mud, going anywhere I wanted to go at any time I wanted to go. I have made no effort to save it excepting that I have been very careful to see that lubrication was sufficient.

My odometer shows at this writing a trifle over 2,000 miles, with results as follows: Average mileage per gallon of gasoline in the winter, 23 miles; in the warmer weather of the fall, 25 miles; 360 miles per gallon of engine oil. The differential gear box is filled about every 1,000 miles, and the transmission box once a week. My gasoline costs me 10 cents per gallon, engine oil 30 cents per gallon, and transmission oil 6 cents per pound, and that is absolutely all the expense I have had. The machine has not stopped once, nor even hesitated. I have tightened but one bolt and that on the starting handle. It starts as easily on a cold morning as on a warm one. The total weight is about 900 pounds equipped, and to this light weight I attribute the fact that I have not had even one puncture.

The engine is a single cylinder 4-cycle, but with no explosive vibration, and the chassis being hung on four coil springs, one at each corner, makes it ride as easily, in fact, easier, than any small car I have been in and equal to many of the large ones. It is small, convenient, fast, reliable and handsome in appearance. In fact, after my previous experiences, I am enthusiastic. During the past four and one-half months I have driven it with perfect mental and physical satisfaction. I believe it approximates the ideal car for a city physician. I have not driven it over any bad hills, nor over a very long stretch of deep mud in the country, but I have done enough of this to satisfy me that it will go anywhere that any other car will go, regardless of size or power. It will not go as fast under such conditions as some might prefer, and this point, namely, lack of power to speed under difficult conditions, would be its only drawback, in my judgment.

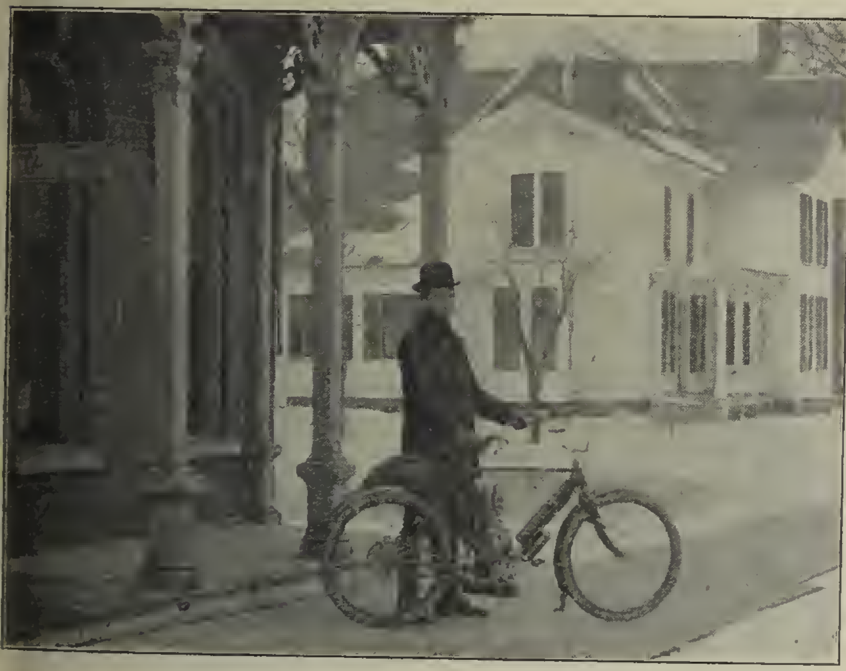


Fig. 13.—The handy motorcycle (147) of Dr. James E. Taylor, Ovid. Mich.

Franklyn E. McClure, M.D., Detroit.

A BUSINESS PROPOSITION

Last March I carefully read the discussion in the Automobile Number of The Journal, with the discourse on spark-plugs, carburetors, dirt, grease and soiled clothes, all of which was Greek to me. Immediately I sent for catalogues and had agents pester me till I had to seek shelter in the purchase of a car.

The first of May I purchased my first car (110), eighteen horse-power, friction transmission, water-cooled, 1,350 pounds, with a rumble seat, with top, for $875. This has carried me all summer without a hitch, on business and pleasure alike. I find that I have not made a mistake in buying a friction-drive car, as it transmits a greater percentage of power than the ordinary bevel-gear transmission, and eliminates a considerable amount of trouble common to the clutch.

I love my car for its simplicity, economy, ease of control, and light-running. It starts without a jerk, runs smoothly and has not the engine throb of the two-cylinder type. The speed is thirty-five miles per hour, and the friction transmission allows a large mileage per gallon of gasoline.

The control is simple, with only one lever, which places the friction wheel, traveling on a cross shaft, to any point on the friction disc, which gives the speed. On roads too bad for high speed work, and when slow speed is too slow, the simple adjustment of the friction saves time and gasoline.

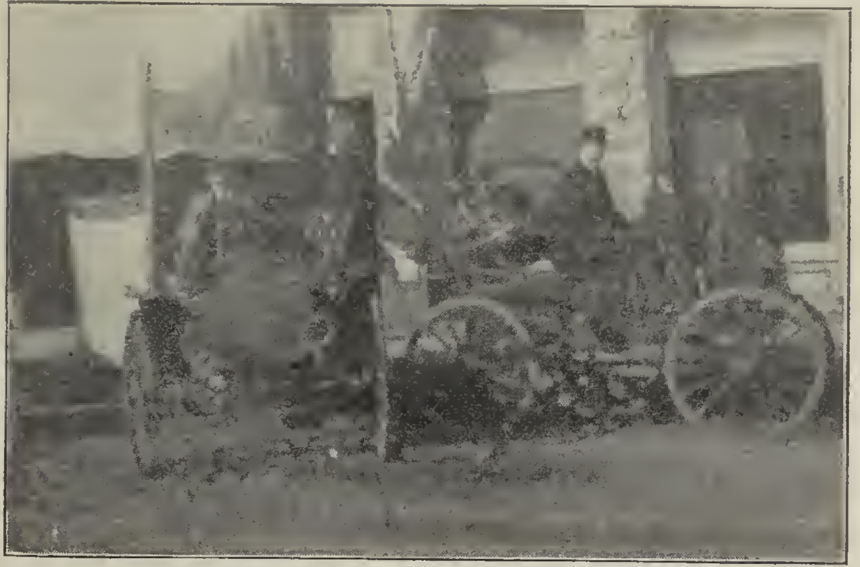


Fig. 14.—Cars (176, 178) of Drs. E. M. Fisher and H. A. Ingalls, Roswell, N. M.

.The automobile makes work like play. I come home with a hearty appetite and do not scold my wife and family. Not yet have I failed to make a call, besides having more time at the bedside and more time for recreation and meeting more patients at my office.

I am a struggling young country doctor, with much of my work miles in the country over flint-stone pikes and mud roads; but not for double the price of my car and a few extra expenses for an occasional tire, etc., would I revert to the horse entirely. The automobile is strictly a business proposition. A. H. Calhoun, M.D., Wren, Ohio.

A GREAT TIME-SAVER

Since buying my car (172) I have depended entirely on it in all kinds of weather and over all kinds of roads. As yet I haven't found any hills I can't climb around this section. The original cost of a car such as I use is $750, without counting gas lamps and freight. The total amounts to about $800. Gasoline by the barrel cost 10 or 11 cents a gallon. Oil costs 40 cents a gallon in five-gallon cans. Solid tires are far less expensive than pneumatic, and there is no danger of punctures. New ones and repainting of the wheels cost me about $30. My expenses for repairs for the fourteen months I have had the car, including new tires, amounted to about $50. The cost per month, including everything, is about $7.60. The original cost and expense of running for fourteen months is little more than that of buying a horse and keeping it for the same length of time. Among the advantages over a horse are that the auto requires only about fifteen minutes or half an hour's care every day (some days not that); that it is ready at all hours, day or night; and that the doctor sees his patients in one-third the time and has more time at his office.

George W. O'Grady, M.D., Lancaster, O.

THE CARBURETOR THE HEART OF THE ENGINE

THE CARBURETOR AND ITS IMPORTANCE

The most delicate part of the automobile power plant is the carburetor, a part that has puzzled the experts and even the most scientific automobile engineers even since automobiles were made a practical conveyance, as well for sport as for commercial use. Internal combustion engines have been constructed and placed on the market in great numbers and a great many have been fairly satisfactory. The general principle of the construction of the machine has remained the same and changes have mostly been confined to detailed improvements, while the little mechanism called the carburetor, which is the vital part of the power plant, has undergone most radical variations in construction. About three thousand applications have been made in the United States Patent Office on carburetors within the last few years. Of course they are all different, which goes to show the wide range of experiment to which the carburetor has been subjected. Yet comparatively few of the many different makes of carburetors remain on the market to-day and of these very few can be said to operate entirely satisfactorily.

Fig. 15.—The start.

The carburetor in most general use is of the float-feed type with automatic air intake; the gasoline is carried in a float chamber with its level slightly below the point of the gasoline spraying nozzle, which is generally mounted in the center of mixing chamber and surrounded by a tube so shaped that, when air is drawn in, it is deflected against the point of the spraying nozzle, and as the air velocity increases, the gasoline supply is also increased. The upper end of this tube is made larger so as to allow the gasoline vapor to expand into the mixing chamber proper where it is joined by air taken in through the auxiliary air valve. This valve is operated automatically by the suction from the engine; it has a delicate spring adjustment which is set so as to allow the right amount of air to enter corresponding to the amount of gasoline vapor drawn through the venturia tube. A low vacuum is always maintained in the intake manifold in order to draw gasoline from the spraying nozzle. As the gasoline is picked up and vaporized by the inrush of air through the carburetor, it can be readily understood that the speed with which the air travels has a great deal to do with the vaporization process. It is therefore very important to avoid as much as possible all sharp turns and corners in the carburetor as well as in the intake manifold. The proportion of gasoline and air required to make a combustible mixture would best be determined by weight, as it depends on the temperature and density of the air and changes in the atmosphere and altitudes will have much influence on the mixture, as in the high altitudes larger air openings in the carburetor or smaller supply of gasoline is needed than in the lower and heavier altitudes. Therefore a wide enough range of adjustment is generally provided on the modern carburetors to allow them to be readily set to the required conditions.

An over-rich mixture will form a carbon deposit in the explosion chamber and on the upper end of the piston which will often cause premature ignition of the gas and when an imperfect mixture is taken into the explosion chamber back-firing will occur, because the globules of gasoline continue to burn for some time after the explosion has taken place and when the intake valve is opened this fire is communicated to the intake manifold causing a second explosion which is partly discharged through the carburetor. Back-firing occurs more often when the spark is retarded because the ignition takes place later, making the actual time shorter between ignition of charge in the cylinders and opening of intake valve; also because the explosion takes place later or after the piston is on its downward stroke when the explosion is much weaker, consequently consumption of fuel is much slower.

When an engine is throttled down to run at slow speed there is no back-firing, because the mixture drawn into the engine consists of air being lightly passed through the manifold and is carrying with it into the engine only enough of fairly vaporized gasoline to make it combustible. If the throttle is then opened very slowly and the engine allowed to speed up gradually it does not back-fire because the air current is given time to pick up gradually and vaporize all gasoline deposited in the intake pipes. If the throttle is opened very suddenly the inrushing air will sweep up all the gasoline deposited both in the carburetor and manifold and will throw it into the engine in drops or perhaps it may be cut up into smaller globules, but if the gasoline is not thoroughly vaporized and the proper amount of air mixed with it, the action will be as before stated and the back-firing will be the result.

Often when not enough of air is taken in at the same time the engine will miss several explosions before it is cleared out. If the attempt is made to stop back-firing by tightening the auxiliary air valve or rather lessening the travel of it the following will be the result: The velocity of fixed air going through the carburetor is increased thereby vaporizing more gasoline, but the total volume of air going through the carburetor has been cut down so that there is not current with sufficient force to sweep the manifold clean of the unvaporized gasoline, especially if the opening in the manifold is a very large one.

Fig. 16.—The finish.

The same thing that causes back-firing will cause overheating of the engine and exhaust manifold.

If a perfect vapor is made in the carburetor so that when auxiliary air is mixed with it it will be all combustible when delivered to the engine explosion chamber, there should be no trouble to ignite it. The combustion is then quick and perfect; there will be no carbon deposits and back-firing will hardly ever occur because there will be nothing to burn in the cylinder after the exploded charge is cleaned out.

John S. Goldberg, Chicago.

THE CARBURETOR AND HOW TO LOCATE TROUBLE

If there is one part of an automobile more important than another, it is the carburetor. It is the heart of the gasoline engine, and, like its counterpart of the human body, is subject to functional disturbance in degrees, ranging from slight departure from the normal condition to utter inability.

It must be remembered that the power of a gasoline engine is due to the explosion of gas formed from the mixture of gasoline (or other combustible) with air in a close chamber. When the explosion of gas thus formed takes place, the confined air is instantly heated to a high degree, and, expanding, furnishes the power that runs the engine. It is necessary that the mixture of air and gasoline should be in the proper proportion, and, as the mixing is the function of the carburetor, we can readily understand the importance of the carburetor being maintained in a perfectly normal condition. Without a perfectly adjusted carburetor, it is impossible for the engine to reach the full limit of its power; it is therefore necessary that the owner should thoroughly understand his carburetor and be able to diagnose all trouble and apply the proper remedy.

A poorly adjusted carburetor will consume more gas and yet develop less power than a normal one. Everything else being equal, a carburetor once properly adjusted will need little or no attention.

To the beginner I recommend that other sources of trouble should be investigated before an attempt is made to correct the carburetor, for many times the fault is elsewhere. Evidence of a faulty carburetor is the lack of power. The engine may run well while the car is standing, but when the clutch is thrown on the car fails to develop the normal speed. Hill-climbing becomes laborious and occasionally the engine fails to develop sufficient power to propel the car on level roads.

It must be remembered, however, that a defective carburetor is not the only cause of this condition.

When the engine fails to develop the normal power it is well to look after the lubrication. See that every part of the engine that requires oil is abundantly supplied; this being the case you can exclude this as the source of your trouble.

Fig. 17.—The transportation problem—"And Sheridan twenty miles away."

Next go over your cooling system. Be particular to see if the pump is in good working order and that the water is circulating freely and that the supply of water is sufficient in quantity.

If this is in perfect condition you should then search for the trouble in the ignition system. Examine the batteries to see if they are sufficient in voltage to furnish a sufficient spark to explode the gas in the combustion chamber. Test your spark-plug to see if a spark is produced at each contact of the commutator; if not you have probably a short circuit, which should be located and remedied.

If the ignition system is found to be in working order you have now by exclusion brought your trouble down to the carburetor. Before attempting to make alterations in the adjustment, see that the valves that open and close at each stroke of the piston are in working order. Examine to see if there is any obstruction to the free flow of gas to the carburetor. Occasionally particles of dirt find their way to the tube that carries the gas to the carburetor, obstructing the passage. The intake tube, through which the air passes to the combustion chamber, occasionally becomes partially obstructed by particles of grass or dirt being drawn in by the suction, thereby interfering with the quantity of air, destroying the relative proportion of air to gasoline. This tube occasionally needs cleaning and should not be neglected in searching for the cause of trouble connected with the engine.

Fig. 18.—An Iowa practitioner taking his car out of the barn.

Let the readjustment of the carburetor be your last resort unless you have had experience and can positively locate the trouble in improper adjustment. The engine comes from the factory presumably in perfect working order, and if no accidents have occurred and the carburetor has not been tinkered with, it should be in good working order. It is not always an easy task to adjust an unruly carburetor properly, and unskilled attempts at adjustment may make the task of putting things right more difficult.

Different grades of gasoline may require slight change in the adjustment, yet it is well to wait a reasonable time before readjusting, for often the carburetor appears to adapt itself to the change in gasoline. The different seasons of the year and even the density or humidity of the air may from time to time indicate a slight readjustment. It is well, however, to wait and see if self-readjustment will not take place.

To show to what extent a carburetor can be made to do fairly good work under unnatural circumstances, I will relate a personal experience that may be the means of relieving some one who may find himself similarly situated. I was returning from the country in the middle of the night. When five miles from town my supply of gasoline gave out. I was two miles from the nearest house where I could get a supply. The thought occurred to me that perhaps kerosene oil might work. I took the oil from my oil lamps, put it into the gasoline tank, cranked the engine, and to my surprise and delight the engine responded and my journey was soon completed. At first the engine pounded, but I soon manipulated the throttle so that the pounding ceased and the faithful engine brought me home.

When readjustment seems necessary the operator should start his engine and then slowly turn the adjustment screw to the right and left and note the result. When the point is reached when the best result is obtained, the set-screw should be firmly tightened in order to fix the adjustment.

F. M. Crain, M.D., Redfield, S. D.

A DISCUSSION OF HIGH WHEELS AND SOLID TIRES OR LOW WHEELS AND PNEUMATICS

LOW WHEEL AND PNEUMATIC PREFERRED

I have driven four cars in my general practice in a town of 12,000 in southeastern Kansas in the last three years. The time saved by using an auto will pay for a moderate-priced car in one year. The up-keep and running expense is about that of a horse and buggy, while the machine will do as much work as three horses and do it more quickly.

I drive a low-wheeled car (120) ten or eleven months out of the year and observe that when mine is laid up by the weather the high-wheeled car is also quiet. All grant that the low-wheeler has the advantage on good roads (which at this place means ten months in the year), therefore I buy a car for ten months rather than for two. In three years I have had less than a dozen punctures and no blowouts in a road record of 10,000 miles. One good set of pneumatic tires, if not overloaded, will outwear three sets of solid tires and not punish the engine and gearing as do the solid.

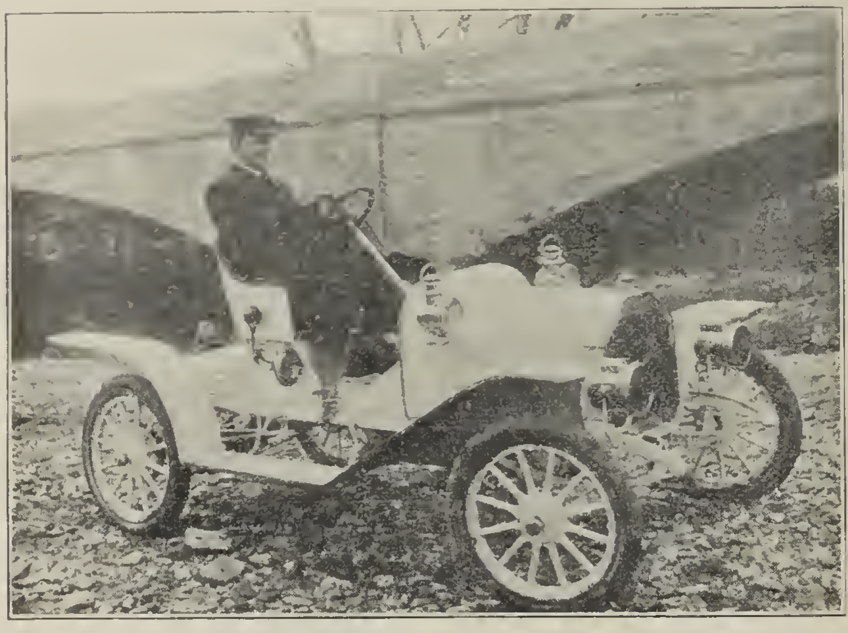


Fig. 19.—Dr. P. S. Mitchell, Iola, Kan., and his car (120).

Fig. 20.—Dr. J. B. Hetherington, Logansport, Ind., and his enclosed car (157).

Cold weather hardly enters as an item against water-cooled engines in this climate, while the trouble that air-coolers have teaches me that, as a class, at least, they have by no means been a success. Likewise the two-cycle machines as a class have failed to make good here, principally because of failing to scavenger properly and because of holding compression. I can not see that they vibrate less than the four-cycle cars.

Having owned and driven one-cylinder (121), two-cylinder (120) and four-cylinder (120) cars, shaft and chain drive, large and small, my conclusion is that the car is almost indispensable to the busy doctor. One for the man of moderate means should be about as follows: Price, $800 to $1,200; horsepower, 18 to 24; four-cylinder, four-cycle, shaft-drive, water-cooled, cone-clutch and planetary gear (if a small car), weight 1,500 to 1,800 pounds, 30-inch to 32-inch wheels, $3\frac{1}{2}$-inch pneumatic tires, 90 to 100-inch wheel base, with adequate springs, high tension magneto, runabout body or removable tonneau.

P. S. Mitchell, M.D., Iola, Kan.

ADVANTAGES OF HIGH-WHEELED AUTOMOBILES

High wheels travel all roads, because all roads are made to be traveled by high wheels.

This is the slogan of the builders of high-wheel types of automobiles, commonly known as motor buggies. The term "motor buggies" only partially defines this class of automobiles, however, for the high-wheeled commercial vehicle is now being developed very rapidly and bids fair to outstrip the already well-developed passenger vehicle.

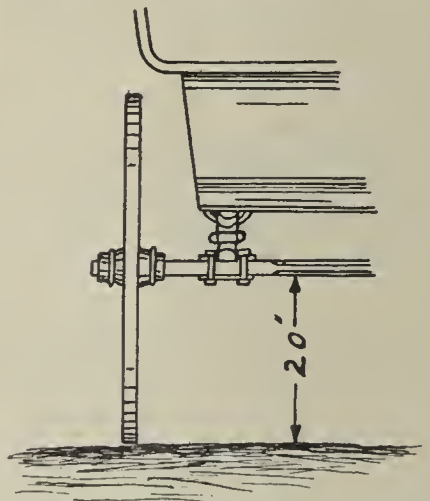


Fig. A.—Normal road clearance of high-wheeled machine.

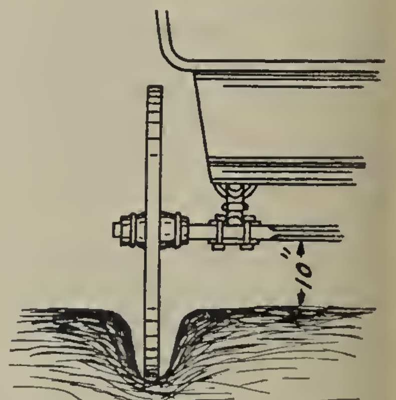


Fig. B.—Plenty of clearance in mud or ruts.

High wheels have a feature peculiarly their own, in their ability to travel all kinds of roads ordinarily traveled by horse and buggy. The low-wheeled types, owing to their low axle clearance, are not adapted to travel over country roads, with their deep wheel ruts or high center ridges. The high-wheeled machines were first built because so many persons found it necessary to travel both city streets and country roads that a demand soon arose for an automobile adapted to both. High wheels allow an axle clearance of from twenty to twenty-four inches, which is as much as that of the ordinary horse-drawn vehicle; hence the justification of the claim that "high wheels travel all roads because all roads are made to be traveled by high wheels."

The greatest bugbear of automobiling to-day is the unreliable, extravagant and even dangerous pneumatic tire. This fact and the demand for greater road clearance are the two great reasons for the popularity of the high wheel. Pneumatic tires are an extravagant luxury, and manufacturers of low-wheeled automobiles would gladly dispense with them to-day if a satisfactory substitute could be devised or discovered.

Solid rubber tires on low wheels are impossible for rapid locomotion or for use on rough roads. They are not only possible, but are entirely practicable on high wheels.

Six years ago the first high-wheeled passenger automobile was placed on the market; for three years it was the sole representative of this type. At the end of that time other manufacturers began to wake up to the fact that this type was fast becoming popular among a certain class of automobile users, and immediately began to experiment in this direction, until at the present time there are between fifty and one hundred manufacturers either building or developing high-wheeled machines.

High-wheeled automobiles as a class are not so widely separated from the low-wheeled automobiles as they were a few years ago, and the difference is rapidly being obliterated. As a matter of fact, the high-wheeled machines are simply a continuance of the wheel diameter where the low-wheeled machines leave off.

Builders of the so-called low-wheeled machines stop at about thirty-six inches wheel diameter, and makers of so-called high-wheeled machines commence at about thirty-six inches and continue up to about forty-eight inches, the height of the ordinary buggy or carriage wheel. Wheel under thirty-six inches usually require pneumatic tires, and thirty-six inches diameter is about the limit for pneumatic tires on account of their cost; whereas wheels over thirty-six inches in diameter do not require pneumatic tires, and hence use the solid rubber tire exclusively.

Instead therefore of using the classification "low wheels" and "high wheels," it would be just about as accurate to classify automobiles as "pneumatic-tired" and "solid-tired." The classification of "high wheels" and "low wheels" is more descriptive of the types, however, and hence is the one generally used.

Automobile builders first adopted the low wheel and pneumatic tire, following the bicycle type, perhaps owing to the belief that pneumatic tires were necessary for comfortable riding and protection to the machinery. It has been found entirely practicable, however, to use large wheels with solid rubber tires with practically the same, and under some conditions better, riding qualities and protection to the mechanism of the machine. When this fact was demonstrated beyond a doubt, the professional and business world immediately turned toward the high-wheeled, solid rubber-tired type of automobile as being more economical of up-keep and as offering greater roadability.

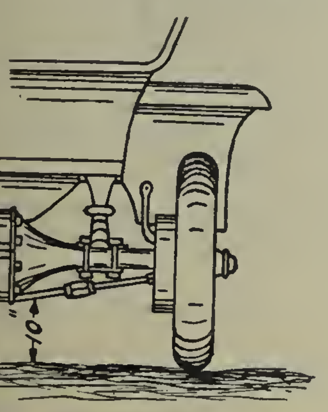


Fig. C.—Normal road clearance of low-wheeled machine.

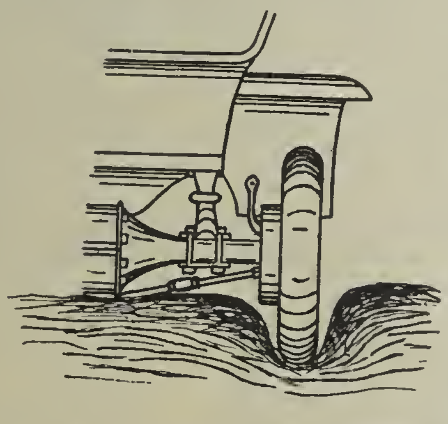


Fig. D.—Lack of road clearance in mud or ruts.

An important feature of the high wheels is that, being narrow and protected by steel channels, the rubber is not injured when the wheels are traveling in deep ruts, as the tires escape the terrific rasping effect of the dried or frozen sides of the ruts which so quickly tear the pneumatic tires to pieces.

High wheels consume less power on rough roads than do low wheels, because an obstruction is less of an obstacle to a large wheel than to a small one. As a hill is nothing but a series of obstructions, high wheels are therefore also better hill-climbers than low wheels.

Strange as it may seem, high wheels are really stronger and less liable to break than low wheels. This is due to the fact that all high wheels are dished, so that when the vehicle skids sideways and strikes an obstacle, the dish of the wheel acts as a truss and braces it. Low wheels are not dished, but have the spokes set perpendicular to the hub, and hence are unable to withstand a severe side strain or shock. Then, too, the long spokes of the high wheels are flexible and will bend considerably before they will break; whereas the spokes in the low wheels are too short to be flexible, and since they can not bend they break. The long spokes of the high wheel also render the wheel somewhat resilient, and there is less necessity for pneumatic tires than on the low wheels, the spokes of which are absolutely rigid.

High-wheeled automobiles are now in use in every civilized country in the world, and have demonstrated that they are here to stay, as they meet requirements for which they alone are peculiarly adapted. The field for this type of vehicle is just barely touched, but it is spreading rapidly now that the gasoline motor has been made thoroughly dependable in the hands of an ordinarily careful user.

Fig. 21.—A group of high-wheelers (191) in North Dakota, some of which have been in use four or five years.

Physicians and other professional men early welcomed the high-wheeled machine with the high-road clearance and trouble-freed solid rubber tires, and now the department store, fire department, mail-carrier, laundryman, groceryman, liveryman and scores of other businesses are already making extensive use of this most sensible and serviceable vehicle.

Being now completely commercialized, it is recognized in all automobile shows, expositions and trade papers as a standard type. Its development and growth have been spectacular.

Fig. 22.—A high-wheeled car (168) in New Zealand.

The low first cost and economy of up-keep, together with the great possibilities of the high-wheeled car, make it very probable that within the next five years there will be more high-wheeled automobiles in use than of any other type.

W. Hildreth, Chicago.

USES BOTH STYLES

I have been using motor vehicles exclusively in my practice since July, 1903. I now use an enclosed automobile (157) of the direct drive, pneumatic-tired type except on muddy roads, when I use an enclosed machine of the high-wheeled type

(158). Both machines have double opposed cylinder of twelve horse-power, are very simple in construction and reliable.

I consider the pneumatic tire better adapted to ordinary roads and more comfortable on them. There is not so much vibration and the machine looks better. When the road is muddy it requires much more power to force a pneumatic tire through the mud than a narrow solid tire, but when the roads are good, riding on air is far more comfortable. In mud one gets bumped anyhow, and it is unpleasant to have the engine working to its limit against the mud when the high wheel with narrow tire goes so much more easily.

For practical work a physician's machine should be as simple as possible. Either type of bare tires will slip in slick mud, though the pneumatic holds best on ice.

The pneumatics are a little more expensive than solid tires, though not as much so as one would expect, if large pneumatics in proportion to their load are used. The solid tires batter to pieces, while the pneumatic continues good. A heavy car means tire expense with either solid or pneumatic tires.

I prefer an engine under a bonnet where it is easily inspected. On my old car (159) it was difficult to get at the engine under the bed. Then I was always afraid of the chain drive. One of our physicians has been wrecked twice with different cars by having his chain climb the sprocket.

J. P. Hetherington, M.D., Logansport, Ind.

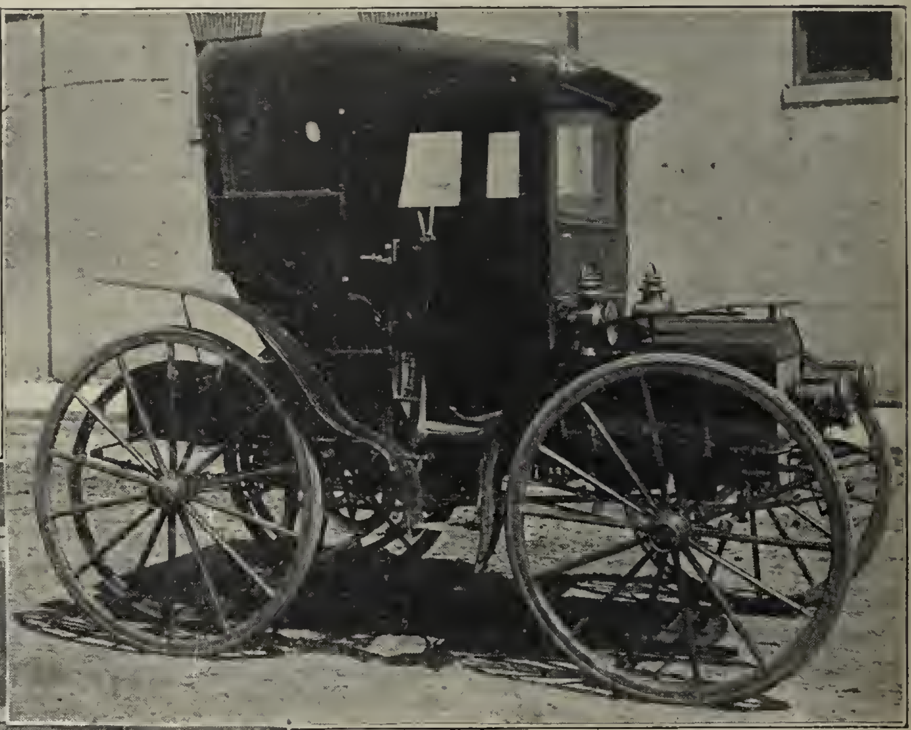


Fig. 24.—The inclosed carriage (102) of Drs. P. E. and Fred Sheppard, Hutchinson, Minn.

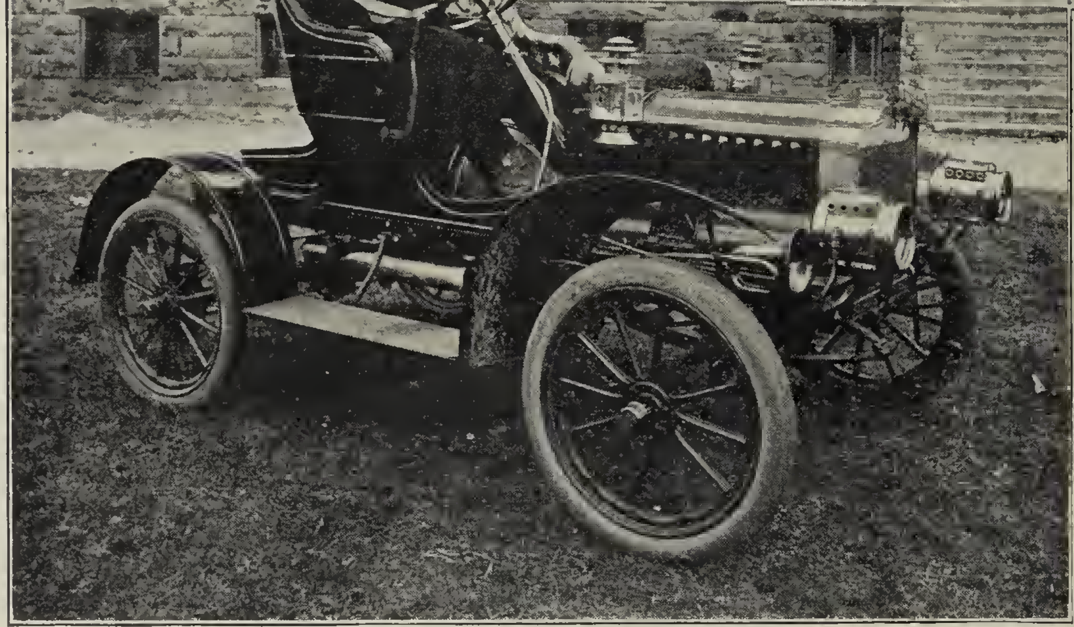


Fig. 23.—Dr. M. P. Hughes, Gadsden, Ala., in his trim motor car (109) referred to on page 809.

HIGH-WHEEL AUTO NOT FANCY BUT PRACTICAL

A year ago my brother and I were in the catalogue stage of buying an automobile. We looked forward to the coming of the Automobile Number of The Journal as one of our main sources of help in deciding what kind of a machine to buy. We decided in favor of a hard-tired, high-wheeled machine (102), so now we wish to add our testimony that it may help some one else.

We have a medium weight twelve horse-power machine, with a full shelter top, which insures comfort in bad weather. We believe that it does not pay to run any machine in mud, but if we get caught in a rain we can always get back without getting wet or spattered with mud. After a rainy spell we are always out several days before any of the low-wheelers because we can run in a rut. We ran up to December 15, when enough snow fell for sleighing. We ran in ten below zero weather with comfort and ask nothing better than a rut to run in on frozen ground. You can not do that with pneumatic tires.

The cost of up-keep is low. Our first set of tires will last us well into the coming season, and they cost $7 each for the best grade of rubber. You can not keep a team shod cheaper than that.

One reason we selected this machine was that it is made by an old reliable carriage house with an established reputation, and we knew them to be strictly on the square. Their work and material is first-class, and if anything is not right they will make it right. As much can not be said of some of the mushroom automobile houses.

The high-wheeled automobile is not a fancy rig, nor is it as speedy or comfortable as the other type; but it is cheap in original cost and up-keep, and will go when the others will not. It is cleaner, too, for the doctor, because there is less dust and because all parts are easy to get at.

Our conclusions, then, are: If you are buying a luxurious machine for pleasure, to run fast in fair weather and on good roads, and if expense is no object, get a low one with pneumatic tires. If you are buying for business and economy, get a hard-tired, high-wheeled one. It is a good investment.

P. E. Sheppard, M.D.
Hutchinson, Minn.

A SAD EXPERIENCE WITH HIGH WHEELER

In the spring of 1908 I bought a high-wheeled runabout (140) for $500. From the start it has been a series of breakdowns and disappointments. The mechanism is so loosely put together and so poorly devised that it makes more noise than a farmer's wagon. Instead of steel I found cast-iron in many places such as rocker beams, high-speed traveler, clutches, etc., that were continually snapping off. The chains being so light as to stretch on the hills, would keep running off the sprocket wheels.

In this country the cobblestones in the road constitute the greatest obstacle to any enjoyment in a high-wheeled auto. Those cobblestones just knocked the machine out of adjustment and broke the bearings as a regular thing. When the management remedy these weak places I presume this machine will do on smooth dirt roads; but for cobblestones and hills it is too cheaply constructed for daily use.

My engine being air-cooled, I had visions of running through the snow; but it was only a pipe dream. The machine absolutely won't work when the temperature is less than 20 degrees above zero.

Altogether, I am sore on high-wheeled, solid-tired auto buggies. H. C. WORTHINGTON, M.D., Beloit, Wis.

QUESTIONS ASKED AND ANSWERED

Is the automobile a reliable and satisfactory substitute for the horse-drawn vehicle for the doctor's use? Yes, for doctors practicing in cities and towns. In any country district where the roads are fairly good, also yes. For muddy, clay or slippery roads in wet seasons, no. Sand has been regarded as a serious objection, but if the tread of the automobile is the same as that of the other vehicles using the highway this objection does not obtain.

Is the up-keep greater than for buggy and team? This lepends entirely on the driver. One man will take care of nachinery and another will not. If one horse and buggy will o all a physician's work, and if he does not need a river, an automobile will be a greater expense. If he as a large territory to cover and requires more than ıe horse, an automobile will save many hours each ıy, cost less to operate, and the greater amount of ork permitted will greatly increase the income.

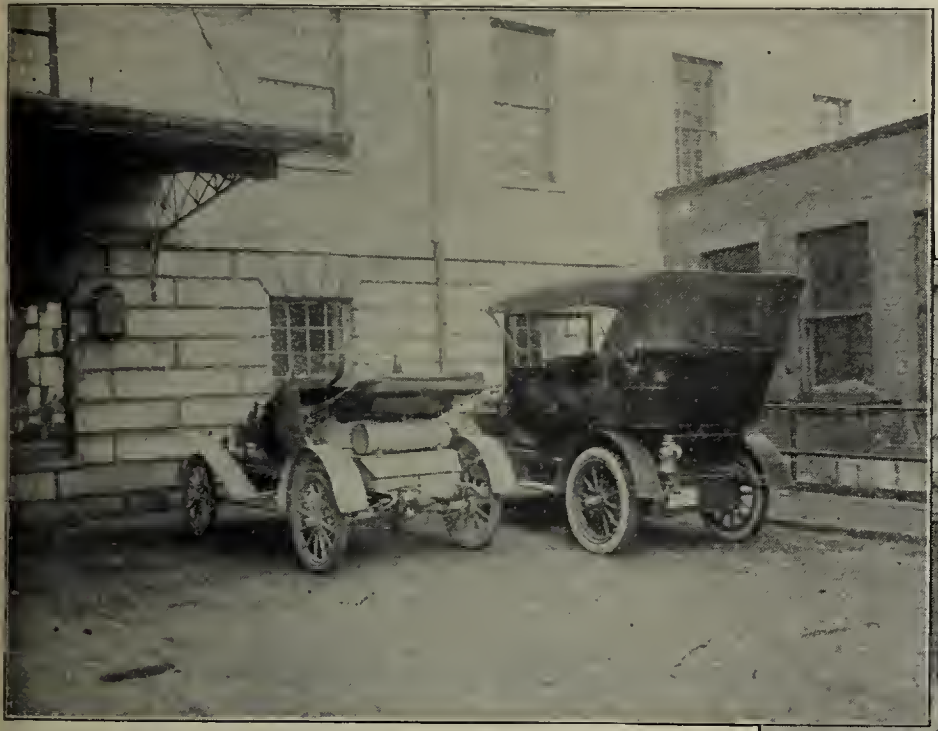


Fig. 25.—Rear view of Massachusetts General Hospital, showing cars (195) of two of the attendants, Drs. John Bryant, Jr., and Herman F. Vickery, Boston.

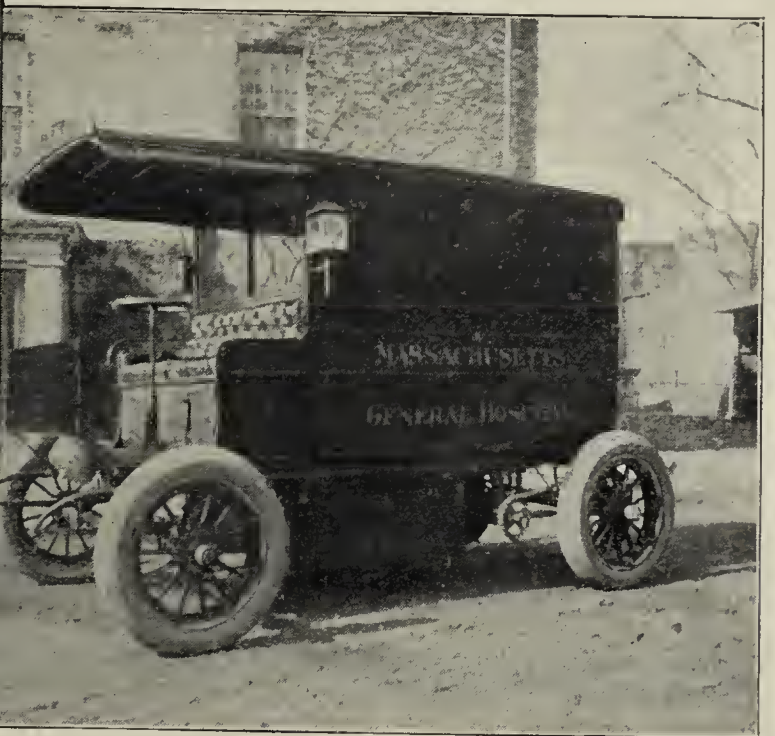


Fig. 26.—One of the automobile ambulances of Massachusetts General Hospital.

Does not the first cost make the automobile a luxury, and ›es not this investment deteriorate more rapidly than with ›rses and vehicles? Once again, this depends on the driver. have run my car over 12,000 miles, as roughly as is possible, 'er every imaginable sort of road, but it is in better shape, ns more smoothly, has more power, requires less attention, an during the first year of its service. I believe that with e same care it is getting at present, six or eight years is too ort an expectancy of life. Its average cost to me, excluding iginal price, has been $50 a month. This is $25 less each onth than my horses and buggies and driver cost me for several years. I bought a high-grade car (125), $3,000 list price, 'enty to twenty-four horse-power, four-cylinder, double ain drive, two or four passengers. I use it exclusively, and n so well pleased that I would not go back to the horse r any consideration; I had rather quit general practice. ›t only this; to live without a car would be next to not ing at all.

What type of car should a physician buy? In a large city, y will do the work; means and individual taste should be e guides. No further advice is necessary. In small towns or country the consideration of this problem is important, for on its successful solution and on careful discrimination depend great pleasure on the one hand and profound disgust on the other. Here high power, medium weight and extraordinary strength in construction are essentials. Exceedingly strong axles and frame, and greatest possible strength and flexibility in springs, supplemented in all cases with shock-absorbing devices, must not be overlooked.

What about the high-wheeled car? I bought one (124) for wet weather, and am having it remodeled. It ran indifferently for three months. Timer and coil were cheap and useless; chains too small, sprockets of poor construction, and the oiler was a joke. I am having these replaced with standard and tried types and hope to have a car which will be durable and usable from the business point of view. I fear that many cars of this type are made cheaply and to sell. This car is not now on the market, I understand. I believe that, when block chains are discarded and the speed is reduced to a maximum of fifteen miles an hour, and when the same quality of materials are here used that are employed in the regular types, then a motor buggy will be the cheapest and best possible means of conveyance for the country doctor, and one that will absolutely supplant the horse.

Think of a speed of thirty miles an hour for a motor buggy! Only a fool or maniac would dare approach it. Yet such machines are made to travel that fast, at a great expense of power, on paved streets or macadamized roads. Low speed means high power; a ten horse-power engine geared for thirty miles an hour will not negotiate the ordinary roads satisfactorily on high speed. The average ratio of gearing in these vehicles is 1 to 5, when it should be 1 to 8 or even 1 to 9. If you are going to buy a motor buggy get either a low speed, heavy roller chain drive, or at least 1¼ inch pitch with ⅝-inch roller chain, 12 horse-power, 36 or 38-inch wheels, planetary transmission, wheel steer, or postpone your purchase, or buy a single-cylinder machine for the same price. F. G. DU BOSE, Selma, Ark.

Ninety per cent. of automobile troubles, probably, were removed when I had my car (170) equipped with a magneto (171). Since that time I have run it every day over mud, snow, ice and good pavement with the exception of one week, when it was too cold for comfort—all this in southeastern Wisconsin, which is not noted for its good roads, and without one cent for repairs of any kind. The car is always ready to go. I can get greater mileage at a faster rate and with less inconvenience than I could with any horse.

L. F. GARLOCK, M.D., Racine, Wis.

THE LUBRICATION PROBLEM

SOME PLAIN STATEMENTS ON OILS

I sincerely regret that I am not as able as I am willing to give information of more practical value in regard to the lubrication of motor cars. This is not due to lack of knowledge, for I have had a quarter of a century of experience in the manufacture of high-grade lubricating products made from petroleum and a thorough and scientific knowledge of the chemistry of oils. I have also had several years of experience in the lubrication of my own cars and those of my friends.

It is an unfortunate fact that there is no one test or combination of tests that is of much or any value in the hands of the layman, however valuable these tests may be in the hands of an expert. As a few cheap tricks in blending can give to a very inferior oil the physical characteristics, or qualities answering scientific tests, that pertain to the best oil, about all that I or anyone can do is to give some broad facts and expose some of the deceit and duplicity with which the business is saturated.

In the operation of a motor car, oil is used for the lubrication of the bearings and of the cylinders. In the lubrication of the cylinders the most important function of the oil is to form a packing for the rings so as to prevent the force of the explosion passing by the rings with consequent loss of power; hence it follows that the more viscous or heavy-bodied the oil may be and the more freely it is applied, the better will be the compression and the more power produced. And, I may add, that where cylinders are not ground to perfect roundness and well polished, or where the rings do not fit or are weak, it is all the more essential that an oil be used that will maintain a high viscosity or consistency under heat.

Any half-way decent oil is good enough if freely used to lubricate the cylinders, so far as the item of lubrication is concerned; and a comparatively poor oil freely used will produce compression if the cylinder is highly polished and perfectly round and the rings are an exact fit and strong. But these conditions seldom are combined, hence, to produce the greatest possible amount of power, a highly viscous oil must be used and used freely.

With every increased degree of heat the troubles of lubrication multiply. The higher the heat, the more the oil is liquefied, so that it forms a poor packing for the rings, and hence the more essential is it that a highly viscous oil be used. But, unfortunately for the man who operates an air-cooled car, the more highly viscous an oil is, the more carbon it produces; hence a selection must be made between comparatively poor lubrication and comparatively poor compression, with comparatively little carbonization on the one hand, or better lubrication, better compression and some more carbonization on the other. There is no getting away from these facts.

The claims made by one and another that the oil they sell is non-carbonizing are utterly untrue, as there is no oil made or ever will be made that will not produce smoke when burned; in other words, that will not carbonize under heat. Broadly speaking, the poorer the lubricating quality of the oil, the less it will carbonize. This is equally true as applied to an air-cooled or water-cooled car. This is true, however: an oil that will give comparatively little carbonization and comparatively good compression in a water-cooled engine, run at a moderate heat, will give a good deal of carbonization and poor compression and poor lubrication in an air-cooled motor.

Whether a man runs an air-cooled or water-cooled motor, he must make his choice between an oil giving poor lubrication and compression and comparative freedom from carbonization, or the reverse; or, to put it another way, between a blended oil of high viscosity or a straight neutral oil of weak viscosity and poor fire test.

The four chief products or distillates from petroleum include gasoline, benzin, burning oil or kerosene, and what is commercially known as neutral oil or familiarly known as spindle oil. This is the last thing distilled over in the operation of reducing petroleum for cylinder oil, such as is used in steam cylinders. Paraffin oil is produced by the destructive distillation of petroleum tar or the carbonized oil that is left in the bottom of the still, and is the poorest of all petroleum products, so poor that it is seldom sold under its proper name. It is acid-bleached sometimes to a pale lemon, but generally of a dark red color. It runs in gravity from eighteen to thirty, but more ordinarily from eighteen to twenty-eight.

Neutral oil runs from thirty, or more ordinarily from thirty-one to thirty-five; so, unless trickery has been employed in blending the two, a hydrometer test will at least tell the buyer whether he is using paraffin or neutral. Neutral oil is made all the way from absolutely water-white to comparatively dark red. A neutral oil is a much better lubricant than paraffin, although a more fluid oil at normal temperature and has less tendency to carbonize. All of the better grades of gas engine cylinder oil on the market are either straight neutrals or neutral blended with filtered cylinder oil.

Now, it is an unfortunate fact that a straight neutral oil, extremely fluid at normal temperature, becomes much less viscous under heat, and the higher the heat the thinner it becomes, and hence the less compression it will produce. But it has the advantage of giving comparatively little carbonization, and the higher its gravity and the less viscous it is, or in other words, the poorer the quality, the less the carbonization and the poorer the lubrication.

The real lubricating value of petroleum lies in the residual left in the bottom of the still after the distillates and neutral oil have been distilled off; in other words, the cylinder oil such as is used in steam cylinders. This, as compared with neutral oil, is enormously high in viscosity and in fire test and in lubricating value, but unfortunately, for reasons above stated, has a greater tendency to carbonize.

I have found that the addition of a moderate percentag of cylinder oil, whether used in air-cooled or water-cooled cars, adds immensely to the lubricating value of a neutra without materially increasing the carbonization.

Dealers in automobile oils well nigh universally recommend a straight neutral oil, as it is attractive in appearance cheaper, easier to sell and produces less carbonization, the evils of which are immediately manifest, while the result of undue wear is remote and the loss due to improper compression is not recognized. A properly blended oil will ordinarily give 25 per cent. more power than a straight neutral, and under some conditions 50 per cent. more. Except when trying out oils, I have always used a blended oil on my own cars On taking out the engines after a run of 10,000 miles, have found them highly polished, the rings free from any carbon deposits, not a bearing anywhere in the car that ever showed a trace of wear. I have seen the same make of car handled by a better man than myself, run with much less mileage, lubricated with best neutral oil that money would buy on being taken down, show very serious undue wear. The average chauffeur prefers a straight neutral, and the poorer th quality the better he likes it, for the reason that it produce somewhat less carbonization than a blended oil. Although blended oil costs more to manufacture than a straight neutral, I prefer it for my own use, not because it is more economical (as it is), but because I want out of my own ca the greatest amount of power and the least undue wear. should add that the cylinder oil used in blending should b a well-filtered oil.

A word in regard to the matter of color. A neutral o is red as it comes from the still. This can be bleached wit sulphuric acid at hardly any expense or filtered throug bone and fuller's earth, until it is exceedingly light in colo Neutrals are made all the way from water-white to dar yellow. The assertion made by some that an oil extremel light in color contains less carbon than a yellow or red o is a piece of rank duplicity without even the semblance truth except in a purely technical sense. The small amoun of carbon in a comparatively dark red oil would under no circumstance whatever leave even a trace of carbon deposit; it would not do it if it were as black as ink. It is the burning of the oil that produces the carbon deposit; just this and nothing else, and the richer and better the oil the more carbon deposit it will produce.

After all, the use of a low gravity gasoline is more productive of carbonization than lubricating oil. Much of the gasoline on the market is practically nothing else than a low-grade kerosene blended with high gravity gasoline, and hence, is a smoke producer.

My entirely disinterested advice to the operator of either an air-cooled or water-cooled car is to use the most viscous oil obtainable that will not result in undue carbonization.

Just a word regarding the lubrication of gears. If grease is used let it be as soft as may be without undue leakage through the cracks. Where too hard grease is used, an undue retardation is occasioned. A hard grease makes the car run heavy. I consider the use of a coarse-flaked graphite desirable, chiefly because it forms a cushion and makes the gears work more quietly.

T. T. Southwick, Rochester, N. Y.

DISSOLVED LUBRICATION FOR GASOLINE MOTORS

The lubrication of motors by dissolving the lubricating oil in the gasoline, and thus leading it into the motor with the fuel supply, has aroused not a little interest in the gasoline engineering world, though the process is by no means new. It has been used for many years in some two-cycle motors, where the gasoline with the lubricating oil is sprayed into the crank case, whence the gas is afterward forced into the cylinders while the lubricating oil remains to lubricate the pistons and bearings.

The process is good for two-cycle motors of the crank case compression type, and has no disadvantages. It is just as good for four-cycle motors, providing the crank case be used for the passage of the gasoline spray or gas from the carburetor to the cylinders and providing the moving parts and bearings of the motor may be exposed to the free application of oil from the crank case, as is usual in automobile motors. It requires the inlet valve to be placed between the crank case and the cylinders, preferably in the piston head, where its proper operation is assisted by the movement of the piston and the inertia of the valve itself.

The simplicity of the process is its chief advantage. All good lubricating oils are thoroughly soluble in gasoline in the proportions necessary for proper lubrication. The oil when dissolved in the gasoline has no effect on the operation of the carburetor or vaporizer. All that is necessary, therefore, to lubricate the working parts of a motor arranged for it is to ascertain the amount of oil per gallon of gasoline fuel and add that proportionate amount to the gasoline tank with each new charge of gasoline. No anxiety need follow as to whether the motor is being lubricated or whether the lubricating mechanism is working or discharging the proper amount to each of the several places needing it, for so long as the solution of fuel and oil lasts the motor will receive its regular quota of oil without any variation and exactly in proportion to the amount of fuel used, and hence in proportion to the amount of work the motor is called on to perform.

The process is easily understood. If a small quantity of non-volatile oil be dissolved in gasoline and sprayed from an ordinary atomizer into a warm cylinder or cup of metal or glass, it will be found that the gasoline spray issuing from the nozzle immediately vaporizes and becomes an invisible gas and the non-vaporizing oil of the spray condenses and is deposited in a thin sheet of very fine globules on the interior surface or falls to the bottom. This is exactly what happens in a gasoline motor arranged for this method of lubrication. The gasoline enters the nozzle of the carburetor from the supply tank as a liquid carrying its quota of oil in solution as easily as water would carry a small quantity of salt in solution. When it leaves the carburetor in the form of a fine spray and enters the warm crank case the gasoline instantly becomes gas and the oil spray, which can not thus vaporize, is instantly condensed, and as it enters in swift motion, if directed toward the parts needing lubrication, it will be deposited instantly on them and thereafter fulfil its function as well as if it were forced to the place by another process.

Since the gasoline tank and pipe must be liquid-tight to hold the gasoline, and since the whole process of separating the oil from the gasoline is a suction process, there can be no loss of oil and no distribution of it over the outside of the motor and machine, where it serves only to hold dust and dirt and to communicate it eventually to other parts and to the operator's hands and clothing. If there were no other advantages, this one of cleanliness would commend this process to all automobile users.

The mechanical advantages of this method of lubricating gasoline motors over any other method are so apparent that it seems scarcely necessary to mention them. The cover to the opening in the gasoline tank of a gasoline automobile or boat can be arranged with a cup on the inner side and graduated so that when the gasoline tank is replenished with gasoline the corresponding amount of lubricating oil may be poured into the cup and dumped into the tank, presto! the lubrication is attended to once for all as long as the motor runs on that charge. There is no chance that it may be affected by the cold; that a warm place will get more than it needs and a cold less; that a feed pipe may be broken or disconnected or choked.

When the solution method of lubricating the motor becomes common all these exasperating difficulties will have vanished.

H. K. Holsman, Chicago.

BALL AND ROLLER BEARINGS

In motor construction the chief advantages of ball and roller bearings over plain bearings are: Longer life of the bearings, elimination of the necessity of scraping and refitting bearings, possibility of attaining greater speed with their use, simplification of the oiling problem, and saving of power; that is, fuel.

The chief objections are the original expense and the liability of breakage. The first is offset by the various savings in oil, fuel and repairs just mentioned. The second objection is being overcome by the advance in construction, which is attested by the continual extension of the use of the device to new parts.

Practically every car now uses the annular type of ball bearings in transmission cases and shaft-driven mechanism. The advantages of ball bearings on cam shafts are also admitted to be great. The next portion of the mechanism to which this device seems about to be successfully applied is the motor crank shaft. The strain on ball bearings in the crank shaft is greater, to be sure, than on the bearings in some other parts of the car; but ball bearings are successfully used in other mechanisms in which the strain is much greater. Many cars of foreign make and design have cylinders of *en bloc* construction (cast solid), the object being to shorten the crank shaft and permit the use of ball bearings on it.

It has been predicted that, in the near future, no car can be successfully marketed as a first-class machine if it has a plain-bearing motor. John Wilson Drown, Philadelphia.

KEEP AUTO CLEAN AND WELL OILED

A physician who has used both horse and automobile needs no argument to be convinced of the merits of the auto. He has more work time, more leisure time and more pleasure all the time. The up-keep cost will depend almost entirely on the care and judgment used by the driver. Keep the machine free from dirt and well lubricated, use some discretion in driving over rough roads and the up-keep cost will be very little. I have never seen any great difference in lubricating oils, having used them varying in price from 22 cents per gallon to $1 per gallon. I have a runabout (auto 161, illustrated on page 809), which does about all any one could ask of an automobile. You do not have to have a $10,000 cash practice to own an automobile as I have seen stated by some physicians. Doctor, get an automobile and take your wife with you on your country trips and see how much more pleasure there is in making country calls.

B. S. Herring, M.D., Wilson, N. C.

ALL SORTS AND CONDITIONS OF AUTOS

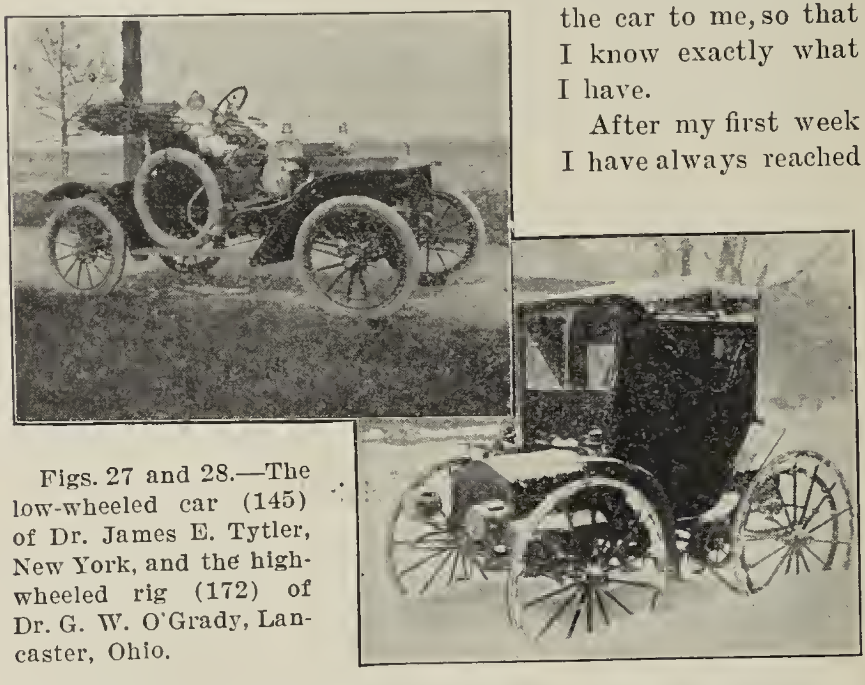
THIS MAN IS WELL PLEASED

During the past eight months I have found my car (114) a very satisfactory investment. My car goes well, both on hills and in mud, and I think it will go where any car ought to be expected to go. It has friction drive, chains to both rear wheels, wheels thirty-nine inches high, with one and three-eighths-inch solid rubber tires, wheel base seventy-four inches. The engine is two-cylinder, eighteen horse-power, water-cooled, and is placed under the deck back of the seat, so that any necessary adjustments may be made quickly and comfortably. This car is very roomy in front, and is an easy rider. I find the friction drive simple and satisfactory; it has cost nothing for repairs.

My average monthly expense has been less than $8. This does not include license fee and insurance. I take care of my car myself, and I have had a mechanic take apart and demonstrate everything in the car to me, so that I know exactly what I have.

After my first week I have always reached my destination on time and without assistance. This car commends itself to me because it is simple and easy to care for and operate; because it is well made and has been in condition to go every day.

G. A. Chilgren, M.D., Burlington, Iowa.



Figs. 27 and 28.—The low-wheeled car (145) of Dr. James E. Tytler, New York, and the high-wheeled rig (172) of Dr. G. W. O'Grady, Lancaster, Ohio.

DON'T BUY A CHEAP CAR

I have been using a runabout (154) in my practice for about a year, and am well pleased with it. I had some disappointments at first, but since I have learned how to regulate the carburetor my automobile troubles have vanished.

I take care of my car myself and find it easier and cheaper to care for than a horse and buggy. My repair bills have not exceeded $5. This has been for repair of punctured tires and broken spark plugs. My car is light and quiet running, and although it has none of the "frills" of the high-priced cars, yet it has all the features regarded as standard by automobile makers, having a four-cylinder, four-cycle, water-cooled engine, sliding gear transmission, multiple disc clutch and shaft drive. I have plenty of power for all the hills and mountains of this locality.

I prefer pneumatic tires. Punctures will occur, but they are generally quickly and easily repaired. Solid tires are much less comfortable to ride on and they require more power to cover a given distance on the average roads. The increased vibration is apt to cause more trouble with the engine, carburetor and other working parts, and also cause crystallization of the frame and axles which may suddenly result in a serious accident.

To prospective purchasers I would say: Buy an automobile, not a motor buggy, for most of the motor buggies I have known have been disappointments. Buy of a well-established maker with a reputation. It takes time, experience and brains to design and build a reliable car. Don't waste your money and time on cheap experiments. A very large percentage of the manufacturers of five years ago are not in the business to-day, and most of their cars quit doing business before they did, and are now on the junk-pile. It is difficult and expensive to replace any broken parts on such cars.

C. H. Gurney, M.D., Rossville, Ga.

A CONSERVATIVE OPINION

It should be emphatically impressed on the average doctor who is struggling along to make both ends meet, and to put aside a competence for old age, whose practice one good horse will serve, that a change to the automobile will not better his financial condition. This will be especially true if his practice extends over the ordinary country roads, for with the ruts and washouts the speed of an auto has to be greatly reduced, and therefore little time can be saved over that of the horse-drawn vehicle. Breaks are bound to occur. My experience has been with a machine regarded as one of the most reliable, and I must give it the credit that in nearly two years' use over some very rough roads it has never failed to bring me home. It will be apparent, no matter what the theory is, that in practice a horse will have to be kept while an auto is undergoing repairs, and that it will take $300 a year to run an auto costing $900 to $1,000. This includes tires, oil, repairs, taxes and depreciation in value. In five or six years it will be so worn that it is unsafe to use.

The closest attention should be given worn parts, for if a wheel should run off, or an axle break, or the steering gear refuse to guide while you are going forty miles an hour, death or crippling injury is pretty sure to follow.

I equipped my machine with solid tires (156), thinking that the problem of tire troubles was thereby solved, but after running not two years both rear tires loosened up and one of them ran off over the rim that held it on. The solid tire will eventually stretch, and will have to be sent to the factory to be made smaller. Considering the greater resiliency, ease and comfort in riding, as well as the necessarily longer life to the machinery, the pneumatic tires would be ideal, provided a first class reputable kind is selected. A physician who lives in a country with good roads, likes to care for machinery, has a good practice, and is willing to pay for a luxury that costs more than a horse and vehicle, can save much time by the use of an auto. The exhilaration experienced in the swift-moving, comfortable machine makes the arduous life of a doctor a pleasure and reduces to a minimum the tired feeling of a busy day's work.

Charles Farquhar, M.D., Olney, Md.

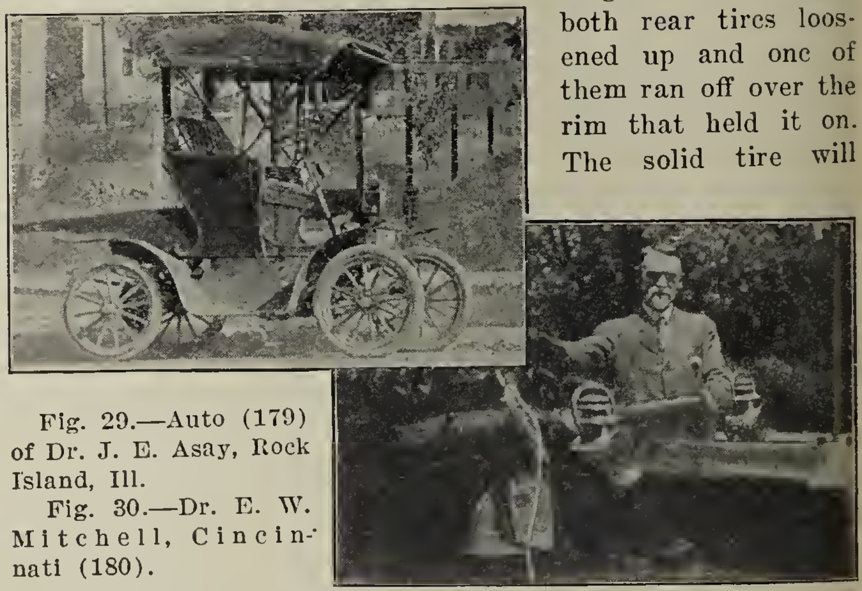


Fig. 29.—Auto (179) of Dr. J. E. Asay, Rock Island, Ill.

Fig. 30.—Dr. E. W. Mitchell, Cincinnati (180).

SATISFACTION WITH A HIGH WHEELER

Only a few years ago a physician who owned and ran an automobile could find little time to practice medicine on account of exasperating troubles and innumerable breakdowns. To-day the up-to-date doctor feels that he can not successfully practice his profession without his friend, the automobile. It seems that the practice of medicine and the pleasures of automobiling now go hand in hand never to separate. This wonderful change is no doubt due to the untiring efforts of mechanical engineers all over the country who have worked the imperfections out of them step by step. Machines may be obtained now which are so trustworthy that we would never for a moment think of going back to the horse. When I am compelled to ride behind a horse, which is seldom, it seems impossible that I could ever have tolerated, much less enjoyed, such an experience.

I began autoing about eight years ago. My experience with imperfect machines and pneumatic tires have left a blot on my mind which will require considerable blessedness to remove.

Not to be discouraged, however, I continued these exasperating experiences about two years. About six years ago I purchased a high-wheeled buggy automobile (173) because it seemed to me that this was the form an automobile should assume in order to be an every-day success. After running this make of car through all conditions of roads and weather during this time, I congratulate the manufacturers on the success they have attained in the perfection of this car.

C. H. BRYAN, M.D., Chicago.

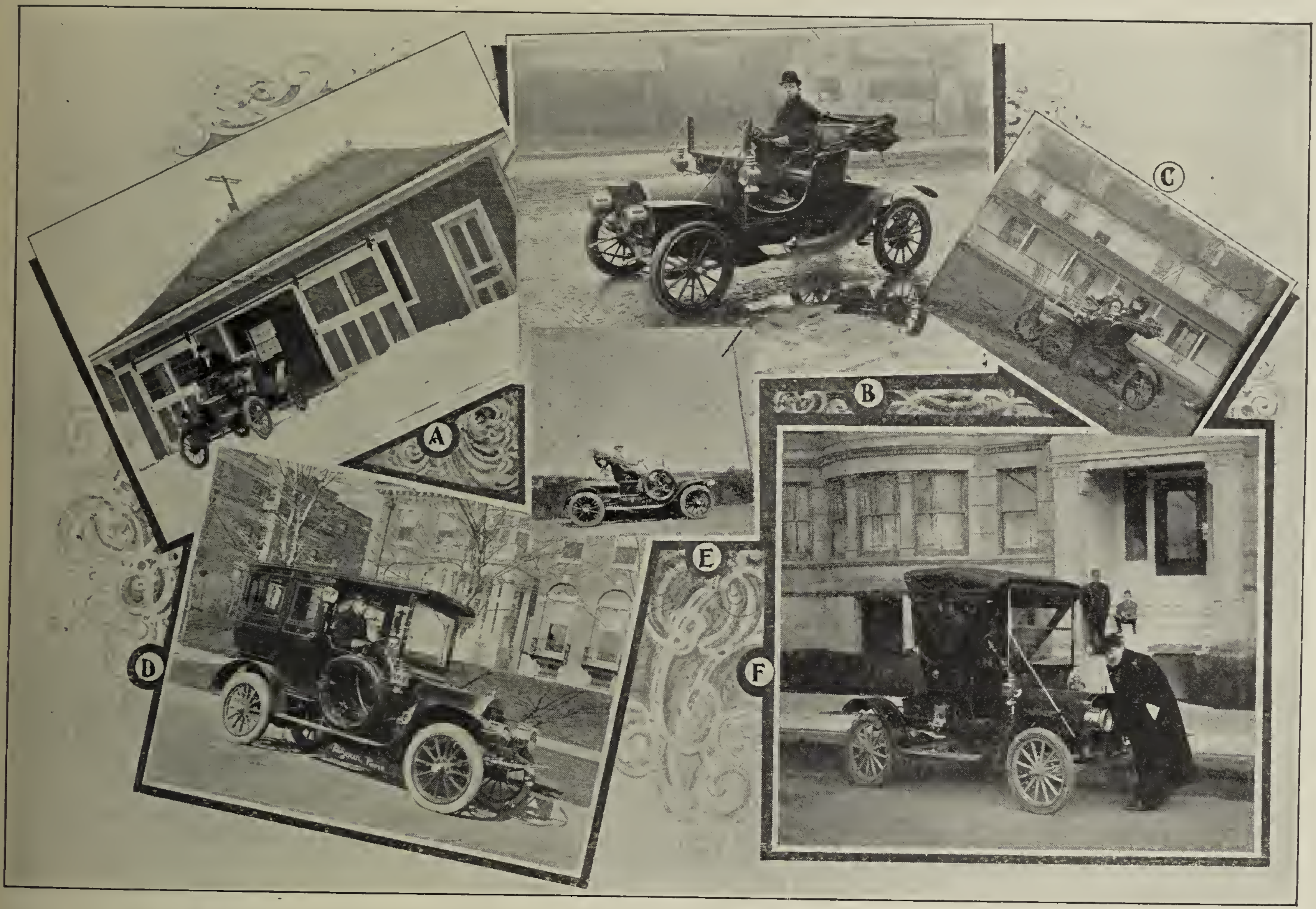


Fig. 31.—A—Dr. H. M. Wheeler, Grand Forks, N. D., and his combination garage, woodshed and kennel. (Auto 103.) B—Dr. George E. Baxter, Chicago. (Auto 181.) C—Dr. Charles Farquhar and family, Olney, Md. (Auto 155.) D—The car and chauffeur of Dr. H. Tuholske, St. Louis. (Auto 188.) E—Dr. Hugo Ehrenfest, St. Louis. (Auto 164.) F—Dr. H. A. Lothrop, Boston, and car (187).

INSURANCE AND PERSONAL PROPERTY TAXATION

From the *Lancet* (London), Jan. 2, 1909, we quote the following remarks by C. T. W. Hirsch, on "Insurance and Depreciation in Personal Property Assessments":

One vital matter is the question of depreciation and its effect on the value of the car for the purpose of ascertaining the annual premium. Practically the premium is based firstly on the value of the car, and secondly on the horsepower. The latter, as a rule, in a good make of car does not vary for, say, the first four or five years of an automobile's existence, or should not if the owner looks after it; but the former does, even though the possessor takes care of his machine. Anyone who, becoming infected with the desire for a more powerful or other make of mount, tries to dispose of his present one will quickly find that out. Change may be delightful, but it means dropping a "mint of money." And this brings me to the problem submitted to me by various friends: Supposing a car, for argument sake, is bought in December, 1908, and costs, say $3,000, and is then insured for all the usual liabilities for that amount, the query is, What ought it to be insured for in December, 1909, and December, 1910? Under most policies accidental damage is only paid on the full value at the time of the accident, so at the end of the first year, though the car is insured for $3,000, if it was absolutely destroyed, the insurance company would not pay that amount. Well, my advice is, when renewing a policy, get the company to insert in it a replacement value and reinsure only for that amount.

The other point is, What amount ought to be deducted in making one's income-tax returns for depreciation? I do not think that the practice is uniform with all the income-tax commissioners, but I think that they are generally fair. Some might allow for replacement when a new car is purchased to replace a worn-out one, and some might allow instead of an annual amount for depreciation; in the latter case 20 to 25 per cent. would, I believe, be a fair amount for a medical man to claim who has his car in constant use and therefore deteriorating quickly. Actual repairs and cost of running, including the chauffeur's salary, if one is kept, are also allowed, but, of course, the accounts and receipts might be asked for.

PROTECTION FOR PNEUMATIC TIRES

A SUCCESSFUL EXPERIENCE WITH TIRE PROTECTION

I am now in the fourth consecutive year of my use of the automobile in my daily work, and I would not willingly exchange it for any other mode of conveyance. My single-cylinder runabout (104) has given me the fullest measure of service and satisfaction, together with no small degree of pleasure. It rarely gets out of order, and it goes fast enough and far enough for all professional and even for emergency purposes. I ride constantly with my top, as well as glass storm-shield up, winter and summer, fair weather and foul weather alike, as I find these admirable protection against wind, dust, rain, sun, cold. I have been rather fortunate of late in the matter of tires. Punctures have been happily few, and casings (185) have as a rule outlived the guaranteed mileage of 3.500 miles. I have found no economy in retreading worn casings, as it is in the fabric ratherthan the rubber that yields in the occurrence of blow-outs. I avoid skidding and side-slipping by careful driving. I estimate that I cover on an average about twenty miles a day at an outlay within $2, divided almost equally between first cost on the one hand and maintenance, including repairs, renewals, etc., on the other hand.

Augustus A. Eshner, M.D., Philadelphia.

PROTECTION FOR PNEUMATIC TIRES

The pneumatic tire, on account of its capacity for absorbing shocks, is almost essential for use on automobiles intended to be run at even moderately high speeds. The ordinary rubber pneumatic tire, which at the present time is considered the most satisfactory, has this capacity for absorbing shocks in a high degree, but is comparatively frail and is liable to injury from several sources. Nails, glass, scrap iron, stones, etc., may puncture it, rendering it temporarily or permanently useless; or even when not piercing through so as to cause a leak, may damage the outer shoe. Objects not sharp enough to puncture or cut the tire may strain or even burst it if struck hard enough. The road has a steady wearing effect that will in time wear the tire thin enough to weaken it and cause bursting. And finally light, heat, air and sometimes oils act on the rubber, causing deterioration. It is the office of the tire-protector to shield the tire as much as possible from these injuries.

Tire protectors are of two types, those that are placed outside the tire shoe and those that are placed inside it. These last are really tube-protectors rather than tire-protectors, for they do not protect the shoe except perhaps indirectly by relieving it of some strain. Protectors of the inside type are very little used and it is a common opinion that they cause as much trouble as they prevent, for they frequently wrinkle or roll up, tearing the tube and sometimes bursting the tire shoe. Inside protectors doubtless prevent punctures to a certain extent and strengthen the shoe, preventing some blow-outs, but in order that they may be used satisfactorily tires must be blown very hard; and since the inside protectors stiffen the tire they detract somewhat from the easy riding qualities. Except for the partial protection from punctures and blow-outs, they give no protection against the injuries mentioned above.

The outside type of protector affords protection in a greater or less degree against all the injuries mentioned in the first paragraph except possibly the action of heat. These outside protectors are generally made of chrome leather studded with steel rivets. This steel-studded leather is practically puncture-proof and proof against injury from any of the sources mentioned, except the natural wear on the road. Such protectors not only protect the tire from injury but are excellent anti-skids. The use of chrome-tanned leather is almost absolutely necessary for these protectors, for leather tanned in this way does not shrink or stretch when wet, and does not rot rapidly when kept moist, as bark-tanned leather does. Chrome leather is the toughest leather that it is possible to make, and when compressed by having the steel studs riveted tightly at close intervals, it is practically proof against punctures even from nails.

When the first leather protectors were put on the market there was considerable complaint on account of their causing the tires to heat. This was owing to the fact that the leather, which is a very poor conductor of heat, held in the heat generated by the tire. This trouble has been overcome by allowing the prongs or stems of the steel rivets to pass entirely through the leather, instead of covering their inner ends; so that their clinched ends come in contact with the rubber of the tire and carry the heat to the heads, which, as they revolve through the air, throw it off rapidly. These clinched ends are made so smooth by the improved machines now used that they do not make even the slightest mark on the tires.

Another common trouble with the first protectors was the chafing of the tire. This trouble was caused by the stretching of the cover, which then became slightly larger in circumference than the tire, so that in rolling over the road it ought naturally to roll a greater distance at each revolution than the tire. The protector being held on the tire so that it could not do this, the difference in the circumference had to be made up by slipping. This took place not only with the detachable protectors held by mechanical means to the rim, but also with those vulcanized or cemented to the tire; for the portion that came in contact with the road would separate from the rubber underneath and chafe or wear it until the tire was destroyed. In the covers now commonly used, this trouble has been overcome by providing means of adjustment to tighten them when loose, and by fastening them to wires on each side instead of to the rim or tire, so that if there is any difference in circumference between the tire and cover, the cover can roll on the tire enough to make up the difference. With covers put on in this way the tire receives a slight amount of wear on the sides, but little or none on the middle or tread portion.

There is a common impression among persons who have had no experience with tire-protectors that dirt or sand will work in between the cover and the tire, causing serious damage. Such, however, is not usually the case. The dirt or loose particles between the two have a tendency to work to the sides where they can fall out; in the same way that dirt, which gets under the rubber of an old tire through cuts on the middle works to the sides and forms blisters. This is owing to the fact that there is greatest pressure at the middle and less toward each side, so that the dirt is squeezed out by pressure. If tires are run poorly inflated, they have a tendency to buckle back in the middle toward the rim where next to the road, so that the load is carried on the sides instead of the middle, and the dirt is then held in the middle between the tire and the cover. I might say here that tire-protectors will not appreciably prolong the life of a tire that is not kept at least somewhere near the proper pressure. The lowest pressure that is generally recommended for tires is fifty pounds per square inch for three-inch tires, and ten pounds more for each half inch larger than three-inch. If one does not use a pressure gauge, a good rule is to blow the tires hard enough so that a man, standing on the hub and springing up and down, can cause no perceptible movement of the tire on the ground. If the tire is not kept within at least ten or fifteen pounds of the proper pressure, the protector can not preserve it, for the excessive flattening on the road bends the walls of the tire so sharply that they are soon weakened, causing the tire to burst or blow out from weakness, rather than from outside injury.

The speed or power of a car is to a certain extent affected by the additional weight and stiffness of the protectors. The effect, however, is very slight, especially with the detachable or separate form of protector, which with the tire acts like the leaves of a spring that are much more flexible than a single piece of the same thickness.

The metal-studded leather protector, when made and applied in such a way as to avoid heating or chafing the tire, will protect it against all ordinary injuries from the outside, and if the tire is kept well inflated it will last several times as long as when run bare. When tire-protectors cost almost as much as tires, there was some question as to the economy of using them; but now, when they can be bought for about one-half the price of tire shoes, they are undoubtedly money-savers. The life of a good protector is about the same as that of a tire—3,000 to 4,000 miles—and they are generally guaranteed for at least 2,000 miles. On oyster-shell roads and flinty or stone roads that cut the rubber tires, they generally last longer than the bare tires, while on pavements or macadam roads that grind off the steel studs, the rubber tire will often give longer wear. If we consider the life of the protector as about the same as that of the tire, and that the tire will last three times as long with them as when run bare, there is great economy in using them. Even though the average life of the protectors were no more than guaranteed—2,000 miles—they would not be expensive to use if one considers protection from punctures and skidding as of any value.

C. B. Woodworth, Newton Upper Falls, Mass.

ANTI-SLIP DEVICES

While anti-skidding devices are to be considered as necessary at all times of the year, during the winter and spring, when there is almost constantly moisture on the roads and paving, self-protection dictates that the tires shall be shod with anti-skids that will be positive in action and resist effectually the tendency of any vehicle to slide on any wetted surface or while in mud. Of course, with snow and ice the danger is considerably increased, and in the traffic of the city, even with the engine running very slowly, control is essential to safety. All experienced motorists recognize the danger of this sudden and unforeseen "skid," which often results in damage to the car and passing vehicles or foot passengers, and often injury or even death to its occupants.

The cause of skidding is obvious. When a vehicle moving in a certain line has its direction changed, the momentum obtained tends to continue the body in its former course, at a tangent to its changing direction, and this tendency prevails until it is overcome by the friction of the contact surfaces, and the vehicle as a whole progresses in its new course. The greater the weight and speed of the moving body, and its consequent increase of momentum, and the more slippery the surface traversed, the greater will naturally be the slip or "skid."

In the early days of the automobile, when the construction was light and the speed limited, this problem did not present itself with any force. But the increase in weight and speed of motor vehicles, and the consequent liability of skidding with its attendant dangers, made this feature a live issue in motorism.

To meet the emergency, all kinds of contrivances and devices have been suggested and employed. One of the earliest methods adopted was to wind the tires with hempen rope; but this at best was only a makeshift, and the perishable nature of the covering quickly placed it in the class of the impossible. Coil chain was next substituted in like manner, but this material developed the insuperable objections of injury to tires and the marring of paint on rims and spokes.

Since these early efforts, the problem has been approached on practical and scientific lines, resulting in the production of numerous devices, most of which have had their short hour and been forgotten. Those now recognized as practical and efficient can be enumerated on the fingers of one hand.

For the purpose of consideration, anti-skids may be divided into two classes—detachable and non-detachable. Detachable non-skids comprise those which can be applied when conditions demand and removed when the need is past. Non-detachable are those which are made a component part of the tire or the attachment and removal of which is a business so difficult and tedious that they are in effect permanent appliances. Disregarding efficiency and service, detachable non-skids appear to have a distinct advantage, as their removal when not required is an important consideration from the standpoint of economy in wear and loss of power.

Of the permanent non-skids, among the most common are those formed by metal studs incorporated in the tread of the tire as a constituent part of the tire; others are made by facing the tread of the tire circumferentially with a leather band studded with rivets. A less form of the same type is the tire with rubber studs on the tread. This kind of non-skid is most generally used on the Continent, where many cities require the use of a non-skid at all times.

A non-skid tire on a similar principle was constructed by moulding into the tread coils made of piano wire, permitting parts of the coil to project above the tread. Thus a rough tire face was presented to the road surface, and when the coils wore through a vast number of wire points succeeded to the coils.

Another type of non-skid consists of a metal-studded leather cover which fits completely over the tire, thus accomplishing the double purpose of a tire-protector and non-skid. While non-skids of this class are capable of being removed, the difficulty of their removal or attachment and the time required would exclude them from the detachables, in the strict interpretation of the term.

All the non-detachables described above have been elaborated in minor details, producing a large number of devices of similar construction. But the main features remain the same and are fairly typical of their kind.

There are several salient features of an ideal anti-skid. There is an obvious loss in the use of a device when conditions do not require it. For this reason permanent non-skids are at a distinct disadvantage as compared with the detachable type. Again, the ideal anti-skid must be effective in all weathers and under all conditions of road surface. In this respect it would seem that the average non-detachable type fails to meet all the requirements. While metal studs may afford a reasonable degree of traction and prevention of skidding on wet pavement, I believe that the consensus of opinion is that in mud or snow satisfactory service is not obtained from them.

For the above reasons the detachable type of non-skidding device would seem to come more closely to fulfilling the requirements under all conditions. Take, for example, the well-known tire chain. The attachment or removal of these chains is a matter of seconds only, which permits of easy and rapid appliance when even a sudden emergency demands, and an even quicker removal when conditions do not demand their use. Being flexible, they occupy only a small space in the tool-box, and can be carried as a part of the regular equipment of the car, ready for immediate use. Furthermore, experience has shown that they afford ample traction in mud or snow, and are efficient in preventing skidding under all conditions of road surface. A distinctive feature of this device is that it is loosely attached, so as to permit it to creep circumferentially over the tire, thus eliminating any possibility of injury to the tire, which would be certain if the chain were anchored so that the cross members always engaged the tire at the same point.

An anti-skidding medium of some sort has come to be recognized as a necessary accessory. A driver endowed with great skill and experience may to a certain extent minimize the possibility, but can not absolutely prevent the sudden and unforeseen "skid," which bears so many attendant dangers. As a matter of safety, as a relief to the strain on nerves and muscles, as a safeguard against damage and danger, the anti-skid is being more and more appreciated by those whose pleasure or business throws on them the responsibility of the safe guidance of the car with its occupants.

W. M. Wheeler, New York.

My machine (164) is too light for bad country roads, but is ideal for city. Its very lightness guarantees the minimum expense for tire, oil and gasoline. In exact tests I have ascertained that I get about nineteen miles out of one gallon of gasoline while using my machine in my daily work, which means slowing down at every street corner, and a stop practically within every mile. My total expenses for tires have been $16.50, retreading of two tires $14, patching of one, $2.50. Hugo Ehrenfest, M.D., St. Louis.

THE AUTO IN WINTER AND THE COOLING PROBLEM

AUTOING AT 32 BELOW ZERO IN THE FAR NORTH

I am an auto enthusiast of the extreme degree. I deeply regret that my advent as a physician antedated the perfection of the auto by more than twenty years. I regard the auto as the ideal means of transportation for our profession. I can not understand how any physician, with reasonably good streets and roads can be willing or can even afford to be without one. It not only saves time in both city and country practice, but converts a tedious country call into a pleasure excursion. Of course, it has its limitations and will not do the impossible. Too much mud or snow put it out of commission for a time.

Eleven years ago I sold my horse and have since depended almost entirely on the auto (165). I would not willingly be without one for many times its cost or maintenance. Although North Dakota has a rigorous climate, I only laid up the machine three days last winter, and not at all so far this season. As an example of its capabilities is this: Last summer, in answer to a call from some thirty odd miles in the country, I left home at 5 p. m., saw the patient, had supper at a country hotel, and was home at 10 p. m., and the friend who accompanied me voted it a most agreeable outing. This trip was not made with a high-priced powerful roadster, but with a single cylinder runabout (103), costing but $600. The odometer showed sixty-nine miles for the trip. Compare this with the same trip by hay motor.

Fig. 32.—A winter ride with fur robes and anti-slip chains. Car (130) of Dr. George Kessel, Cresco, Iowa.

Last summer in Minneapolis I received a two-cylinder touring car (184) with a capacity for five passengers. I drove it to my old home in the southern part of the state, visited three or four days, and drove it to my North Dakota home, bringing two friends with me. The odometer showed in that week 776 miles, and the only adjustment made was the cutting down of the lubricating oil-feed. It has since been an unalloyed pleasure for evening drives. I have now ordered a two-cylinder roadster of the same make and chassis with rumble seat and box of good carrying capacity under the rumble. This is my conception of an ideal car for our use.

A pet cock in the cylinder head and a half-pint squirt-can of commercial ether are a good combination for cold weather starting, but below 20 below zero this will fail, and I have fixed a two-way cock on my auto gas-lighting tank and have it piped so that, at will, I can turn the gas into my intake pipe just above the carburetor, which always insures an explosion at the first throw. During our recent cold snap my car stood on the street from 1 to 6 p. m., with the thermometer at 32 below, and the engine was so stiff that I could hardly turn it over, but it was "off" at the first turn. Of course, the gas is used only for a few moments until the engine is warmed up.

H. M. Wheeler, M.D., Grand Forks, N. D.

CARE AND RUNNING OF AUTOMOBILES IN WINTER

There is little use trying to run an automobile in a country that has normally a considerable snowfall and cold weather, and, consequently, much bad roads. Although there are times when one could drive his machine with fair comfort in the winter season, it would be at his peril and at the peril of his machine. Weather, hot or cold, however, makes no difference in the running of an automobile in itself. The difference is in the condition of the roads, the comfort of the driver, the wear and tear on the machine. Contrary to my preconceived notion, I find that frosty and icy roads are not as injurious to tires as the hot dry roads of summer.

The only thing that needs special attention in cold weather is the water in the cooling system. Eternal vigilance is the price of safety here. I am one of the many who have paid the price to learn this lesson. Now I commence early, before cold weather, the use of an anti-freezing mixture composed of one gallon of denatured alcohol and four gallons of water. The strength of this solution is increased, as the cold weather increases, to one gallon of alcohol and two of water. This proportion is sufficient to resist any weather in which any man would care to drive. Formerly I used a solution of calcium chlorid, which is excellent, but I am sure that it is injurious to the metal of the radiator and engine. One thing to remember about this mixture is, always to be sure that the proportion of the ingredients used is kept at the same percentage, especially the alcohol mixture. Alcohol, being of lighter specific gravity, will evaporate before the water. Therefore, alcohol must be added to the old mixture from time to time to keep up the proper strength. This must always be done if the water has been overheated during a hard day's run.

Every beginner will soon learn that an engine that has stood over night in the cold is very hard to start in the morning. A little trick that will make a wonderful saving of muscle and temper is to take any piece of clean, soft cloth or sponge, soak it in gasoline and hold it to the air intake of the carburetor. You will be surprised how quickly the engine will be running at full speed.

So now I think that the best place for my automobile (130), in this changeable and often inclement climate of northern Iowa, is in a snug corner of a good, dry machine shed from January 1 to April 1. Put it in on four solid blocks and take off the tires and lay them away in a warm, dry place. In the meantime, polish off the rims of the wheels thoroughly and give them a coat of shellac. This will make them smooth and free from rust, so that they will not injure the tires when they are replaced in the spring. If you are not sure that you can drain every drop of water from the radiator, remove it and let it keep company with the tires in the same warm, dry place. In the spring test it under pressure, and if any leak is found, send it to the factory for repairs, or buy a new one. It will be cheaper than to have a tinsmith or the man in the so-called automobile shop try to repair it. This lesson I have also learned, and for this also I have paid the price.

One more thing there is to be remembered: Along with the coming of the automobile there has come a horde of pretenders who call themselves automobile repairers, whose chief asset is the large sign hanging from a small shop far out into the street, "Automobiles Repaired." If you should have a leaky spark-plug weakening the power of your engine, and should drive your machine into one of these shops, five times out of six the man under the sign would persuade you that the engine was "busted," or put in "wrong end to," and would immediately proceed to give the manufacturer a lesson in automobile building. The procedure usually lasts three to five days at 50 cents per hour, by which time you would also have a lesson. This lesson one learns sooner or later, unless one is willing to take somebody else's advice, viz.: To take one's machine only to the fellow who has had actual training and experience in an automobile factory. Anyway, always remember the aphorism of Josh Billings, "It's better not to know so much than to know so many things that ain't so." This may hit the writer of this article, but that can't be helped.

George Kessel, M.D., Cresco, Iowa.

WATER COOLING VS. AIR COOLING

Over 90 per cent. of automobiles manufactured are of the water-cooled type. The majority of people seem to have unjustified prejudice against the air-cooled type, due to the failure of the first air-cooled machines, a considerable number of which were marketed throughout the country, and so strong has this prejudice become that the later air-cooled cars have been given but slight attention in spite of their very successful performances.

Recent endurance contests have shown that air-cooling is not only successful but that air-cooled cars will stand more low gear work—such as running through deep sand and mud without distress from overheating—than the water-cooled cars.

Advocates of the air-cooled motor assert that it is an indisputable fact that the air-cooled motor is more efficient than the water-cooled type. The only successful cylinder design for the air-cooled motor is the type with both valves in the head and any engineer will admit that this location of the valves gives the highest efficiency in any motor, but there is another reason for the higher efficiency of the air-cooled motor, namely, the higher working temperatures of the cylinder walls.

The hotter the cylinder walls can be kept without destroying the lubrication the more efficient the motor. As the temperature of the water in the jacket of a water-cooled motor must be below 212 degrees F. to avoid boiling it will be readily seen that the cylinder walls of a water-cooled motor must be kept at a much lower temperature than is required to protect the lubrication, which of course is a loss in efficiency. Almost all of the good cylinder oils on the market to-day will stand a temperature of 400 degrees F. without distress.

It has been proved by actual test that the air-cooled motor will give from 10 to 15 per cent. more mileage on the same amount of fuel than the water-cooled motor.

In the hands of the novice, the water-cooled motor will give the better satisfaction as it will stand more abuse and is not so sensitive to adjustments as the air-cooled, yet those who have driven a good air-cooled car and become familiar with it favor it very much and could not be induced to exchange for the water-cooled type with its many additional complications.

It would seem that the high-grade air-cooled runabout would be the ideal car for the physician's use, as he would have no worry from freezing in cold weather, no leaky water pipes or radiator troubles, and the operating expenses would be less.

The water-cooled motor should be quieter than the air-cooled from the very nature of its construction, i. e., the jacket of water surrounding the cylinders and valve pockets forms a deadening cushion for the noises developed by the moving parts and especially by the seating of the valves, yet many well-known water-cooled motors are more noisy than the best air-cooled ones.

The trend of automobile design is toward simplicity and here the air-cooled motor excels on account of its minimum complications.

In my opinion the future automobile motor will be air-cooled, using alcohol as a fuel.

A. N. Manross, New Britain, Conn.

DELIVERS THE DOCTOR FROM SLAVERY

I read the past automobile numbers of The Journal with much interest and although I had a somewhat disastrous experience with a second-hand machine (134) in 1905 and 1906, the articles printed influenced me to try it again.

I bought a gasoline runabout (135), March 25, 1908, and ran it practically continuously from then until Jan. 1, 1909, registering 5,718 miles. During this time I used horses only eight times. A summary of my experience is as follows: I used 310 gallons of gasoline for power and cleaning, 25 gallons of lubricating oil, 4 cans of transmission oil, a part of a can of hard oil, and three new tires, which are almost unmarked as yet. I spent 60 cents for new parts which the blacksmith could not make; about $10 for blacksmith and outside help; $3.75 for charging the storage battery, and $7.40 for dry cells. I look my machine over very carefully at least once a week, and oftener if running up big mileage. I have never broken down, failed to make my trip on time, or been delayed over twenty minutes on the road.

I consider that my automobile has been a great success, due in the first place to good construction, and in the second place to the careful watch kept over adjustments, loose parts, and mainly, lubrication. The auto has changed the drudgery of my drives into pleasure and has extracted the sting of night drives. I get back in time to have a good sleep, whereas, with horses, the whole night would be gone.

Fig. 33.—Bucking a snowdrift.

It cuts the bonds of the country physician, allowing him to refresh himself with a visit to professional brothers in neighboring towns without neglecting business, as an hour or less will get him back home on a telephone call. In a region of good roads the automobile is the only logical mode of transportation, for economical reasons as well as pleasure. All hail the automobile as the deliverer of the doctor from slavery.

H. S. Willson, M.D., Crystal, N. Dak.

I have been running every day for three months a two-cylinder runabout (169) and "it's all to the good." The material, construction and workmanship are substantial and reliable. For the price, $750, I consider it the best automobile value I have seen and an ideal doctor's car. Its cost of maintenance is very little, if at all, more than that of a horse. I keep it in a large garage under the constant supervision of skilled mechanics and engineers. Its appearance also has been greatly admired by every one. But, of course, it is an automobile, and in common with all machines demands constant, intelligent care and vigilance with its hundred and one little details and points to be kept in order to avoid embarrassment and delay. Still, it is so vastly superior to horses that it pays to do it.

Jonathan T. McDonald, M.D., Honolulu, Hawaii.

THE MANUFACTURERS' CHARGES FOR REPAIR PARTS

CHEAPER REPAIRS—THE FOREMOST NEED

At the risk of being thought pessimistic, I am going to assume the rôle of fault-finder. The commercial relations between the automobile manufacturer and the consumer could be improved, I think, in many ways in the interests of both, especially the latter. Consider the chief items of expense in the maintenance of a car; tires, accessories and new parts that are frequently required to replace worn-out or broken ones. These expenditures may be classed as incidentals, but the constant drain on one's income decides the true position of the machine in reference to the physician.

I have never purchased a new part for a gear or an engine that did not cost nearly twice as much as the same article could be made for at any good machine shop, if such a shop was only accessible. New parts for the best foreign cars cost about 60 per cent. of the charges for the same parts belonging to domestic cars. In this respect American manufacturers have not kept good faith with the public.

If prospective purchasers would always insist on a price list of the separate parts of a car, together with the descriptive circular of the machine, I am sure many makers would greatly modify their lists and help in a measure to right this evil. The same may be said of the cost of accessories—anything for an auto, it seems, must have an unreasonable value. A casting for a stove will cost 30 cents, while practically the same thing for an automobile must cost $6 or $8. The people know these things and resent the injustice, but as yet are powerless to prevent it. The organization of automobile clubs, which promised great things, has made a failure of this entirely.

This is easy to understand, because they are controlled by the producers. The same may be said of the auto journals. There is not an automobile paper published to-day that is not printed entirely in the interests of the dealers. It seems to me that this suggests the solution of the problem.

It has often occurred to me that we have the opportunity to assist ourselves in a united defense against this, which is practically the only, menace to the automobile consumer. For instance, a new instrument, which is perhaps only a slight modification of one used for fifty years, and no better, will receive a long description in medical journals; similarly, a new preparation of a drug, which is more palatable, finds ready notice. There is no instrument or class of drugs that can compare with the automobile in the service rendered sick people, yet we have to wait a year or perhaps two to have something published in the interest of the users of the automobile.

I have often thought that an automobile department of The Journal of the American Medical Association, with a competent editor, would be the most valuable adjunct to The Journal we have ever had. We need not stop at this. A subsidiary society could be formed with yearly dues of perhaps $5 for membership, which would control the largest supply house in Chicago, with branches in New York, Philadelphia, San Francisco and other places, where its members could obtain supplies at nearly wholesale rates. This sounds like a "pipe dream," but it is not; it is intensely practical. With a membership of 50,000, with perhaps 20,000 using machines, and many more wanting to use them, all that is lacking is the organization.

Let a pharmaceutical house abuse its privileges with the profession and see how quickly it will be called to an accounting by medical journals. Why should this class of producers enjoy so great immunity?

A local board of directors elected or appointed could easily manage affairs, and great possibilities are open.

Many high-grade manufacturers would be glad to cater to such a market. It is estimated that at least 40 per cent. of the proceeds of manufactured products go for agents' commissions and advertising. If a consumers' organization took charge of the manufactured products it would mean that we could buy a $1,500 car for $1,000. Two or three types of cars could be decided on as most fitting a physician's use. Say a small runabout, a larger car with roadster or touring body, and one of the limousine type. If one is in doubt as to the market, advertise a few new high-grade cars at two-thirds of the market valuation, and see how long it will take to dispose of them.

Of course, it would take some time to elaborate this on such an extensive scale, but there is no doubt that we will eventually require some organized body within the automobile consumers.

W. W. Beveridge, M.D., Asbury Park, N. J. (197).

THE PERFECTED TWO-CYCLE ENGINE

TWO-CYCLE AS COMPARED TO FOUR-CYCLE

The primary requisite in an automobile engine for pleasure cars is ability to give the smoothest possible running to the car at all speeds and road conditions, with the minimum of noise and vibration and the maximum of power; and to this requirement for an engine for commercial use may be added reliability, low maintenance and durability.

The smooth running can be obtained satisfactorily by many light impulses in a four-cycle engine only when built with six cylinders and, in a moderate degree, for light cars and low horse-power engine with four cylinders. Experience has shown that the life of every part of the mechanism of a car, including tires, is greatly prolonged by a multiplicity of light engine impulses which gives an even unbroken application of power.

In all four-cycle engines an impulse is imparted to each piston only at every second revolution of the crank-shaft. This gives one stroke which absorbs power instead of imparting it and requires the multiplicity of poppet valves and their complicated mechanism necessary for their timing and operation. The noise of the four-cycle engine is caused by the pounding of the valves, the rocker arms, the cams and the loose bearings.

Even in the best types of four-cycle engines these parts are always noisy and unsatisfactory, with great liability of leaking, sticking, breaking and of improper timing, and in all four-cycle engines are subject to rapid deterioration due to their working under intense heat. Engine troubles are largely due to the lack of adjustment and condition of these parts and the renewal of them is largely responsible for the high maintenance cost of the ordinary four-cycle engine.

The principal advantage of a two-cycle engine over a four-cycle engine is its ability to give the necessary power impulses with one-half the number of cylinders. In a two-cycle engine an impulse is imparted to each piston at every revolution of the crank-shaft and this is accomplished without the employment of any valves and their accompanying complicated mechanism.

In the past practically all two-cycle engines for automobiles have been adaptations of the old-fashioned marine or stationary engines with their crude and imperfect principles and construction and two-cycle engines are often condemned in general terms by those ignorant of the perfected two-cycle engines used to-day in automobiles which engines have been designed, developed and perfected solely for automobile use.

There are two types of two-cycle automobile engines, known as the three-port and two-port systems, in both of which the charge is taken into the crank-case and then transferred by pressure to the explosion chamber instead of being sucked directly into the explosion chamber, as in the case of the four-cycle engines.

The three-port system is a development of the old-style marine or stationary engine adapted to automobiles. In it the carburetor connects with the crank-case through a port which is opened and closed by the piston at the end of the stroke—the suction stroke being completed and the maximum vacuum formed with no carburetor connection—the port at this point is opened and the charge rushes in.

Engines of the two-port system were designed originally for automobiles. In this system the carburetor is connected direct with the crank-case and the suction acts on it during the entire up-stroke of the piston, giving the same action on the carburetor as in a multiple-cylinder four-cycle engine. The crank-case compression of the charge in both systems is made by the down-stroke of the piston and the pressure in the three-port system is usually about three pounds while in the two-port system it is from eight pounds up, varying with different manufacturers.

The greater compression gives a more positive transfer of the charge and less mixing of the old and new charges, giving greater efficiency and allowing of a wider variation of engine speed so necessary for a perfect running automobile engine.

The two-cycle engine, receiving an impulse with every upward stroke of the piston, gives the necessary multiple impulses to obtain the smooth running with one-half the number of cylinders—is absolutely quiet, all valves, rocker arms, cams, etc., being eliminated and has a maximum amount of power with minimum of weight and space occupied.

A perfected two-cycle engine is practically indestructible, as the only wearing parts are the pistons, rings and cylinders and, with the offset crank-shaft, the wear on these is extremely light.

Experience has shown that the depreciation of a four-cycle engine is in excess of 25 per cent. per year while judging by the facts obtainable on the perfected two-cycle engine the depreciation is reduced to the remarkably low rate of 5 per cent. per year.

Other advantages of the two-cycle engine over the four-cycle are the absence of valves or chambers opening into the combustion chamber with their exposed surfaces, which absorb the heat and pressure from the charge and materially decrease the efficiency of the four-cycle engine; also the absence of carbonization of the two-cycle, there being no carbonization except at the exhaust ports which are easily cleaned.

When spark and carburetor are properly adjusted the two-cycle engine will run without missing at a much slower speed than any other type of engine and will outspeed any other type, being capable of over 2,500 revolutions a minute, giving maximum flexibility and variable car speed on high gear.

It is not as easily stalled at low speeds as a four-cycle engine, as the transfer of the charge into the cylinders and around the igniter plug is as positive at lowest speed as it is at higher speed—in fact, the engine speed has no effect on the velocity of the charge to the cylinder as it does in a four-cycle engine.

Extreme simplicity, lack of adjustable parts, low compression and ease of cranking make it an easy engine for a woman or person of little experience to handle.

The desirable features of a good four-cycle engine are possessed by a good two-cycle engine in an equal or greater degree.

The relative merits of the two-cycle and four-cycle engines may be summed up as follows:

AUTOMOBILE ENGINES

	TWO-CYCLE	FOUR-CYCLE
Cylinders	One cylinder does the work of two four-cycle cylinders.	Six cylinders necessary to give the smoothest running.
Space and Weight	Gives maximum power for space and weight. Absolutely essential for taxicabs.	Requires twice the cylinders, practically twice the weight and space for same power as a two-cycle engine.
Power Strokes	Piston receives impulse with each up stroke.	Piston receives impulse every second stroke, giving a useless stroke which absorbs power instead of imparting it.
Poppet Valves	Has none.	Has a mass of them, number depending on the type and manufacture.
Valve Grinding	None.	Semi-monthly after a few thousand miles' running.
Valve Shafts, Adjustable Bearings, Cams, Springs, Rocker Shafts, Etc.	Has none.	Inherent to the four-cycle engine and necessary to set and time the valves properly. Noisy, leaking, sticking, breaking, improper timing and rapid deterioration due to excess of heat.
Noise	Has no outside moving parts; hence the quietest engine built.	The noise of the four-cycle caused by valve pounding, rocker arms and cams.
Starting	Low compression. Easy starting.	High compression. Hard cranking.
Flexibility	Can be throttled lower than any other type of engine without missing. Engine speeds also fastest.	To obtain low car speeds, change gears resorted to. High speed of car dependent on large cylinders.
Simplicity	Five moving parts.	Eighty to 120 moving parts.
Reliability	Absence of parts. No adjustments necessary or possible.	Multiplicity of parts. Always requiring attention.
Maintenance	Minimum. Engine parts replacements unknown.	Maximum. Replacements constant. The expense cumulative, increasing rapidly in proportion to number of miles run.
Indestructibility	Practically indestructible. Depreciation not 5 per cent. per year.	Rapid deterioration. Experience showing 25 per cent. depreciation per year.

WALTER G. MORSE, Springfield, Mass.

THE PHYSICIAN'S SOLILOQUY

To buy or not to buy, that is the question.
Whether 'tis safer with a horse and buggy
To dodge the autos that infest our highways,
Or to provide oneself with one's own auto
And keep the others dodging. To ride—to scorch—
No joke—if by a scorch we think we end
The curryings and the thousand daily chores
The driver's heir to. 'Tis a consummation
Devoutly to be wished. To ride, to glide;
To glide; perchance to bump; ay, there's the rub,
For in that fatal bump what aches may come
Ere we have shuffled off this mortal tire
Must give us pause. There's the respect
That makes calamity of so long rides;
For who would bear the toots that rend our ears,
The scorcher's jeers; the autoist's recklessness,
The stench of gasoline, the clouds of dust,
The insolence of chauffeur as he spurts
His fiendish engine at unlawful speed,
When he himself might his quietus make
With bursted tire? Who would not goggles wear,
Rather than dodge a buggy in and out
In dread of scorching car? The task to find
That undiscovered country in whose bourne
No screeching auto runs—puzzles us all.

JOHN B. TODD, M.D., Syracuse, N. Y.

DO NOT EXPECT TOO MUCH OF YOUR CAR

A SOBER SURVEY OF PROBABILITIES

For the past four years, I have been using automobiles in my practice and have kept an accurate account of every dollar spent, every gallon of oil and gasoline used and every mile covered. It has been a rather expensive experience. Do not be fooled by interested parties, who assert that you can run thousands of miles, on a few dollars, without repairs, at the rate of twenty-five miles to a gallon of gasoline and such other rot. Experiences of this sort are exceptional and must not be taken as the rule.

My first venture was a second-hand runabout (111) of the vintage of 1903, a veritable nightmare. This car I used twenty-one months at a cost of $850. For this I received only 6,000 miles, about 15 cents per mile. The trouble with that car was inaccessibility of parts. Every time anything broke or needed replacing in the engine or transmission, the body had to come off. This happened nearly every month, so a repair bill of $50 was common. I finally sold it. No more single-cylinders under the body for me.

My second and present car is a four-cylinder runabout (112). This car has cost, with equipment, $1,450, for nineteen months, $1,100 for the car and accessories and $350 running expenses; for this I have received 7,500 miles. Counting its present value $600, it has cost 12 cents per mile. The running expense per month was about $10 for gasoline, oil and batteries, $5 for tires and $3 for repairs, etc. This next season the repair bill will be greater, as all parts broken will have to be paid for, the guaranty having now expired. The depreciation, however, will be much less. This car averages fourteen miles to a gallon of gasoline.

Fig. 34.—Dr. A. H. Calhoun, Wren, Ohio, at the wheel. His article is on page 817. (Auto 110.)

Do not pay a big price for a car. Even at the reduced price for accessories, $200, besides the cost of the car, will hardly buy what is needed. By the end of one year the outfit will bring only 50 per cent. of its cost. The best plan is to run it two or three years, then sell and get the latest improvements. Almost any car will last three seasons, and the expensive car will bring very little by then. The ideal car for a city doctor should have four cylinders, solid tires, short-wheel base and a big powerful engine. Four cylinders are needed to give power; a short wheel base is so much easier to handle and turn and an engine giving one horse-power to fifty pounds' weight is not too much in power.

A big engine does not have to be cleaned out or have valves ground so often, and if it is developing only one-half its power, it would still do as well as many of the present cars. Do not worry about the extra gasoline and oil used; that is only a small matter. Many times on a muddy road or steep hill, or when running through snow, you would give a five-dollar bill for more power. Cars should not weigh more than 1,200 pounds, so that they can be easily pushed, and also to keep down tire expense.

The air-cooled engine is a great thing. The trouble with the present air-cooled cars is that the engine is too weak. On a long hill it loses power from the overheating. If the air-cooled engine was more powerful for the load carried, it could lose some of its power on hills without falling behind. I notice one company has the right idea: a twenty-four horse-power, air-cooled motor for 1,200 pounds of car (113).

In buying an automobile, look out for a light car, big engine, air-cooled, magneto, a large, roomy, one-piece seat, room for three, dashboard adjustable, carburetor with priming device, folding hood, hooded dash to protect the coil from rain, full elliptical springs (single ones will break), a hand-brake which will lock the rear wheels, a long running board and a fully protected body and engine.

Do not give up your horse for two or three years yet, unless you have fair roads, are near to a good repair shop, or are mechanically inclined and do not mind soiling your hands and linen.

Frederick Yates, M.D.,
Washington, D. C.

THE IMPORTANCE OF BATTERIES

I first bought a high-wheeled air-cooled automobile (149). My experience was disastrous and every mile that I ran cost me one dollar. After disposing of this machine I bought a four-cylinder runabout (150) with an engine rated at fifteen to eighteen horse-power. The summer of 1908 was exceptionally wet and when the roads were not in condition of bottomless mud they were so rough that my pneumatic tires were unfit for further use without protection or retreading at the end of my first 500 miles.

I was discouraged and plainly saw myself bankrupt if I tried to use pneumatic tires under these conditions. With but little faith in their efficiency I sent for tire-protectors (151). These I put on over my worn-out tires and have used them without tire trouble since. In fact, the old tires have never been deflated. The crimped wire spring of these protectors keeps the protector tight and always in place. I have used these for the roughest kind of work and they show practically no wear.

Even after solving the tire question I expected more or less trouble with my machine. In this I have been happily disappointed. I learned early that to keep my machine running smoothly I must always have a strong, well-charged battery. This was of vital importance; before learning this I condemned my auto for many things for which it was not responsible.

With a strong battery, circulating water, and with plenty of oil and gasoline in my tanks I really had no trouble.

I broke a front spring one night while on a hurry-up call, but this is the only break that I had during the year, and not one day was I laid up for repairs.

My operating cost, covering everything, was less than $50 for over 2,000 miles that I ran it. It could have been much less, but I had a gasoline leak that I was unable to control and I used one-third more gasoline than I should have used. I have run fifteen miles to the gallon, but my average for the season was about ten miles.

My battery consumption was heavy, also, and expensive, as I was always obliged to send my storage battery away for recharging and so had express charges both ways.

A set of dry cells would not run my four-cylinder engine a day, and my storage battery ran it on an average about 500 miles.

I think if I were to buy a new machine to-day I would consider the factor of battery consumption, which is so heavy in a four-cylinder machine, and select one of only two cylinders. In fact, from my observation, I believe that a powerful two-cylinder engine gives better results than an engine with four small cylinders.

There were several things that I learned, among which were the following:

1. An automobile is no good in mud or snow.

2. Most automobiles are rated too high as to power. Only under the best conditions could I get the power from my engine that I had reason to expect.

3. A standard make machine is as nearly perfect as any mechanical device can be. Repair bills and engine troubles were not among my experiences.

4. An automobile is a practical time-saving affair under any half-way decent road conditions.

Mine has been a pleasant experience, and, although I am not wholly satisfied with the machine that I now have, in all of my use of it it has always been ready to go, and now it is in about as good condition for its second season as when new.

The time saved with an automobile to a busy man is a great factor, and the pleasure which one has in using a good machine cannot be measured.

To a prospective buyer I would say, Do not experiment, but buy a standard time-tested machine. Buy a machine with a powerful engine. Do not try air-cooled engines and friction drives until they prove better than they have to date. I have come to a definite conclusion as to the machine (152) which I would buy if I were to get a new one now.

Automobiles are practical, and if one has a standard machine the cost for up-keep and repairs will be very low and when it is not in use is of no expense to the owner.

My running expense was about 2½ cents per mile. This is much higher than I would expect in a two-cylinder machine.

Merton Field, M.D., Minnesota Lake, Minn.

IN FAVOR OF A LARGE HEAVY CAR

The practical car will be sufficiently large and heavy to enable the driver to maintain a steady position in the road when a moderate speed—for instance, twenty-five to thirty miles* per hour—is desired. This can not be done with a small car, lightly constructed and with short wheel base. I should place the minimum weight at 1,800 pounds, maximum 2,500 pounds, minimum wheel base 100 inches.

The motor should be at least twenty-five, and need not exceed thirty-five horse-power, as each increasing horse-power above the necessary, increases proportionately the amount of fuel consumed in operation.

The ease with which a car is operated depends on its flexbility, that is, the ability of the operator to increase or decrease the speed sufficiently for most driving purposes, without changing gear. This depends mainly on the transmission, which should be of the selective sliding gear type. The clutch also is an important factor. When of the multiple disc type t requires no adjusting, and when run in a bath of oil it will not wear out. Three speeds forward and reverse are important, making it unnecessary to race the motor in order to pass from low to high speed in starting the car.

Very little need be said regarding the construction of the ar, apart from the advisability of simplicity of design and strength of individual parts.

Mere extravagance in automobile buying is a thing of the past. The physician does not care to pay more for a car than s really necessary to secure service, speed, hill-climbing abilty, comfort and endurance. Neither can he afford to waste money on a cheap and unreliable car that will bring him only rouble and lack of confidence in cars in general. One can et a car such as described in the foregoing, well-equipped, or from $1,500 to $2,000. An attempt to purchase a car for onstant service at much less, at the present prices of cars, will be at the expense of troubles and monthly garage bills. f you pay more than this you simply do not get any aditional returns for the extra money.

The physician who has a good car and any mechanical bility at all, can drive and care for his own car, get a great eal of pleasure and recreation at a small expense and with a small expenditure of time, saving almost the first cost of the car in a year's time, not to mention the three or four hours gained each day for business that would be spent driving a horse and buggy to accomplish the same amount of work. The item of time alone for the busy physician will more than pay for the car during its life.

I have driven my present automobile (119) exclusively in my practice, giving it constant daily service in all kinds of weather, mud, snow and frozen roads for four months, having covered almost 5,000 miles during this time, at a total expense of operation of $47.62.

F. W. Shelton, M.D., Independence, Kan.

CHOOSE MACHINE ACCORDING TO THE WORK IT MUST DO

The first automobile number of The Journal helped me to become infected with the auto fever, and for a whole month I utilized my spare time in studying a high-wheeled catalogue. A salesman, however, talked me into buying a runabout (148), whose only disadvantage, I find, is occasionally a difficulty of cranking. With my two years' experience in running this auto I feel pleased that I did not invest in the high-wheeled machine.

I am sometimes asked by a physician as to my preference for low or high power. Well, that depends on the roads to be traveled. West, south and north of me is level country, over which my ten horse-power machine can travel about as fast as the strongest and dearest—at any rate, as fast as I want to go—and with less expense to tires and machinery on account of its lightness. East of me, however, is hilly country, over which I can make as good speed with the horse as with the automobile and at less expense and with more assurance of getting there and back. My runabout is a good hill climber, but it must climb nearly always on slow speed. Hence, if a man has level country about him and good roads a light one-cylinder, low-priced runabout is equal to the task, but if he has hills, or even undulating country, he will always meet trouble unless he has at least fourteen or eighteen horse-power, and that means two or more cylinders. The method of propulsion must likewise be considered. A chain-driven requires a lower horse-power than a shaft-driven machine.

Fig. 35.—Dr. Daniel Conboy, Bad Axe, Mich., in his golden-wheeled chariot (148).

Tires cost comparatively very little in original expense and in up-keep in a runabout. In a touring or large car rubber expenses run high. After two years' use my machine is yet good, and I think I can run it three years more by not abusing it. The average life of this machine, I find by observation of other possessors of the same vehicle, is about five years. I have never been hauled home, but have pulled a large car and its load apparently without difficulty, but, of course, at slow speed.

Daniel Conboy, M.D., Bad Axe, Mich.

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* Automobile Editor's Note:—If our friend gets "pinched," will e dare tell the judge he thinks thirty miles is a moderate speed?

SOME PRACTICAL SUGGESTIONS ON TIRES AND ENGINES

SOLID TIRES AND SPRINGS

While pneumatic tires have been improved at least a third and have been reduced in price 20 per cent., still the greatest of all objections encountered by the physician who does country practice with an automobile comes from failure of pneumatic tires to hold air. Nothing is more exasperating. When a delay due to a flat tire has once been experienced, the dread of it in the future transforms pleasant anticipation of a trip into anxiety and fear of trouble.

To me it is absolutely unbearable. Therefore I have had solid rubber tires put on my wheels and spiral supplementary springs placed at the ends of my elliptic automobile springs. The increased resiliency afforded by the altered springs makes up for the difference between pneumatic tires and solid tires, and the net result is that I have entirely eliminated tire troubles, with all the worry and forebodings of disaster which pneumatic tires carry with them.

Improvements in construction have produced dependable products during the past year which make the self-propelled vehicle more useful to the physician than ever before. A uniform standard is gradually being approached by all manufacturers, a composite of the good features which have stood the rigid test of time and varied conditions, and now the physician who wishes to secure the ideal advantages of quick transportation to and from his patient's bedside can use the automobile with much more satisfactory results than heretofore. The single-cylinder motor, which is compelled to store up propelling force from one explosion to another by means of a cumbersome flywheel, is almost extinct. The two-cylinder horizontal engine, which is a compromise between the evils of the single cylinder and the steady pull of the ideal engine, is also going out of use. Six cylinders seem to be an extreme not to be desired, and the happy mean seems to be the four-cylinder motor with its power impulse every half-revolution of the crank-shaft, which has proved so effective in steam-engine design. The upright cylinder affords important mechanical advantages which add to the efficacy of the four-cylinder engine. The pistons move in a path opposite to the progress of the car, that is, vertical piston movement with horizontal car movement, and this corresponds better with undisturbed power application. The pistons wear more evenly, the lubrication is more positive, the piston rings remain in more correct relation to compression, and accessibility for observation and adjustment of the motor is favored. In order to secure sufficient power the cylinder in a four-cylinder motor need not be so large that back-kicking of the starting crank will be a menace to any extent. The motor starts more easily, applies the power more continuously, admits of greater range of speed control, and weighs less per horse-power than the motor of fewer cylinders. Therefore, the four-cylinder engine is fast coming into more general use, and is the best form of explosive engine for use in a doctor's automobile.

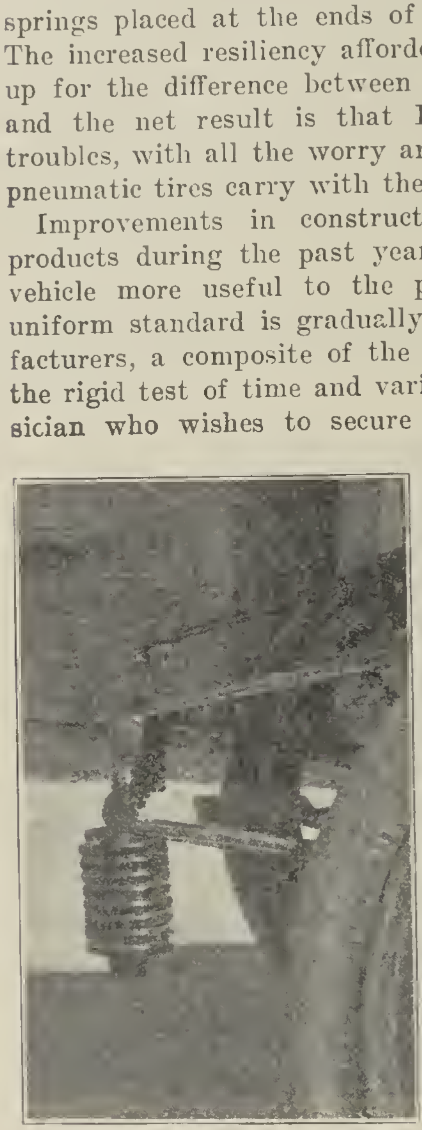

Fig. 36.—Solid tires and coil springs, described by Dr. Hard, to secure resiliency without pneumatics.

The desire on the part of automobile designers to make the vehicle cling close to the ground has resulted in lack of road clearance between the wheels, which is a great source of worry and trouble for those who use country roads. Nine inches is the average clearance of an automobile of the low-wheel construction. A boulder the size of a man's head concealed in the grass that is usually found in the center of the country road, added to the rut depression on the sides, will strike the gear housing of the rear axle and destroy the car. This is the worst fault of automobile designers to be found in the standard automobiles of to-day.

My eleven years' experience in driving an automobile in country practice has led me to adopt somewhere near the following features: four-cylinder, four-cycle, water-cooled motor, with seats for only two, low protecting top, supplemental spiral springs, solid rubber tires, plenty of good lamps (tank supply), side chain drive in order to get good road clearance in the middle, positive mechanical force-feed lubrication, storage and dry cells ignition, glass folding wind shield, speedometer and odometer, and a weight for the entire car of not over twelve hundred pounds.

A. D. Hard, M.D., Marshall, Minn.

A SYSTEMATIC PRESENTATION

During the past five years the marvelous development of the automobile has resulted in a much more satisfactory and serviceable car. Its use among the medical profession has increased to an enormous extent, chiefly for this reason.

A good serviceable car adapted for the use of a physician can be purchased to-day for almost one-half the price of five years ago.

Type of Car Desired.—Practically all the 1909 models of the reputable makes have four-cylinder engine with shaft drive and magneto ignition, and one can purchase cars of various sizes and horse-power according to the use he desires of it.

For the general practitioner who desires reliable service the runabout or small touring car is the most desirable, with from fourteen to thirty horse-power rating. The touring-car type with two seats is often of great value when you desire to carry more than two people, and the extra seat adds but little to the cost of the car. A four-cylinder shaft drive with long wheel base (at least 90 inches) gives smoother action and more comfort in riding.

Gasoline.—Only the best grade of gasoline should be used, as the cheaper grades carbonize the spark plugs more readily, and, by containing a larger percentage of water, often cause the motor to run irregularly.

Oils.—Lubrication is of the greatest importance and it will be soon learned by the beginner that a few cents saved on oil will result in a few dollars' wear on the machinery and bearings. Only good grades of oil should be used.

Ignition.—The most economical is the magneto, and almost all 1909 models possess this equipment. In cities storage batteries are satisfactory and comparatively inexpensive, but in the country districts where recharging causes considerable delay, the old method of using dry cells is essential, although decidedly more expensive.

Spark Plugs.—It is impossible to state that any particular make of plug is the best, as certain makes appear to give the best results in certain motors. This every one learns by experience, as every car is to a certain extent a law unto itself; but one fact remains: that the best spark plugs are those with the platinum tips, as they do not carbonize, hence do not require frequent cleaning as do those with steel contacts.

Tires.—The most expensive part of the maintenance is tires and usually the most common cause of delay, as punctures will occur and usually at the most inopportune time. This is a problem of great value to the physician as a delay of this kind may mean a life lost. To obviate this I have tried all the various protectors and devices to prevent punctures, and during the past year I have not had a single puncture. My experience with solid and cushion tires has been unsatisfactory. They are hard on the machinery, jolting the car and breaking axles, which cost more than tires. The leather-coverea protectors with steel discs to prevent skidding have proved the most satisfactory, and, if properly adjusted, the tire proper has but little wear, so that you obtain more than double the wear you would ordinarily expect, minus punctures which are annoying, undesirable and expensive. These protectors (139) I can recommend to every physician.

Care of the Car.—As in the case of all other machinery care exercised in keeping everything in A1 condition, the engine and friction parts clean, and allowing nothing to get loose, repairing every little thing as soon as discovered, will result in longer wear with better action and a greatly lessened expense account at the end of each year.

M. Clayton Thrush, M.D., Philadelphia.

WITH AN AUTO EACH PATIENT RECEIVES AS MUCH TIME AS IS NEEDED

My practice takes me in the country, covering a radius of twenty miles, which, without swift transportation, makes necessary long hours on the road, short hours in the office, and as short a time as possible with each patient. With the automobile I am now using I am able to reverse the order: short hours on the road, much longer time in the office and as much time with each patient as I see fit to give. With such results it would not pay me to go back to horses. Besides the benefit in my business, one of the greatest blessings of the automobile is the relief from fatigue and drudgery of country practice. Instead of coming home with horses fagged and driver exhausted, one feels exhilarated and is ready to take one's family out for a spin.

My auto purchases covered both pneumatic-tired machines and solid tired, ranging from 44 inch to 30 inch wheels (117). I traded, sold or otherwise disposed of the various machines until I got my present car (118). This I am growing more attached to every day. It has solid 1½ inch rubber tires, 34-inch wheel, double chain drive, friction transmission, very long wheel base, and weighs about 1,300 pounds. It is easy to manage and costs little to maintain.

E. L. McCrea, M.D., Table Rock, Neb.

THE AUTO ALL RIGHT—IF THE RIGHT KIND

After reading through an immense amount of automobile literature I reached the conclusion that my ideal car for rough country use should be constructed with high wheels, solid tires, air-cooled engine and a friction drive, so a year ago I bought an expensive runabout (190) embodying these features and started out with great expectations. Like many others I have found to my sorrow that it is not merely the principle of construction which determines the practical value of an automobile, but also and mainly the manner in which this principle is applied.

First, as to tires: The advantages of solid tires are more imaginary than real; they chip easily. One and a half inch tires especially wear out rapidly; 700 miles is their very longest life; two-inch tires of course last a little longer. But the assertion of the manufacturers that they are good for 11,000 miles is a fable. Riding, especially on hard roads, is very much less comfortable with solid tires. On sandy roads high wheels are impossible; on muddy hills they slip and the driver gets stalled if he will not take the trouble to wind ropes around the wheels or use chains. And finally a high-wheeler is very much more difficult to handle than a pneumatic-tired machine and can never be speeded up like the latter. Concerning the cost of up-keep, careful records show that the difference is not great. In most country towns there are no facilities for putting on the solid tires and one has to ship the wheels away, which adds to the expense and waste of time.

The air-cooled engine overheats easily; and this fault is attended by other trouble—loss of power, knocking, pre-ignition, etc. Even the most painstaking air-cooling is inadequate in our summers, no matter what the manufacturers claim. Besides, an air-cooled engine contributes largely to the constant and very irritating noise and vibration.

The friction-drive, with which several manufacturers equip their cars, is certainly better suited for any other form of machine than it is for a self-propelled vehicle, and while it offers great inducements to prospective buyers or manufacturers of machines, it is undesirable. The greatest fault is the loss of power from the twisting action due to the difference in inner and outer diameters of the driven friction-discs.

I believe that a machine of this type would be a fair success in a city where hard, good roads and limited speed prevail; but I earnestly advise prospective buyers who live in a sandy, hilly country not to experiment with high-wheelers.

It is important to buy from a well-established manufacturer with a reputation, both because the purchaser will get a better machine and because there is always a good market for a second-hand car with a reputation for reliability. Vehicles of little known origin bring but a fraction of the original cost when changing hands. Leave experiments to those who have time and money to spare.

I may add that I am now the satisfied owner of a low-wheeled car of a very well-known make (189).

D. Tufte, M.D., Pelican Rapids, Minn.

THE COUNTRY DOCTOR'S CAR

After a thorough trial of the low wheel and pneumatic tire, with both sliding gear and planetary transmission, four months ago we began the use of the high wheel and solid tire with friction transmission (autos 176 and 178, illustrated on page 817). The change has been highly satisfactory, both from a physical and a financial standpoint.

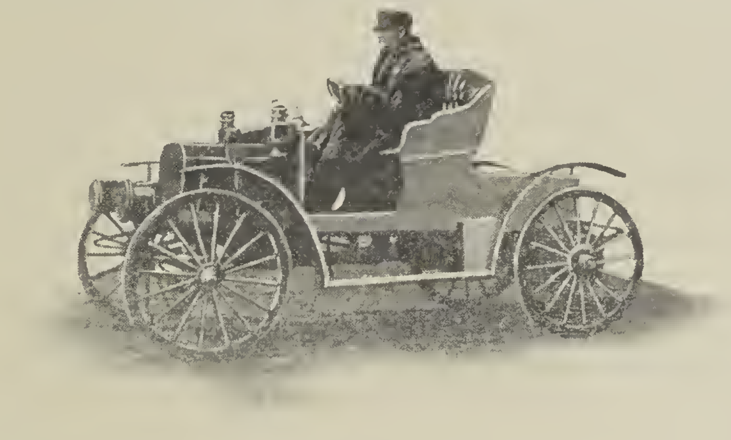

Fig. 37.—Dr. E. L. McCrea, Table Rock, Neb., finds solid tires satisfactory on his motor car (118).

Some of the numerous advantages of our present type of car are as follows: No delay on account of puncture; no gear trouble; ease of control; no repairs in four months' running (over 2,500 miles); no delay on country roads with high centers; good speed over rough roads; better time over sandy roads; less skidding in mud; much greater cleanliness, as less sand, mud and dust are thrown by narrow tire.

When repairs are under consideration the argument is all in favor of the solid tire and friction transmission, as the solid tire can be renewed for $7.50 and the friction transmission, complete, for $12, as against $40 for a pneumatic tire and $75 to $300 for geared transmissions.

The ease of control with the friction transmission is of great benefit; two foot pedals, one for the transmission and one for the brake, tell the story. A fraction of a second, without the hands being removed from the steering wheel or the eyes from the road, enables the driver to throw off the power and apply the brake.

With high clearance one can safely drive all traveled roads at good speed, a distinct advantage, especially at night. The high wheel will take uneven ground much easier than the low wheel, thus enabling better time on country trips. In sand the narrow tire gives less resistance, hence better speed with less strain. A recent run with our thousand-pound car demonstrated that we could pull a sandy up-hill stretch that had proved impossible for pneumatic cars of the same power (eighteen to twenty horse-power).

In our experience the weight should be evenly divided between the front and rear axles. Too much weight on the front axle causes hard pulling in soft ground, thus necessitating slow speed, which overheats the engines, while excessive weight on the rear axle causes undue wear of tires.

The item of greatest weight is perhaps that of fuel consumption. The high wheel, being of lighter weight, power for power, and its narrow tire offering less resistance, the gasoline consumption is only about one-half. The first cost is less and the up-keep nominal.

The high wheel is more generally useful. We are using our machine on rough country trips that have proved so costly to the pneumatic type that the owners refuse to make the attempt again in their cars.

The chief objection consists in the increased noise and awkward appearance of the high wheel as compared to the pneumatic.

E. M. Fisher, M.D., and H. A. Ingalls, M.D.,
Roswell, N. M.

HORSE SENSE

To write a communication of value on the auto question it seems to me two things are absolutely necessary. First, the writer should have had an experience of two or three years, so that the first mushroom growth of enthusiasm will have been knocked off. This wonderful enthusiasm of the novice with his first auto is like the exuberant granulation on an ulcered surface and requires the caustic of experience to bring it down to a proper level. Second, the writer should write for the good of the public and not for the sake of advertising an auto factory.

When an autoist with a certain make of machine tells me that he has never had any trouble and that his repair expense for the last year has been only forty-five cents, I try to look as though I believed him, but begin to sidestep and seek information of some fellow who doesn't wear the brand of the Ananias Club.

A man who has ridden in a carriage for ten to twenty years ought to have acquired some horse-sense, and if he has accumulated a fair amount of this valuable asset he will know that an auto is a machine and, like any piece of machinery, it should be well cared for, and that at times it will get out of order.

I believe I am correct in saying that every busy practitioner who has tried the auto in his work feels (when the machine is running well) that it is the ideal mode of locomotion. So far as the physician is concerned, then, the whole matter is one of (1) practicability and (2) expense of first investment, taking into consideration the life of the machine and the annual expense of up-keep.

Regarding the first point, the position of the auto to-day is very different from what it was five or even two years ago. Most of the mechanical parts have been tried out, improved and standardized. In this respect the advance in the auto business has been much like the advance in surgery. For example, the operations for appendicitis and for gallstones and the operation of no-loop gastrojejunostomy for certain conditions of the stomach have become standardized, we may say, but not until after many years of patient labor and experiment.

As to the second question of expense and up-keep, I can only cite some of my own experiences, which began three years ago with a scond-hand machine—a touring car of a well known make (141). I had many pleasant trips in it and many trials and discouragements. Were it not that I am an optimist of the rankest type I should have become forever spoiled for autoing again—but I realized finally that I was struggling with a machine good for its type, but made in the experimental age.

In October, 1908, I purchased a four-cylinder, water-cooled 32 horse-power roadster vehicle (142), to my notion one of the most graceful and best proportioned machines on the market. I claim to know whereof I speak, for I was an interested observer at the Chicago Automobile show. One of the local papers called it the "niftiest" machine on the road—whatever that may mean.

I have used my car every day except one in my professional work. This was a day with the temperature from 10 to 14 below zero. The float stuck a little in the carburetor. This defect was adjusted and I have had no more trouble even on cold days. My practice occasionally calls me to adjoining towns thirty or forty miles away. With ordinary good roads I feel quite independent of the steam or trolley car. Thus far I have never had a breakdown or been obliged to stop to adjust the machinery.

Recently I was called on Sunday to a town forty miles away. It was impossible to reach it by train on Sunday and poor connections made it an all-day trip on week-days.

I started with the auto after dinner, spent an hour and a half at the consultation, and arrived home in the early evening. To make an eighty-mile trip like this in the summer or autumn in this length of time at a rate of speed such that the scenery means something to you; to have the cylinders "hitting" every time and every bit of machinery moving like clock-work, makes one feel that the auto is "a thing of beauty and a joy forever." I have power enough so that any ordinary hill is made on the direct.

As to expense of up-keep, I must say, even at the risk of being put down as a member of the Ananias Club, that thus far it practically has been *nil*. Such repairs as I have had were from slight accidents and no fault of the machine.

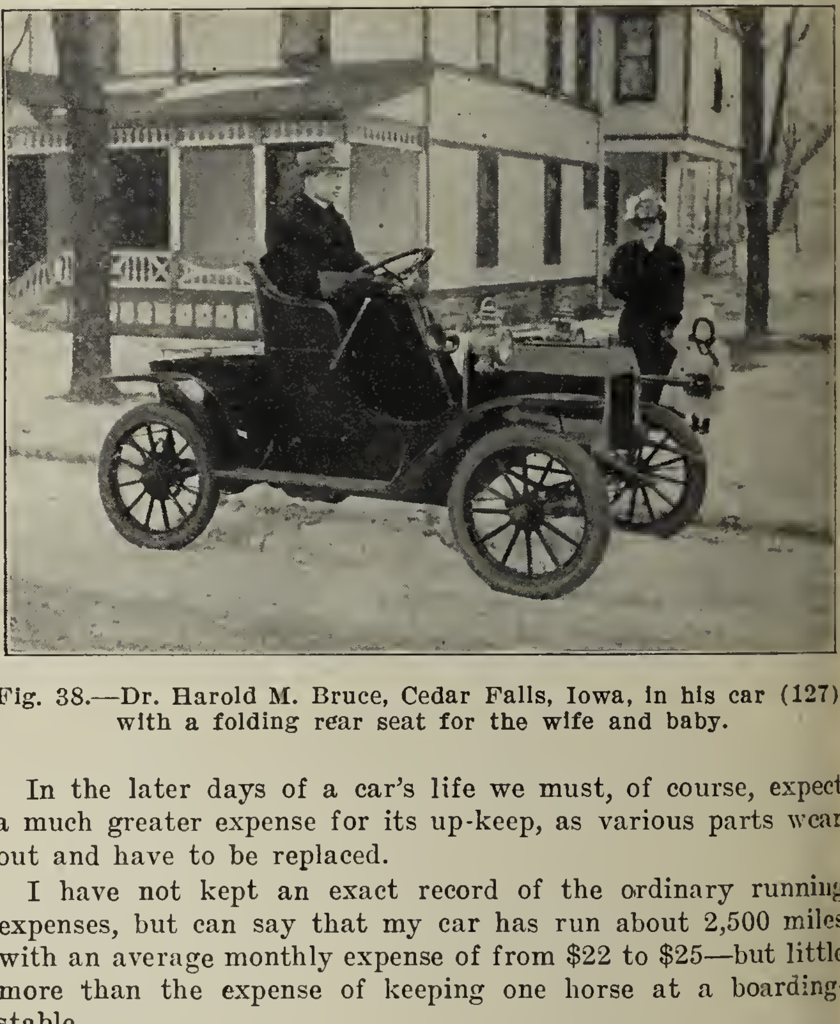

Fig. 38.—Dr. Harold M. Bruce, Cedar Falls, Iowa, in his car (127) with a folding rear seat for the wife and baby.

In the later days of a car's life we must, of course, expect a much greater expense for its up-keep, as various parts wear out and have to be replaced.

I have not kept an exact record of the ordinary running expenses, but can say that my car has run about 2,500 miles with an average monthly expense of from $22 to $25—but little more than the expense of keeping one horse at a boarding-stable.

To keep enough horses to do the work of the auto would incur an expense much greater than that of the auto. I am speaking now simply of running expenses, gasoline, oil, etc.

The time saved in making calls with the auto is unquestionably from one-half to two-thirds—so in the hands of the physician it very often proves to be a veritable life-saving device.

That a good, reliable machine be made at a more moderate price is a consummation devoutly to be wished, and, judging from the tendencies of the past, we have good reason to hope for much in this direction in the future. Yet I think it is a safe rule, for the guidance of either physicians or other prospective purchasers of automobiles, that worth in material and workmanship should not be sacrificed for price.

J. E. Allaben, M.D., Rockford, Ill.

DO NOT TINKER WITH YOUR CAR IGNORANTLY

The car for the practitioner must be capable of going over ll kinds of rough roads in all sorts of weather, and, above ll, be reliable. The ideal car is a gasoline runabout, with one r at most, two, cylinders, and 12 or 16 horse-power. The nore cylinders the more trouble and expense, the extra power btained is usually only wasted, and speed above thirty miles n hour is not essential. The engine should be water-cooled, vith a float feed carburetor, and ignition by jump spark with ry battery, direct drive, single chain, planetary gear in an oil-ight case, multiple disc clutch, with at least two forward peeds and a reverse. The brakes should be sufficiently pow-rful to hold the car on any hill, as well as to bring it to a uick stop when necessary. The steering mechanism should e a wheel with worm and segment and should be irreversible.

Pneumatic, double-tube tires, at least 3 inches in cross sec-ion, should be used, as narrower tires do not wear so well and re more apt to skid. A folding rear seat greatly increases he usefulness of the automobile.

In general, for hard work over poor roads, a comparatively eavy car, weighing between 1,200 and 1,500 pounds, will do etter than one weighing about 800 pounds.

In winter a top with front and side curtains is essential, s well as chains (126) for the rear wheels (to avoid skid-ing) and an anti-freezing mixture in the water-tank. If the ar is kept in a heated stable or garage it will start as well winter as in the summer and be just as useful.

ig. 39.—Dr. J. E. Allaben, Rockford, Ill., in his "nifty" machine (142).

Such a car will be found incomparably superior to the rse, will give twice the service in less time, and besides, ill be a constant source of pleasure and satisfaction, both mmer and winter. Automobiling is a most exhilarating ercise, and taking care of one's car furnishes a most health- avocation for the doctor, and even enables one to dispense ith many short vacations which the strain and stress of a rge practice would otherwise make indispensable. But to t the best results one should remember that the gasoline gine is almost as delicate a piece of mechanism as the man body; and one should learn not to tinker with the ad-stments unnecessarily or to try to improve on the work of the anufacturers. The diagnosis and treatment of automobile s is a profession in itself and the physician should not ruin s machine and waste his time trying to make repairs which quire an expert. He should, however, treat his car intelli-ntly, keep it well cleaned and oiled, see that the gasoline d water-tanks are full and should not subject it to unnec-sary jars and jolts.

By listening to the engine, the physician can very soon learn tell whether anything is wrong, so that usually he n say just what the trouble is long before the engine stops d also whether he can fix it himself or whether skilled help is needed. Such warnings should never be neglected and thus breakdowns on the road may be avoided.

After a considerable experience with horses and poor automobiles (128), I have finally found a machine (127) which for my purposes is practically ideal.

Although an automobile costs more than a horse, the returns are many times greater, so that for the physician who really needs an automobile in his practice the extra expense is negligible. HAROLD M. BRUCE, M.D., Cedar Falls, Iowa.

SPEED AND THE CAR—WITH ESPECIAL REFERENCE TO THE COUNTRY DOCTOR

Classifying the profession in the most arbitrary manner as city or country doctors, we find the automobile problems confronting the two to be entirely dissimilar. The city physician, with patients thickly clustered within a small area, at all times within easy distance of repair shop or garage, driving mainly on good pavements, bound by stringent speed limits, is facing a proposition very different to that of his country confrère, whose call may come from five to fifteen miles away, over seldom traveled roads, unsafe bridges, or, failing these, flooded fords, with never a possibility of any aid but that which his own ingenuity and resource can supply. To the city man, the automobile (especially the electric with its fool-proof absence of mechanical trouble possibilities) has been a considerable blessing; but it can not do for him one tithe of that which it is capable of doing for the country practitioner with thinly scattered clientele.

The limit of a horse and buggy, day in and day out, may be set down as approximately twenty miles. Then come changes with loss of time for return to the stable. The automobile, properly constructed in the first place, properly cared for in the second, has a mileage capacity for the average working day of well over the hundred miles, carrying its supplies self-contained, untiring, easily competing with the ordinary train, and vying with the speed of the fastest limiteds should necessity demand it. For the public, motoring is but in childhood, for the profession it is still in infancy. Many of us have yet to cut our first teeth. As in years back (until we learnt better) the railroad car was patterned after the stage coach it replaced, so we have found it hard to break away from the lines of the buggy that in emergencies carried us perhaps as fast as twelve miles an hour.

Partly by reason of this innate conservatism—partly because of that strange lack of business sense which in so many cases seems incompatible with the acquisition of medical eminence, the doctors' automobile has been considered necessarily a monstrosity in a class by itself. Few of us could count the mushroom concerns that have arisen, led a briefly marasmic existence, and expired, with no apparent raison d'être except the selling (to a medical profession crassly ignorant of the rudest rudiments of motoring), of a rattletrap contraption terrible to contemplate, let alone possess, as one's only means of reaching a patient. The first types of these, hazily imaged as the result of a confusion of ideas in the mind of some bucolic genius whose visual perception of the farmer's buggy became inextricably implicated with that of the gasoline engine which did his chores; materialized further from this nebulous conception, in some cases by the happy conceit of incorporating as its simplest available system of transmission the strap that ran his mother's sewing machine; and finally built with an ingenuous but by no means ingenious disregard for all known principles of automobile construction. Made to sell for but little more than the price of the horse and buggy it competed with (often to the glory of the latter), designed to travel about as fast, and purchased with the optimistic expectation of not visiting the repair shop oftener than the horse it replaced had visited the smithy for footgear.

That they were justified is shown by the fact that some of these weird concepts have worked out amazingly well in their own limited sphere, meeting with quite a vogue among that section of our profession whose ideals have progressed but falteringly beyond the possibilities of a horse and buggy.

But, while they may have filled a want with some few just starting out on their careers to whom the outlay for a modern car would be prohibitive, and while later many of these have undoubtedly been led by these base instruments into lives of grace, it can not be denied that these hybrids have done harm in disgusting many of us with automobiles as a class, and they have certainly been the means of delaying the profession as a whole from coming rightfully into its own.

So much for the past. What of the future? First, let it be at once stated that the ideal car for the doctor has not arrived. It is in process of trying out, or rather its features are, in many different cars, but the perfected combination is still for the morrow. The pneumatic tire with its resiliency, wide tread, and comparatively long untroubled life (this will sound like heresy to some) if its size and strength are adjusted to the weight it bears, is unqestioned in supremacy. What solid-tired narrow-tread wheel can travel over country roads of even fair surface at thirty-five to fifty miles an hour? Crediting the buggy type where credit is due, however, the wheels of the ideal car should be large, over thirty-six inches rather than under. The low car prevailing hitherto was due to two factors, the high price of rubber and a mistaken idea of necessity for unduly low center of gravity. Tires have fallen markedly in price, and the large wheel is by so much the nearer.

As to air or water cooling, I prefer air, as my roads are execrable, and a water-cooled system is a museum of plumbing to carry, to leak, and to swear at. Makes of air-cooled cars are few and far between, and the best of them far behind the best water-cooled in other regards, content to rest too easily on claims of less weight and complication in the cooling system.

Number of cylinders? Four at least, six if you can afford it. I have a 1909 four-cylinder car (192) of 28 horse-power, replacing a 1906 six-cylinder 30 horse-power of the same make. The four-cylinder drops to fifteen miles per hour on the same hill that the older car sailed over the crest of at thirty-four. Further, for crowded street work the six would slow down to five miles an hour on the high gear; the four can not drop below fifteen without changing to intermediate.

Touring car or runabout? Touring car every time. In the first place the touring car will bring nearly twice as much second hand, the purchasers of worn-out cars appear to be more interested in how many they will carry rather than in anything else.

But the reason of reasons is this. In an emergency you can put an injured man into a tonneau and rush him to hospital; you can not well do it with a runabout. A tonneau makes the car look twice as heavy; in cold figures it adds about 5 per cent. to the weight.

Every doctor's car needs a removable and folding top. (Always remove the top in fine weather, tricing it up by the corners to the roof of the barn or garage ready to lower quickly; a top adds much strain to a car.) Also a glass front which will not leak, which they all seem to do. This should fold for fine weather use. A glass front is a wonderful insurance against reckless driving, though I know one chauffeur who has had things come at him through three of them.

A word as to chauffeurs. I have known them to run up modest monthly garage bills of $300 and over. On the other hand, the two best I am acquainted with feel personally aggrieved if this exceeds $10. Between are all gradations. But, with few exceptions, the doctor needs no chauffeur. A handy man with a liking for machinery is all that is requisite to look after the car, to clean it occasionally (too much water is a great mistake, removing necessary oil) and to drive it in emergency. The profession is making another discovery—that the doctor who does not drive his own car is neglecting a most valuable part of his whole curriculum and spurning the finest recreation ever offered to him. The mere fact of driving requires undivided concentration of attention. No man can drive and worry about his cases. He forgets them, or if he thinks of them at all it is in brief elucidating flashes of memory. The healthfulness of the chauffeur's occupation is one we are not yet sufficiently alive to. As hanging is no longer fashionable for thieving, I see no reason why a chauffeur should ever die, except those past masters of the art who have mistaken, in moments of clouded mentality, telegraph poles or fast freights for boulevards.

There are a few other factors to consider—weight, price and speed. About a ton seems to be the accepted weight for such a car as I have indicated. Prices are falling every year, but have quite a distance to drop, viewing their present inflation. However, even in this year of grace, there are several very fair four-cylinder cars for sale around $1,500.

The question of speed necessarily includes length of wheel base, and, of course, horse-power. A long wheel base means an easy riding car, but increases its turning radius somewhat. It should not be less than 100 inches. Horse-power is a delusive proposition juggled with by dextrous agents as the shell-game man does the nimble pea. It is better to reckon by the speed the car will attain. A car that can not travel fifty miles an hour on a good road will be a poor hill-climber in most cases. Speed means power, but power does not necessarily mean speed. When we talk of the speed of a car it is to be remembered that we do not mean the speed at which it does its average work; that inevitably varies with the user, but the maximum speed of which the car is capable if pushed to its utmost. Every physician has experienced times when no possible speed is adequate. For that reason the power of the ideal car will be governed by the limits of safety, mechanical ingenuity and the doctor's purse.

Here and there throughout the country doctors are coming to realize the possibilities of the modern automobile in the practice of medicine. Two years ago, a little over a mile from here, a man fell from a telephone pole, fracturing his skull. Medical attendance was almost immediately available, but it was four hours before the ambulance from the hospital, eight miles away, reached him (the roads are miserable), and he died on the way in. One evening last November another man fractured his skull, singularly enough within a few yards of the previous scene. Twenty-five minutes from the time the telephone message reached the doctor's office the man was in bed in the same hospital, having been brought in, nursed in the arms of two friends, in the tonneau of the doctor's car that responded. This man is alive, practically recovered.

Such an incident throws an interesting sidelight on this new phase on which our profession is entering. As conservative citizens we deplore the manifestations of speed mania now and again recorded in the daily press. But these races have done something. They have acted as a reliable indicator of the possible safe speed for an automobile. The accompanying mortality shows that the limit is honestly sought; frequently attained. A physician's training peculiarly fits him for exercise of quick decision and steady nerve, and there is no reason whatever why a large number of doctors should not become drivers of the highest skill.

Then comes the very important question of speed laws. The attitude of the public in regard to this aspect of the automobile question is rapidly shifting from unreasoning prejudice to thoughtful appreciation. The near relative of a patient in urgent need of professional attention, who beholds the needful aid coming at the speed of an express train, is liable to undergo an acute change of heart on the subject of speed regulations as they affect the doctor. Certain cities have more or less recognized the fact that the physician who can skilfully drive a car at a fast speed to save life may be allowed a license denied to the man driving simply for pleasure. If lives can be saved by speed with perfect safety to all concerned, the average man is not averse to seeing it done. Rather is he coming to demand it. The physician is generally an honored and responsible member of the community in which he lives. If not, it is his own fault, and these lines are not for him, and it is right here that I would utter a warning. The public confidence once won can easily be lost again for all time, and for this reason this privilege can not, unfortunately, be placed in the hands of every member of the profession. There are in ours, as in all other walks of life, individuals unfitted to exercise any discretionary powers. Men who, finding the power at their disposal, would use it, not as it is meant to be used at the rarest of intervals for saving human life, but regularly, as a matter of course, to save dollars. For this reason the public must be rigidly warned and safeguarded. Warned by the profession itself against a too lavish bestowal of privilege; safeguarded by the powers that be with accurately devised and carefully worked-out regulations, which entrust this right to lay aside the law in great emergencies only to those who have shown themselves fit and proper persons to use it, suspending the privilege the moment it is abused, reinstating the erring member of the profession only when a sufficient time has elapsed and he has proved that the reprimand has made enough impression to prevent his transgressing again.

The doctor, looking rightly at his calling, realizes that he is the servant of humanity, its servant in greater degree than is the member of any other profession. The right to break speed laws is one that can only be granted by the people. As long as it is used solely for the people's interest there is no valid reason for withholding it. On the contrary, every reason why it should be granted. In every city the fire department has a right of way. Its speed is limited only by its capability for arriving safely with efficiency unimpaired. Rightly used similar privileges will, when the public is educated to the necessity and the possibility of its fulfillment, be thrust on the doctor. The same conditions apply; the imperative need of arriving quickly, but with the proviso that speed may not be purchased by any sacrifice of safety or damage to life and property. That physician who, in the course of a hurry call, runs over several chickens, some dogs and more people, arriving with the wreckage of the vehicles that did not get out of the way decorating his searchlights, is hardly the man that the people care to have handle the emergency case when (if ever) he gets to it. The necessity for this discrimination may not, however, arise, as there is the possibility that he is altogether likely to bring his John Gilpin's ride to a successful (?) termination by running over not only the patient, but at least a few of his solicitous friends before he can check his career.

Julius Harold Hurst, M.D., Montecito Cal.

A GOOD HILL-CLIMBER

In 1906 I became so sorry for my horses that I bought single-cylinder runabout (194). I ran it night and day, in ll kinds of weather and all kinds of roads for two years. It is a fine car, for in this time I traveled eighteen or twenty housand miles; but there were several serious objections to t, as there were to some other cars of similar make. These aults or weak points were, briefly, unreliability as to puncuring tires at wrong time in emergencies, low wheels, weak nd dangerous points in single chain on differential in center f rear axle, insufficient and unreliable brakes, and unreliable ransmission, as it would so frequently get out of order. The chain would break frequently or come off; then the waterooling apparatus frequently got out of order; the pump would break or the radiator or pipes would break.

I decided that the car for my use should be air-cooled and ave wheels at least forty inches high, solid rubber tires, ifteen or more horse-power, a friction drive and doublehain transmission. I determined to have one made according to my idea; then I saw in 1908 Automobile Number of The Journal a description of what struck me as an ideal ar (193) for the practical physician; the more so, as it had a win or double friction drive, thus eliminating any differential gear. I went up to Rochester, Minn., the last of April, 1908, o have dug out a bum appendix I had been toting around for some time, and on my way back home stopped in Chicago and spent a couple of days investigating the machine which had attracted my attention. I put it through sufficiently severe tests and bought a runabout at once, adding to it, however, some special features, namely, a rumble seat (so I can carry five passengers easily) and a canopy top and glass front, making my machine appear, as one of my friends remarked, like a cross between a milk-wagon and a hearse, but I told him that I took them from the cradle to the grave, and everybody was satisfied.

I have been running the car night and day since August, 1908—2,500 miles. The tires have never given me any trouble and I think that they will last for three or four thousand miles more. It is a good hill-climber and has been most satisfactory and reliable. I leave it in front of my office nearly all the time, night and day, and only send it to the garage for supplies. It is a little noisy, but I think this disadvantage has been lessened since I bought my car.

C. Holtzclaw, M.D., Chattanooga.

A PLEA FOR LOW-POWERED CARS

If one can not purchase a high-priced and high-powered car, excellent and satisfactory service can be obtained from one of a lower price and lower power. There are several single-cylinder and two-cylinder cars of much merit, both in service and up-keep, some of which sell for little more than $500. The up-keep of low-powered cars is decidedly less than that of the multi-cylinder; gasoline, oil, tires, ignition and repairs are much in proportion to weight and power of the machine. While the speed of the low-powered cars is less than that of the higher powered, it is sufficient for the physician's use—all that the roads allow or the law permits. The owner of the lean purse can get nearly as much satisfaction out of his single-cylinder or two-cylinder car as his neighbor from his four or six cylinders, and if under the necessity of doing so can take care of the car himself.

The up-keep of a motor car is somewhat a matter of individuality and environment; careful driving and daily inspection go toward the reduction of expense. The physician, whenever practicable, should keep his car near his office.

I have driven a single-cylinder (5 x 5) chain-drive machine (144) daily, summer and winter, during the past three and one-half years, at a total expense of $250 yearly. The machine shows but little wear and will be as useful for the next three years. Yearly will be required one set of tires, one extra shoe and two or three tubes, dry cells, four to six sets, one chain if a "chain-drive" machine; gasoline will equal about fifteen miles to the gallon; oil ten to twenty gallons; the repair bill for tires, breakages and accidents may be a trivial or large amount, depending largely on the care and intelligence bestowed on the machine. The tire expense can be lessened by careful driving, especially around sharp curves and corners, by avoidance of skidding, of overloading the car, of driving over sharp objects, nails and glass, and by keeping out of ruts. No grease or gasoline should be allowed on the shoes; nothing damages rubber faster than oil. Tires should be kept well inflated, thus giving longer wear, less internal friction and liability to puncture. When a tube is punctured it should be immediately removed and a sound one inserted. The early repair of "blow-outs" will save much tire expense. As soon as one is noticed the shoe should be removed and heavy canvas applied inside the shoe, reaching from one edge to the other, fastening it with rubber cement; or an inner "tube-protector," which is composed of rubber and fabric, may be applied. With such repairs I have had a shoe run a thousand miles without any further trouble. External cuts should be vulcanized. Chains applied to the driving wheels prevent skidding to a large degree when the speed is not too fast, and with no injury to the tires.

On low-powered cars dry cells are sufficient for the electrical energy. Fresh cells should always be bought, handled carefully, and the cells connected in such a manner that no two will be in contact, short-circuiting, and that no water can gain access to the box. Each cell should be tested with the ammeter before being connected; also when the amperage drops below six or eight, the cells should be removed, otherwise the engine will begin to "miss fire," which will puzzle the novice to locate the trouble. With good batteries, clean electrical connections, gasoline and oil in plenty, few troubles will arise. The carburetor or timer should not be tampered with when properly set, and the manufacturers usually set them correctly; they seldom need changing.

In the winter the best anti-freezing solution to use in the water-system is a 25 to 40 per cent. solution of denatured alcohol; the 40 per cent. solution will withstand a temperature of minus 5 degrees without freezing. I have found this solution more satisfactory than calcium chlorid.

What car shall the man with limited means buy? So much depends on himself, his mechanical abilities, his environment, his social and family requirements, that each one must solve this question himself. A good single-cylinder car is better than a poorly constructed four-cylinder. For the inexperienced I believe the best initial investment would be a single-cylinder or two-cylinder car. These cars can go anywhere and do all the work one requires of them—and will stand a great deal of abuse. Standard models should be chosen, which have been well tried and have an established reputation.

N. B. Bayley, M.D., Haverstraw, N. Y.

RESERVING THE AUTOMOBILE FOR GOOD WEATHER AND GOOD ROADS

Many automobiles are manufactured and advertised as just the right car for the physician, with the one object mostly in view of selling the car regardless almost of its worth compared with other machines. In order to decide which car to buy, one needs to inquire of each owner about his experience. Yet this plan will fail sometimes, for a car giving success in the hands of one man may prove a great expense and disappointment to another.

The car I have used for two years except this winter (illustrated on page 826) went through most all kinds of weather and roads last winter. This winter I had recovered from my ambition to use an automobile regardless of weather conditions, and in preference to using a horse and buggy or automobile I have gotten along very well using street cars. This is a way of transportation which means the least amount of trouble after calls are made. The care of a horse and buggy or an automobile is no small item. I have owned seven different horses in the past fifteen years and one automobile and feel that I am safe in making this statement regarding both.

The automobile I have (179) has one cylinder eight to ten horse-power two cycle, water-cooled engine. I have used this machine very successfully and shall begin its use again about April 1. It is about as good as ever with exceptions of paintings and top, both of which show effects of age, rain and sun.

I have solid tires (196) on rear wheels. There is so little weight on the front wheels that I very seldom have trouble. A few days ago I looked my car over and found that all there was wrong was that one of the pneumatic tires in front was down, so if I wanted to ride to-day I could not on account of the pneumatic tire, as usually is the case nine times out of ten with most automobile troubles. Unless you have money to spend freely I think it is best to do away with pneumatic tires, or if your car will not work as well with solid tires, sell it to some one who does not care so much for expenses and buy a car which will do the work with solid tires as well. Or if you want to buy a car, look around and see where you can find one with solid tires before you buy.

My experience has been that I have had no trouble with any part of my car with solid tires that I did not have when I had pneumatics. In addition I am now saved the great trouble I had with pneumatics.

J. E. Asay, Rock Island, Ill.

A PHYSICIAN'S MOTORCYCLE

I purchased my motor cycle (147) in June, 1907. I have driven it over 4,500 miles at a cost of $57.18. Had I taken care of my machine personally the expense would have been reduced by about $15. This makes the expense for running the motorcycle approximately 1¼ cents per mile. I have had but little trouble, and this mostly during my first two months of apprenticeship. Only once, because of a broken roller, have I failed to come in on my own power.

To a man who has been a bicycle-rider the use of the motorcycle is a pleasure indeed. By merely a twist of the wrist he can get all the speed and power he desires. As to drive, I have only tried the chain, and found it very satisfactory; I am still using the same two chains I got with my machine. I find a pleasant speed carries me about twenty miles an hour, which is at least twice the speed a team can keep up on long drives. My machine is never tired, and after a long trip, with a pumpful of oil, it is ready for another journey.

The use of the motorcycle during the hot months of summer is especially satisfactory. When the team suffers from the heat and can be driven only at a moderate speed, then the motorcycle will take a tireless gait that will create a breeze and make riding a pleasure. A motorcycle can be used over roads where an automobile would not prove satisfactory, from the fact that the former has two wheels while the latter has four. A mere path by the roadside is sufficient for the motorcycle. By the use of the motorcycle one can complete his country rides in about one-third the time necessary for the same distance by team. Thus he has more time for study, recreation and office work. I am fully satisfied with the use of the motorcycle (illustrated on page 817) in my practice.

James E. Taylor, M.D., Ovid, Mich.

FROM THE USER OF AN AIR-COOLED CAR

Twenty or more years ago, before the telephone became of such practical importance, the average doctor could get along without it. To-day the physician simply could not meet competition if he tried to practice without a telephone in his office, and the time is coming when the same may be said of the automobile as compared with the horse for practice in the city. The present condition of the roads in the country encourages considerable difference of opinion. In the city there is no argument. The automobile has won. My personal experience extends over a period of three years. I originally used a two-cylinder runabout (182) and am now using a four-cylinder, air-cooled car (181). My present machine, illustrated on page 827, is far superior to the other.

George Edwin Baxter, M.D., Chicago.

I have owned and used a ten (183) and a fourteen horse-power machine (198), the latter of which cost $825. Either of these would have been satisfactory for good level roads, but both were too light for the steep hills and rough roads in and around Cincinnati. I am running a twenty-four horse-power, four-cylinder $1,250 machine (180, illustrated on page 826). The expense of an automobile carefully run is about equal to that of two horses, but it will do the work of three or four, besides saving much time and thus lightening the doctor's day's work. E. W. Mitchell, M.D., Cincinnati.

I have driven an electric auto over 2,800 miles in my practice in this city with the greatest satisfaction. It has never given the slightest trouble. I have never made an adjustment, tightened a bolt or screw. My machine (163, illustrated on page 813) is always ready to go at a moment's notice. Expenses for repairs have been nothing. The electric auto with a mercury arch transformer for charging is in my opinion the best equipment for a physician with a city practice.

W. P. Armstrong, M.D., Springfield, Ill.

I have covered 4,500 without mishap since May. My machine (164, illustrated on page 827) is ideal in a city with good streets. The machine is too light for extensive use on bad country roads, but its very lightness guarantees the minimum expense for tire, oil and gasoline. In exact tests I have ascertained that I get about nineteen miles out of one gallon of gasoline while using my machine in my daily work, which means slowing down at every street corner, and a stop practically within every mile. My total expenses for tires have been $16.50, retreading of two tires $14, patching of one, $2.50. Hugo Ehrenfest, M.D., St. Louis.

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Address

THE UNITY OF THE MEDICAL SCIENCES *

ALGERNON T. BRISTOW, M.D.

BROOKLYN

The animal body is the most complicated and wonderful piece of machinery in the world. It is the only engine which generates its own power, disposes of its waste products and automatically renews its parts. Within the compass of the human frame is an elaborate hydraulic system having not only a double-acting force-pump and also a suction-pump for the purpose of producing a negative pressure in the veins and to assist the return circulation. The nervous system may be likened to the telephone system of a great city, for it has all the local call stations and also a central station, which we call the brain, which is so complicated that, elaborate as are the switchboards in our great exchanges, they are simplicity itself compared with the brain. The digestive system forms the furnace in which the fuel is received for the generation of power, while the skin, kidneys and lungs make up a complicated apparatus for getting rid of the waste products of combustion.

Besides this, there are numerous ductless glands which exercise a regulating function on the economy still but imperfectly understood — indeed, in some cases, not understood at all. The so-called parathyroid glands are four little insignificant bodies tucked deep nto the recesses of the neck behind the thyroid itself. They are not larger than a pea, and yet when they are removed accidentally in the course of an operation for goiter the patient is afflicted with a strange disease alled tetany, which is fatal if all these little bodies, usually four in number, have been sacrificed. We are ntirely in the dark as to the function of these mys-erious bodies. We do know that they are essential to ife, minute though they are.

As the art of medicine concerns itself with the care f this complicated mass of machinery and its repair when out of order, it is not strange to find that almost very science known to man is represented somewhere n our art. If we restrict ourselves to the seven prin-ipal branches taught in the schools, namely, anatomy, physiology, materia medica, chemistry, practice of medicine, obstetrics and surgery, and speak of these subjects alone as the medical sciences, we shall but touch n the borderland of the art. Each one of these subjects s in itself a science made up of a number of different ciences.

Take anatomy, for instance. When we come to consider the bony system alone, questions of strain and material at once come up which can be solved only by sciences like those of mechanical engineering and architecture. The first boat-builder who went a step beyond the primitive dugout must surely have gained his idea of a keel and ribs from the human skeleton,, so close is the analogy between the methods of construction. There are some problems in connection with the subject of fractures which the assistance of an architect might elucidate. I was once describing to a well-known architect the curious and ingenious way in which the heart is supplied with blood, and he at once pointed out that the position of the coronary arteries just above the aortic cusps not only supplied the heart with blood through the arterial rebound, but that these vessels also prevented the "water-hammer" action of the blood on the valves themselves. The same principle is made use of in the length of pipe above the faucet of the kitchen sink.

We need the assistance of all the natural sciences to aid us in understanding the functions of the body, and it is this which brings about a unity in all the medical sciences. They are all interdependent and constantly merge into one another.

There is between sciences, however, whether physical or abstract, one common bond of union, namely, the fact that they all have for a foundation the mother of all sciences, the science of sciences, logic. Without correct methods of reasoning no science can exist. The very definition of the word "science" is "knowledge gained and verified by observation and correct reasoning." The errors of the mind may be classed under two heads, either as errors of observation or of erroneous deductions, from faulty methods of reasoning. Thus if our methods are illogical our science ceases to be such. All the errors of the past are due to one or other of these causes, and for centuries man has been blundering onward from truth to error and painfully back again to truth. Tennyson describes us well as "children crying in the night with no language but a cry." The knowledge of yesterday is the foolishness of to-day, and the wisdom of to-day will be but as folly to the future. We stumble along in our pathway toward the light, gaining a little real knowledge in each century, a little enduring truth.

There is no science which has suffered from the want of logical observation and logical thinking more than that of medicine. The fallacies of medicine would fill several volumes. Go back to the days of alchemy, the romantic mother of modern chemistry, if you would wander among the strangest mazes of human thought. Those were the days when the curious doctrine of signatories was taught and a remedy was supposed to be precious and potent in proportion to its repulsiveness. "Eye of frog and toe of newt!" Men have been brewing witches' broth for mental and bodily woes for centuries and are only just finding out what is witches' broth and what a true elixir of life. In medicine the most common and most dangerous fallacy in which we are prone to indulge is that which mistakes a sequence for a consequence. *"Post hoc ergo propterea hoc,"* is a very ancient maxim, but it has been the corner-stone of quackery and superstition through the ages. In logic it is sometimes called the fallacy of the false cause. We assume that, because two facts are consecutive in time, they bear the relation of cause and effect one to the other. Thousands of people to-day believe that a change in the weather is caused by a change in the phases of the moon, although it has been demonstrated over and over again that the moon can have no such effect. In the same manner, in the dark and middle ages, any plague, war or other calamity which occurred during or after the appearance of a comet was ascribed to the strange and unknown visitor.

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* Address delivered before the Brooklyn Institute of Arts and ciences.

Most of the errors of medical practice, much of the voodooism and so-called science, Christian and otherwise, are based on this form of fallacy.

An amusing instance of this fallacy came under my observation the past summer. A young woman of education gave as one of the reasons why she believed in the science of the thrifty heiress of Dr. Quimby the following instance of what she believed to be its power in her own person. She had, she said, been the subject of an attack of scarlet fever, but, having received mental treatment, had been scarcely ill at all and was about in a day or two.

Nothing is better known to physicians than the occurrence of extremely mild cases of this fever in certain individuals. In some cases it is so mild and the symptoms so slight that it is almost impossible to be certain of the diagnosis. It was so in my own children, although their nurse at the same time suffered from a severe attack of the disease. This fact being admitted, it is evidently entirely erroneous reasoning to draw the conclusion that the mild case of the person in question was due to any mental treatment and not to an inherent immunity which she possessed, as do many others who have precisely similar attacks without the aid of Eddyism. These attacks are, however, quite capable of conveying the disease in a serious and fatal form to another individual less fortunate and that young woman will never know what other persons she infected when she went out, as she thought, entirely well.

The history of medicine is full of instances of vaunted remedies whose fame has rested on similar fallacious reasoning. Yet the public is prone to blame the doctors because they do not at once rush into new lines of treatment with enthusiasm before they have thoroughly verified the facts and proved the conclusions. There is nothing more dangerous and at variance with the scientific mind than hasty generalizations, based on ill digested and imperfectly observed facts. Only a few weeks ago one of New York's great journals gravely scolded the medical profession because it had called in question the power of an alleged remedy for an obscure and incurable disease of the spinal cord, to produce the results which its exploiters claimed for it, since all of us knew perfectly well that the treatment in question could not have the slightest effect on the anatomic changes in the spinal cord which are permanent and the cause of the symptoms of the disease. As the result of a possibly well meant but ill-judged journalistic puff many poor people will be woefully deceived and betrayed.

It is, therefore, necessary—nay, imperative—before coming to conclusions in such matters, to verify our facts by a long series of observations, and even then to be careful not to be too positive. There must be logic in medicine, even if there is no medicine in logic.

There is no more interesting study in medicine than the physics of the body. Physiologic chemistry is a science which is only in its infancy, but already Chittenden and many others have shown us that our methods of diet are open to much criticism. The sustenance of the human body is a problem in fuel combustion, and the elimination of ash, or, as we sometimes term it, the waste products. The body burns only a more complex and more costly fuel than that employed by the steam engine, but the basic facts of combustion remain the same in both machines. Under a steam boiler some fuels are highly wasteful, others economical. Some leave little ash, others a great deal. Some load the furnace flues with soot and the grate bars with clinkers and so stop the draught. Others burn freely. It is the problem of the mechanical engineer to furnish his boiler with the kind of fuel best suited to the work, so that the greatest amount of energy may be obtained with a maximum of economy and, what amounts to the same thing, the minimum of waste. Because men have not learned that the furnaces of their bodies require similar treatment, which involves not only a proper selection of food, but its use in exactly the proper amounts, they have fallen a prey to many diseases. The poor, alas, suffer from insufficient food of poor quality; while the rich have their own peculiar diseases, due to a plethora of foodstuffs needlessly rich in heat units. Strange to say, the diseases which result from the two conditions are not, after all, so very dissimilar.

While we are young, a large amount of reserve, both in the glandular apparatus which takes care of the waste and the assimilative apparatus which appropriates the heat units contained in the food, readily takes care of excesses in diet. Moreover, in the young the necessities of growth have to be provided for—a matter by no means to be lost sight of. As the period of growth comes to a close—in short, as we grow older—the amount of our reserve diminishes and, unless we measure our intake and make it commensurate with the work required to be done, we shall soon find that the mechanism runs with friction, because, if we take in more than we can burn up, the blood soon becomes charged with waste products which the skin, kidneys and lungs are unable to dispose of. When these waste products circulate in the blood, they act as veritable poisons and bring about changes in the whole system, but more particularly in the vascular system.

Our veins and arteries constitute an elaborate hydraulic system, subject to the same laws of hydrostatics that govern our city water-supply; if they become weakened, they may burst under normal pressure, even at their weakest point. This is usually in the brain, and then we say that the individual has an apoplexy. But the blood pressure in the arteries, through which circulates a fluid rich in waste products, is always much above the normal, rising from 135 mm. of mercury (which is about the normal pressure) to as much as 200 and over. If, then, we have the bad combination which results from a weakened vessel and too high a blood pressure, all can see the evil results which are likely to follow. In addition to this, as a result of the constant irritation of the waste products which have failed of elimination, we get a narrowing and hardening of the arteries, so that they decrease both in caliber and elasticity. To this particular form of vascular disease we apply the term of arteriosclerosis, and this is the disease of old age; in fact, it is old age. It is sometimes said that a woman is as old as she looks, but a man is as old as he is. A more accurate phraseology, from a physician's standpoint, would be to say that an individual is as old as his arteries. I know men in my own profession of 76 years, who are really 76 years young, and not 76 years old; while I know others who have not yet reached their fiftieth birthday whose actual age is by no means measured by the number of summers and winters which have passed over their heads.

Overeating has more victims to-day than alcohol—just exactly as the victims of typhoid fever far outnumber those of either cholera or yellow fever; but alcohol, cholera and yellow fever kill quickly, and the effects of these toxemias are vivid and startling, while we overlook the results of the slower and more subtle poisons because of their very insidiousness. When we think of blood-poisoning, we think of something swift and sudden that kills with a stroke. Do not, however, forget that the slow, insidious form of blood-poisoning which perhaps takes years to do its full work, is ultimately just as fatal to the body.

A want of proper food regulation and a disproportion between the necessities of the machine and the fuel fed nto the furnace always results in this slow form of poisoning and invariably brings about a dangerous rise n blood pressure and a change in the caliber and elasicity of the arteries. There is an intimate relationhip here between the chemistry of digestion, of elimination, and those problems of combustion which deal with waste, sustenance and repair. Physiologic chemisry teaches us the exact number of heat units required by the organism. This is also, however, as you readily perceive, a problem in physics and adaptation as well, nd the two sciences are both concerned in the solution f the problem.

Metchnikoff, the successor of the great Pasteur, in is recent work on "The Nature of Man," has pointed ut the important influence which the waste products ontained in the large intestine have on the production f that disease which we usually call by another term—ld age. He goes so far as to say that man would be etter off without the large bowel, since it is the habitat f numerous putrefactive bacteria which excrete poisons which are taken up by the circulation and aid in the low production of arterial changes. So another scince is concerned in the problem. We started with hysiologic chemistry, and we end with chemistry, hysics and bacteriology, all of which we must call to ur aid in solving the somewhat difficult problem of that constitutes a right living.

All these matters concern the individual; but there is another of the medical sciences which concerns not nly the individual, but the nation and the race—sanitation. It is the science of most recent development, nd yet, if I were asked to name that branch of medicine which is to-day of the greatest influence and use o the human race, I should say the science of sanitaon. It is far more important to prevent disease than o cure it after it has seized on its victim; and there re all sorts of problems involved in sanitation which emonstrate in a remarkable way the dependence of one science on another in the difficult problems which face the sanitarian. But a few years ago we did not at all appreciate the grave menace to the health of thousands of human beings of the suctorial insects. At present we are only on the brink of discovery in this great field. Entomology has taught us a great deal about the life history and habits of this widespread species of insects. It is not too much to say that millions of lives have been brought to an untimely end through this medium. Almost a quarter of a century ago Laveran, a French scientist, showed that fever and ague was due to an organism introduced into the blood by the mosquito; and subsequent observers, by close observation, found that one particular species of mosquito alone, known as the anopheles, was the culprit, and that the disease was transmitted from one individual to another by anopheles which fed on the blood of the sick and then perhaps, at their next meal, transmitted the disease to an individual previously free from it. The night air always had a bad reputation for the production of malaria, which is nothing but a form of fever and ague; but we now know that it is not the night air which is to blame—differing, as it does, not at all except in temperature from the air of a sunlit sky—but the night-flying anopheles which is responsible for the transmission of the disease after dusk. We are all familiar with the labors of the late Dr. Reed and his heroic band, who submitted their own bodies to the sting of yellow-fever mosquitoes in the effort to discover whether or not they were the transmitters of this dreadful disease of the South. We hear a good deal nowadays of the cruelties of the medical profession in the matter of animal experimentation, but I can not refrain from asking if the public should not be willing to trust to the humanity of a profession many of whose members have offered up their lives as a willing sacrifice in the cause of preventive medicine. Three of the members of the commission of five became affected with yellow fever as a result of the willing exposure of their persons in this investigation, and one of them, Dr. Lazear, after calmly permitting a mosquito in a yellow-fever ward to sting him, died a victim of the disease. As a result of the labors of this commission and the investigation of entomologists, it has been settled definitely that yellow fever can be transmitted in one way alone, and that is by the sting of a particular variety of mosquito known as the *Culex fasciata;* and the disease can be transmitted in no other way—neither by clothing, nor letters, nor yet the persons of the sick. You may sleep in the same bed with a patient with yellow fever, but, unless you are bitten by an infected mosquito, you will not contract the disease. It is impossible to overestimate the remarkable consequences to this country which these two discoveries concerning the origin of malarial fever and yellow fever will have on our destiny. The problem of the building of the Panama Canal, great and weighty as are the engineering problems involved, is, after all, a problem of sanitation. If you can not keep your workers and engineers alive on the isthmus, no amount of engineering skill will ever be competent to build that canal. In the time of the French occupation, their men died off by hundreds and thousands; and we should not to-day be prosecuting this work with success were it not for the labors of men like Laveran and Reed. They taught us that, for the prevention of epidemics of this class, a frail mosquito netting was of more value than an army corps and any amount of shot-gun quarantine. There are other important public problems intimately connected with medical science, and which have an important bearing on the economic welfare of this land. As a profession we stand on the street corners, in the marts of trade, and in the public places, and cry aloud that typhoid fever is not a disease, but a crime, and that it is absolutely preventable. For the most part, the public will not listen to us. It goes on emptying sewage into the fairest of its streams, it pollutes its drinking-water at its source, and all along its outflow on its way to the sea, and the victims of typhoid fever, a filth disease, are carried through the streets to premature graves, as a consequence.

There is an economic side, as I have said, to this question. Let us take the expense to the state of an epidemic of typhoid fever. You know there have, in the past few years, been a number of epidemics in different cities in this state and in others. The sick in any one epidemic (not counting the dead) are numbered by hundreds. Take the Watertown epidemic of three or four years ago. They had, as I recollect it, about 1,500 cases. An individual never recovers from typhoid fever in less than four weeks, and is not available as a worker for at least four weeks more. The actual expense account in caring for an individual during an attack of this disease is about $300. This includes loss of wages, the expenses of the illness and the expenses of those who devote themselves to the sick person. An epidemic involving only 1,000 cases—if all the individuals recovered—would mean a loss of about $300,000; but this is a minimum. Half a million would be nearer the real truth. Typhoid fever costs this nation millions of dollars every year. The Panama Canal could be easily built with the waste caused by this epidemic during the years of the construction of the canal, and a large surplus would be left over for a fleet of warships to defend it. Yet we go on in the most irresponsible, childish manner, defiling our beautiful waterways and bringing grief and bereavement to unnumbered homes. In 1906 there were over 13,000 cases of typhoid fever in the United States, involving a money loss of over $4,000,000, and this goes on annually.

There is another very important economic side to this problem of sewage disposal. Why is it that the eastern states have so many abandoned farms, with ruined outbuildings and desolate and deserted farmhouses? From Maine, all through New England, you can get pages of advertisements from farm agencies, of people eager to dispose of their ancestral acres. They have the advantage of proximity to the market, but they can not compete with the west. But the problem of effective farming to-day in the east is the problem of effective fertilization of the soil. For 200 years we have taken out of the soil of this locality what we have not put back, and are suffering in consequence. Nature is a good bookkeeper and allows no forced balances, makes no dummy loans. You must put back into the soil what you took out of it; unless you do, the time will come when you are dealing with an exhausted soil and will reap but poor and insufficient profits. That is the position of the eastern farmer to-day. It costs too much to fertilize his land, and he can not, therefore, compete with the virgin soil of the west. No soil is inexhaustible. Do you suppose that the western farmer will not sooner or later be confronted with this same problem? It will take longer to exhaust the soil of the western states, but the same inexorable law will eventually require the farmer to put back what he has taken from the land if he would continue to reap the waving crops.

But how, you say, does this concern the disposal of sewage and typhoid fever? In this way: When we infect our streams with sewage and turn our harbors into gigantic cesspools, we are guilty of an enormous waste. We are throwing into the sea, from which we can not regain it, the very elements required to regenerate the land. What the soil needs is what is known as fixed nitrogen as opposed to the nitrogen which is free in the atmosphere and not available for the crops; but this is exactly what we are throwing into the sea every day. The average amount of fixed nitrogen eliminated by an adult is about 15 grams *per diem,* equivalent to half an ounce. In a community of 4,000,000, like New York, we are throwing into the sea every day (including the wastage from animals) more than 100 tons of nitrogen. Recently, as if this harbor of New York was not already a filthy cesspool, the State of New Jersey desires to add its daily contributions of twenty-one cities. And this is what every city in the United States is doing to-day—throwing away all this vast amount of nitrogen which huge communities, through the power of steam, have taken and are continually taking from the farms of the nation. And we can not get it back again. We are a reckless and improvident nation, and in our greed we are destroying this fair land. The loss of nitrogen involved in the deforestation of our mountain ranges is another source of waste, not to speak of the serious consequences which the destruction of our forests is having on our streams. He who plays must pay, and the nation, which is playing with its resources, will have a heavy debt to pay in a future not far distant. The problems of sanitation require, then, the aid of many sciences which must coöperate and act in unity if we are to stop the frightful waste both of lives and material involved in our present sins both of omission and commission.

To-day we hear a great deal about the yellow peril. A great fleet has been sent around the world as an impressive example of the sea power of this nation; and now our statesmen tell us that there is no yellow peril, but that this has been averted by skilful diplomacy and what is practically an alliance with that oriental power which lies nearest to our western shores. Nevertheless, there is a yellow peril not to be averted nor driven back by all our guns. I mean the plague. Of all forms of contagious and communicable diseases, this is the most difficult to guard against and, once landed on our shores, most difficult to eradicate. The medical science of bacteriology discovered the cause of the plague, the *Bacillus pestis,* a minute organism belonging to the bacteria. The disease is frightfully fatal; hence the importance of prevention. Here medicine called to its aid the science of entomology, not usually classed as a medical science, and by its aid showed us that this dreadful disease in the vast majority of cases was conveyed from the sick to the well by the rat flea. In every epidemic of plague it has always been noticed that the rats died by hundreds also; and investigation of their dead bodies showed the characteristic buboes or abscesses of the lymphatic glands, to which the disease owes its specific name, bubonic plague. Further investigation by the bacteriologist showed the bacilli in the bodies of the fleas infesting the rats. As these insects leave the dead and seek out the living, and sting human beings as readily as the rats, animals which before had been considered nothing but troublesome vermin, were now seen to be the gravest menace to the public health. A few infected rats, traveling in grain cars or in ships could establish a number of different foci of the plague in this country with ease. And the prevention or eradication of bubonic plague evidently depended on the destruction of the common brown rat. Much animal experimentation was necessary before it was proved beyond a doubt that fleas from rats infected with plague were capable of conveying and did, in fact, convey the disease to the healthy. This proof was not obtained without a sacrifice of life among the laboratory workers. In fact, a number of scientific men, both in this country and in Europe, have lost their lives while working with the organism of the plague. They died martyrs of science in the cause of humanity, unnoticed by the public, unlauded by the press, and unsung. We, their comrades, cherish their memory. The plague is the real menace of Asia. This is the real yellow peril to be averted only by the science of preventive medicine and the enlightened cooperation of an intelligent government. The trinity of medical sciences — pathology, bacteriology and entomology — have pointed out to us the cause and the means of prevention.

What has been the reward of the physicians of the Public Health and Marine-Hospital Service when they have pointed out to infected communities the necessity of radical sanitary measures if they would prevent the spread of the plague, not only in the community affected, but to regions far beyond its borders? When the Marine-Hospital Service, a year or two ago, stated that there was plague in San Francisco, they were met by the fiercest denials and denunciations, both from the press and the city officials of San Francisco. Every effort was made to discredit them with the national government, and their removal was sought for with assiduity and venom. More recently similar scenes have been enacted in Oakland, a suburb of San Francisco. History is repeating itself, and local interests wish to make themselves paramount to the national welfare.

Thirty years ago there was a national board of health. Its officials declared that yellow fever existed in New Orleans. As a consequence, other ports quarantined against that city. The health officer of the State of Louisiana denied that there was yellow fever in the affected city, although people were dying of that disease every day. As a result of this conflict between the state officials and the national board of health, influences were brought to bear on Congress the following year and the appropriation was withdrawn and the board discontinued its functions, and from that time to this we have had no national board of health. There is nothing now between the plague of Asia and our own land but the officials of the Marine-Hospital Service, courageous and capable medical men, incorruptible and undismayed, either by cajolery, threats or any other attacks which may be made against them by a band of politicians which are working for their own pockets all the time instead of the national welfare. Why did the state board of health of Louisiana thirty years ago deny the existence of yellow fever? Why did San Francisco, more recently, strenuously deny the existence of the plague within her precincts? Why to-day does Oakland do the same, although rats have been found in the streets, dead of the plague, and it has been found that the infection has spread to the squirrels in the vicinity? It is because to acknowledge the existence of the plague would be bad for business—local business—the business of San Francisco, the business of Oakland. The business men of these communities are willing to endanger the lives of their fellow-citizens throughout the United States and to run the risk of the general paralysis of business entailed by a general distribution of the plague in the United States, rather than acknowledge the existence of the disease and set their own house in order and stamp out the plague before it spreads beyond their own borders. It is a strange and melancholy spectacle. The business morals of our country are sadly in need of reform in other circles than circles financial, when dollars are of more value than lives and the temporary business prosperity of a few is allowed to outweigh the welfare of the nation. We have a Department of Agriculture which looks after the plants and the lives of beasts, but up to this time the lives of plants and beasts are of more value to Congress than the lives of the citizens. Horses and cows and pigs cost money, and so their interests must be carefully conserved by a department set apart for the purpose; men and women and little children are very cheap commodities; therefore, we have neither a national board of health nor a department of health as a part of our national government.

There are other questions of public health which can never be adequately handled in any other way, in my opinion, than by a governmental Department of Health, which would be out of reach of the politicians. A new national health board would soon meet the fate of its predecessor. But a Department of Health would be above interference which could end its existence. The question of stream pollution is really an interstate problem which can not be handled by the individual states, except within their own borders. It is, to be sure, a penal offense in New York now to empty sewage into a stream of potable water without the permission of the state Board of Health; but of what avail to police one side of the stream if you do not control both sides and the source as well? Lake Champlain, for instance, is protected on the New York side and contaminated on the Vermont shore. And there are many instances of streams which are protected in New York, but contaminated in Pennsylvania. Nothing but a long and doubtful suit at law between two states, under our present system, can settle questions such as these. The Chicago Drainage Canal presents such a legal problem. The State of Illinois turned the entire sewage of the great City of Chicago into the Mississippi River, in spite of the strenuous objections of communities on the shores of that mighty stream. Questions such as these are crowding fast on our civilization and will never be adequately handled by anything short of a governmental department. The fact has become more and more evident to the thoughtful of the medical profession. Local business interests should never be allowed to imperil the welfare of the nation; and when men are so shortsighted, not to say selfish, as to be unable to see that their own local interests would suffer in any national calamity a strong central power should compel them to recognize the paramount rights of the majority.

Thus we see that every problem in medicine is complex, many sided, and that medicine is an art almost without limitation. In its broad domain, almost all sciences are brought together to work in unison for the benefit of the individual, the nation and the race. No single medical science, by itself, is competent to solve a single problem, whether in state medicine or individual therapeutics. All the sciences embraced in our medical art (and they are many) are necessary to the solution of these problems. And unless they all work together in harmony to a common purpose little will be accomplished; and this is what I conceive is meant by the unity of the medical sciences.

234 Clinton Street.

Original Articles

THE NERVOUS DISORDERS IN WOMEN SIMULATING PELVIC DISEASE

AN ANALYSIS OF FIVE HUNDRED AND NINETY-ONE CASES*

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In presenting this paper, I have been prompted by a desire to give the result of several years' experience obtained in the treatment of gynecologic patients in the clinic of the Woman's Hospital of Philadelphia. The symptoms of the two great neuroses, neurasthenia and hysteria, are constantly being misunderstood in their relation to pelvic disease. The nervous phenomena of these affections present only confusion to the minds of many of us, nor is this strange when nervous specialists are still contending among themselves as to their symptomatology. Morton Prince, of Boston, maintains that the whole symptom-complex of neurasthenia is but one of the manifestations of hysteria, while Babinski goes so far as to maintain that hysteria itself is but a disease of suggestion brought on by the examinations made by the physicians. We may, therefore, pardon the great body of the medical profession if under such trying circumstances the symptoms of these neuroses are misinterpreted. In order that the vagueness in regard to these affections may be eliminated from the mind and replaced by clear ideas concerning these diseases, it is necessary to reason from certain basic principles formulated by the majority of our eminent neurologists.

NATURE OF NEURASTHENIA AND HYSTERIA.

Hysteria and neurasthenia occur in those persons of a normal as well as in those of a neurotic inheritance, and men and women both are subject to these affections, though the largest number of cases occur among women. A close study of these nervous disorders proves that true organic pelvic disease plays but an insignificant part in their development, and that their real origin must be sought elsewhere. The exciting factors are to be found in the environment plus heredity. When neurasthenia occurs in those in whom hysteria is latent, it acts as any other cause in the development of the latter. Hitherto the symptoms of both affections manifested in one individual have commonly created confusion as to their true import. In the adolescent and adult state, all humanity is subject to great strains. The most prominent among these are, first of all, the results of a defective education in which self-control and restraint are not inculcated early in life, and a too close application either to pleasure or to study; later the bearing and rearing of children, household cares and worries, nursing of members of the family—a strain not only physical but also mental—financial stress, grief and shock occasioned by death, by accidents, by troubles, by frictions of all kinds, great and small. Anxieties and cares, no matter how trivial in character, must be viewed from the standpoint of the patient. The strains mentioned are far more potent as causes of the neuroses than organic pelvic disease. The nervous symptoms connected with organic pelvic disease are, indeed, very limited. While it is not to be denied that there are present local pain, pain referred to the back, to the hips and thighs, together with general indications of ill health, these symptoms do not of themselves constitute true functional neuroses, such as neurasthenia or hysteria. They are but symptomatic of the pelvic disorder, just as they may manifest themselves in connection with any other visceral disease. The distinctive term "neurasthenia symptomatica" or "spurious neurasthenia" has been applied to nervous symptoms present under such conditions. The hold of the doctrine of "reflex nervous disorders" on the profession for so many years is little short of marvelous, but its fallacy has been demonstrated beyond dispute by our increasing knowledge of nervous diseases.

On account of limitations of space, it will be necessary to present in a brief and concise form only the most prominent symptoms of neurasthenia and hysteria. True neurasthenia or "neurasthenia simplex" is essentially a "fatigue neurosis" (F. X. Dercum). The cardinal symptoms are a ready exhaustion of the nervous system with diminished elimination of nervous energy, increased irritability, and as a result decreased resistance to impressions from without. In this affection the wear and tear of the nerve cell is greater than its recuperative power and the physiologic equilibrium is impaired. The symptoms of this great "fatigue neurosis" are divided into motor, sensory, psychic and somatic phenomena. Those of the motor system consist of ready muscular fatigue made manifest on exertion due to loss of strength in the muscles of the back, legs and arms. Actual paralysis, however, is never present in neurasthenia.

The backache is usually referred to the lumbar and sacral regions; it often extends upward over the dorsal area and downward over the gluteal muscles. Aching of the limbs, when present, is referred to the thighs, legs, arms and shoulders. The special senses also present the symptoms of fatigue. On reading, the letters may become blurred, and, if it is persisted in, headaches, both limited and diffuse, supervene. The hearing may become dull, as may the other special senses. The psychic condition manifests itself by a lessened capacity for sustained mental action. Persistence of mental effort brings on the symptoms of exhaustion with its fatigue sensations. Thoughts do not flow readily, the will power lessens, indecision arises and increased mental and emotional irritability manifest themselves. Sleep becomes broken and disturbed, bad dreams ensue and in severe cases obstinate insomnia may result.

The somatic phenomena are commonly gastrointestinal atony, with its diminished secretions, flatus and constipation. The circulatory disturbance is usually shown by more or less enfeeblement of the heart's action with cold hands and feet. This condition is often accompanied by accidental heart murmurs.

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In addition to these symptoms, others may make their appearance, called the secondary or adventitious symptoms of neurasthenia. They are but the outgrowths of the essential fatigue symptoms and also present motor, sensory and psychic phenomena. The motor symptoms are tremor and spasmodic fascicular jerkings due to the primary muscle fatigue.

The sensory symptoms are those sometimes associated with a neurasthenic headache, such as sensations of constriction, of pressure, of throbbing, of dizziness and of fulness. The not infrequent phenomena of ringing, roaring and buzzing in the ears are also secondary phenomena. These sensory outgrowths are due to lowered vasomotor tone so that the slightest exertion may at times affect the intracranial circulation.

The secondary adventitious psychic symptoms are manifestations of loss of will power, as shown by indecision and uncertainty. Sometimes special forms of fear, the various phobias, are added to these psychic phenomena and are also outgrowths of chronic fatigue.

Symptomatic or "spurious neurasthenia," as before stated, is the result of visceral or somatic disease and very imperfectly simulates nervous exhaustion. Hysteria, the great "psychoneurosis," a functional disease of the cerebral cortex, is a common disease of daily life and is constantly unrecognized by physicians. Erroneous diagnoses of visceral and grave organic disease are frequently made because physicians are unfamiliar with its syndrome, especially unfamiliar with its sensory stigmata; that is, its areas of painful hyperesthesia. The attendant suffering is often far in excess of that from organic lesions. The painful areas are most frequently found in most unexpected places on the skin and mucous surfaces and are commonly misunderstood as indicating visceral disease. On examination, especially pelvic, every anomaly discovered must not be considered as explaining the symptoms. Usually the findings are nothing more than individual peculiarities and do not of themselves indicate medical or surgical interference. Under normal conditions the uterus now and then deviates laterally, is often more or less anteflexed, is sometimes in the vertical position and again inclines backward to a varying degree until there is present a retroversion. There is some justification in regarding the latter when existing uncomplicated as a reversion of type or morphologic arrest and not an abnormality. It is well known that in intrauterine life the uterus still maintains the vertical position in the eighth month and that in apes retroversion is a normal condition.

The syndrome of hysteria is fixed and definite and includes motor, sensory, psychic and somatic phenomena. The motor symptoms of hysteria, the palsies, contractures, tremors and incoordination, are not misleading and are naturally referred to their nervous origin. Some of the sensory phenomena also, such as the anesthesia, hypesthesias and alterations of temperature sense, need not be considered here. It is especially important, however, to consider in detail the various cutaneous painful areas met in hysteria, as these are of extreme interest because of their simulation of pelvic disease. Not infrequently the areas of hysterical hyperesthesia become areas of hyperalgesia and then are not only tender to touch, but spontaneously painful. They bear no relation whatever to sensory nerve distribution or segmental representation in the cord, which fact at once stamps them as cortical or psychic in origin. These areas of hyperesthesia are sometimes found on both sides of the body, though they are most frequently found on one side only, usually the left. These painful areas are most varied in extent and distribution, but as a matter of clinical observation they seek by preference certain localities, especially the inguinal region. On account of the anatomic relation which the ovary bears to the inguinal region, the true significance of these painful areas has been greatly misunderstood, and as a result these areas have been misnamed areas of "ovarian tenderness." As to the incorrectness of this term there can be no doubt, as these areas are often observed in men as well as in women in whom the ovaries have been removed. These areas are usually superficial, but occasionally there are cases in which the pain is deep seated, just as in some cases of spinal tenderness or of clavus hystericus of the head; but even in these the pain can be demonstrated to exist in the abdominal wall. The method adopted to demonstrate these areas is as follows: After the painful area has been carefully located on the abdominal wall, the tip of the forefinger of the right hand is allowed to rest lightly on it; the forefinger of the left hand is then introduced into the vagina and directed upward, to one side or the other, until its tip is immediately below its fellow of the right hand which is on the abdominal wall. Just as soon as pressure is made between the two fingers, the patient flinches, which does not occur when pressure is made in other directions, or when other portions of the abdominal walls are included. This hysterical inguinal pain has been compared to the boring and penetrating pain of clavus hystericus, the name used when the area is located in the tissues of the scalp. The so-called "inframammary" tenderness is a painful area usually located under the left breast; it is sometimes found, however, in the same situation on the right side, either alone or in conjunction with the area upon the left side. This pain is often very intense in character; occasionally it centers in the nipple and then gives rise to so-called mastodynia. Other painful areas are occasionally found above the spines of the scapulæ, to the sides of the cervical, dorsal and lumbar spines, over the sacrum and at the tip of the coccyx, giving rise to so-called coccygodynia. The hyperalgesic areas may be found on the mucous surfaces of the vulva, vagina, rectum, bladder, nose and tongue. They are usually most distressing in character and give rise to intense suffering, especially when located in the vagina and rectum. Under such conditions sexual intercourse becomes impossible and bowel movements become agonizing.

The concomitant existence of somatic symptoms of hysteria, such as globus hystericus, hysterical vomiting and anorexia, amblyopia, contracture of the visual fields and like phenomena are, of course, strong corroborative evidence. Among other somatic disturbances of hysteria we find fever, cough, disturbances of the heart's action, of the general circulation, of digestion, of loss of voice, phantom tumors and like obscure phenomena.

The psychic phenomena of hysteria are of great interest and are not difficult of recognition when we bear in mind that the evidence of disturbed mental balance is always present. Emotional inhibition is defective and phases of exaltation and depression are present without adequate cause. The hysterical subject reacts inordinately to suggestion. In health organic and visceral sensations do not enter into the makeup of consciousness. In hysteria, however, these sensations present themselves in an illusional form and are wrongly interpreted. The pain in the groins suggests to the patient grave pelvic disease or appendicitis; the "inframammary tenderness" suggests serious disease of the breast. The abnormal reactions of the patient to the suggestions furnished by her own body are but exceeded by the reactions which ensue upon suggestions from without, that is, suggestions furnished inadvertently by physicians, nurses and relatives. Hysterical stigmata, when in abeyance, are often developed by incautious statements. Therefore, under such circumstances, a pelvic examination should never be made without unmistakable indications. For, even independent of the moral shock, a fixed belief is engendered in the patient that she is the victim of some grave and mysterious disease to which she attributes all her symptoms. In hysteria the basic condition consists in a degree of suggestibility that is pathologic, and it can be readily understood that in such a soil almost any nosophobic ideas can be developed.

ANALYSIS OF CASES

In keeping with the above considerations, an analysis of 591 cases presenting themselves in both clinical and private practice will prove interesting and instructive. Of this number 179 cases were excluded because they bore no direct relation to the matter in hand. They consisted of pregnancies, miscarriages, venereal diseases and unimportant affections. In the normal pelvic conditions all non-inflammatory affections were excluded, such as lacerations, anteflexions, retropositions embracing the retroversions, retroflexions and anteflexions retroposed.

STATISTICS

Table 1.—Hysterical or neurasthenic phenomena or both were found in cases presenting the following conditions:

	No. Cases.
Pelvic organs entirely normal	181
Tubo-ovarian inflammations and exudates	34
Fibroid growths	4
Cervical and perineal lacerations	21
Dysmenorrhea	23
Anteflexions	28
Retropositions	36
Splanchnoptosis (relaxation of uterine supports)	3
Lacerations that were repaired	2
Where both ovaries had been removed	9
Where one ovary had been removed	2
Where the appendix had been removed	4

Table 2.—Hysterical or neurasthenic phenomena were absent in cases presenting the following conditions:

	No. Cases.
Cystic degeneration of the cervix	3
Tubo-ovarian inflammations and exudates	53
Fibroid growths, including one weighing 17 pounds	11
Cervical and perineal lacerations	39
Dysmenorrhea	7
Anteflexions	24
Retropositions	44
Splanchnoptosis (relaxation of uterine supports)	19
Carcinoma (no nervous symptoms found in any case of carcinoma)	9

Table 3.—The painful cutaneous areas of hysteria present in absolutely normal pelvic conditions were as follows:

	No. Cases.
Both groins (so-called ovarian tenderness)	70
Left groin (so-called ovarian tenderness)	40
Right groin (so-called ovarian tenderness)	20
Under both breasts (inframammary tenderness)	2
Under left breast (inframammary tenderness)	26
Under right breast (inframammary tenderness)	1
On either side of the spine in the cervical region	3
On either side of the spine in the dorsal region	14
On either side of the spine in the lumbar region	9
Over the sacrum	14
At the end of the coccyx	10
Above the spines of the scapulæ	4
Clavus hystericus	5
Deep intrapelvic pain (hysterical)	10
Painful areas on mucous surfaces, vagina, vulva, rectum and tongue	4
Hysterical vomiting	3
Hysterical pain in one eye during menstruation	1
Hysterical globus	9

The other nervous phenomena present in absolutely normal pelvic conditions were as follows:

	No. Cases.
Limbache (legs, thighs, arms and shoulders)	40
Sacral backache	60
Dorsal backache	2
Headaches, vertical	3
Headaches, diffuse	6
Headaches, frontal and occipital	35
Headaches, occipital	26
Headaches, frontal	16
Disturbed sleep	18
Insomnia	3
Gastrointestinal disturbances of nervous origin, such as constipation, flatus, gastric distress, diminished secretions and anorexia	96

Table 4.—Painful areas found in pelvic diseases were as follows:

	No. Cases.
Both groins (so-called ovarian tenderness)	14
Right groin (so-called ovarian tenderness)	3
Left groin (so-called ovarian tenderness)	14
Under left breast (inframammary tenderness)	2
On either side of the spine in the cervical region	1
On either side of the spine in the dorsal region	2
On either side of the spine in the lumbar region	4
Clavus hystericus	3
Over the sacrum	3
At the end of the coccyx	2

The other nervous phenomena present in pelvic disease were as follows:

	No. Cases.
Limbache (legs, arms, thighs and shoulders)	3
Sacral backache	10
Lumbar backache	7
Headaches (frontal and occipital)	3
Headaches (frontal)	3
Headaches (occipital)	5
Headaches (diffuse)	2
Gastrointestinal disturbances of nervous origin such as constipation, flatus, gastric distress, diminished secretions and anorexia	12
Disturbed sleep	5

The above tables speak for themselves; there is obviously no relation between hysterical stigmata and pelvic disease; this is likewise true of the symptoms of neurasthenia. That hysteria and neurasthenia can coexist with pelvic disease goes without saying, just as they may coexist with a brain tumor or a broken leg. The above statistics do not even show that neurasthenia or hysteria exist as frequently in pelvic diseases as in other visceral affections. Certainly the above facts prove that operations on the pelvic and other viscera for the relief of nervous symptoms have no justification. It is perfectly clear that no operation should be performed which has no positive surgical indications. When this subject is fully understood the fastening up of so-called loose kidneys, the removal of normal ovaries and tubes, of normal uteri, of normal appendices, of pieces of normal coccygeal bone, will cease, as will also repair of trivial cervical lacerations. A careful examination of the records from hospital laboratories will abundantly testify to this assertion of the removal of normal organs.

NECESSITY FOR CAUTION WITH REGARD TO SURGICAL TREATMENT

In looking over the above tables it will be seen that there are more retropositions of the uterus without nervous symptoms than retropositions existing with them. It is the same when we compare the anteflexions, the lacerations, the splanchnoptoses and malignant disease. Dysmenorrhea is most striking in that the tables show in almost every case symptoms of functional nervous disorders associated with it, suggesting that dysmenorrhea in many instances is but one of the many phenomena of these nervous affections. This view would greatly reduce the number of dilatations which are regarded by some as useless, senseless and cruel except for diagnostic purposes. Uncomplicated retroversion requires no surgical or medical interference and presents practically no symptoms. Lucy Waite and Byron Robinson of Chicago experimented on the cadaver by injecting air into the bladder and rectum, and they demonstrated an extensive deviation on variation of position regarding the uterus. Anatomically and physiologically the uterus is a mobile pelvic organ and not an abdominal one, and to force it upward and forward, to stitch it to the abdominal wall, compromises it in its function, circulation and nerve supply, substituting one pathologic state for another.

A word as to Alexander's operation. Byron Robinson and others maintain that it is an unnecessary, harmful and unnatural operation and should become obsolete. The round ligaments do not support the uterus and can be but forced substitutes, that is, pathologic. They are found relaxed when the abdomen is opened. If they are forced into assuming the function of supports of the uterus they will elongate and a patient will require an Alexander operation "about as frequently as a man will need his hair clipped." He claims that it is a cosmetic operation at high risk and cost to the patient. Frank H. Hancock[1] finds that 26 per cent. of gynecologic patients have retroversions and proposes that they be all corrected by hysteropexy. Byron Robinson[2] of Chicago asserts, in answer to Dr. Hancock's article, that such bids for surgery tend to "scalpel storms." He further says that "surgeons have gone mad, diagnosis and medical treatment are becoming buried, obscured in surgical technic. The postmortem is useless, forsooth, because diagnosis must be made in the living by abdominal incision and direct vision. The mechanical surgeon has arrived with his commercial tool-chest, the cutter with his 'scalpel storms' is multiplying rapidly, surgery is becoming a by-word, the 'pexyite' is abroad in the land, the suspicion of the people is beginning to arise from the slaughter of the mechanical surgeon. Irrational surgery is debased surgery, a misapplication of the art. Unnecessary surgery is criminal, harmful surgery; it injures both patient and physician and creates misery. Because a woman becomes well subsequent to a gynecologic operation without positive surgical indications affords no proof whatever that she required it."

No one will deny, however, that when the uterus is dislocated, that is, fixed by adhesions, surgical means hould be employed to loosen it after medical measures have failed, but it should not be subjected to a new dislocation by fastening it to the abdominal wall. The pelvic floor should always be repaired when lacerated, s it is so intimately connected with the support of the terus. In all inflammatory conditions of the pelvic rgans, such as exudates, endocervicitis, endometritis, metritis and prolapsed tubes and ovaries, induction of hyperemia, that is, a fresh supply of blood to the parts, resents the only means of cure. This hyperemia can e induced in no better way than by means of the hot ouche frequently repeated, glycerin tampons, hygroscopy, electricity, menstruation and gestation.

It has been frequently stated as a truism that a gynecologist should be first of all a wise physician. From a ose observation and study of these tables "gynecologist" should be further interpreted as "one skilled in functional nervous disorders," for the gynecologic clinic of to-day is largely neurologic. How imperfectly the euroses are understood is best illustrated by a casual mark made by one of our foremost gynecologic teachs that a wandering pain was a hysterical pain, and fixed pain was one indicative of organic disease. How far he was from a realization of the truth may be conceived from the fact that hysterical pain is often so fixed in character that even the psychic impress made on the cerebral cortex by the removal of pelvic organs, normal or diseased, does not alter it in the slightest degree, but often makes it more fixed than ever. A prediction from a study of these cases would not be out of order in reference to the gynecologist of the future when he has grasped the neurologic simulation of pelvic disease. His greatest endeavor will be to have the fewest operations to his credit instead of the greatest number. The conservation of normal pelvic organs and the restoration to health of diseased ones by medical means whenever possible will be his highest aim.

810 North Broad Street.

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[1] A Plea for the Correction of Uterine Displacements. Med. c., New York, March 7, 1908.

[2] Uterine Displacements. Med. Rec., New York, April 11, 1908.

CANCER OF THE UTERUS

OUR PRESENT MEANS OF LESSENING ITS MORTALITY *

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The question of lessening the mortality in cancer of the uterus is a subject which ought to be of interest to every member of the profession, since, as has been shown by the painstaking statistics of Welch, cancer of the uterus ranks first in incidence when primary carcinoma is considered, forming practically one-third of all the primary cases. The frequency of its occurrence can well be shown by a concrete example. According to Kelly, of the first 11.382 patients admitted to the gynecologic service of the Johns Hopkins Hospital in fifteen years for all gynecologic affections, 412, or 3.06 per cent., were cases of cancer of the cervix. Crile, in his oration before the American Medical Association at Chicago in 1908, states that statistics show that one woman in every eight who reaches her thirty-fifth year dies of cancer, and that, taking the prevalence estimate of the British Isles and applying it to the United States, there must be at this present moment approximately 80,000 cases of cancer in this country alone. These figures, of course, include cancer of all organs, but, as I have said before, uterine cancer easily heads the list in frequency. This is the condition which is confronting the race, and the question arises what we have done and what we can do to prevent its mortality, which in untreated patients is 100 per cent. Of course, we ultimately hope to find the cause of the disease and so attack it at its source, and to this end thousands of dollars are being expended in careful and painstaking investigation, and through munificent benefactions the services of some of the keenest minds in medicine are engaged in research along this line. But so far we may say, in all candor, that the results have been from a practical standpoint universally disappointing. For the present the cause of cancer is as far from a solution as it was years ago, but we must be optimistic and trust to the future for its solution, since many as seemingly impossible problems have been conquered in the past.

At the present time, then, we are concerned with the enormous prevalence of the disease, while we are still in the dark as to its cause. Such being the case, there

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* Read before the Maine Medical Association, at its fifty-sixth annual meeting, Bangor, June 10-15, 1908.

can be no real prophylaxis. As we can not prevent its incidence, let us turn to methods of combating its ravages—to its cure. I think I am justified in saying that no well-balanced, open mind doubts that the only cure of cancer of the uterus in our hands to-day lies in its complete extirpation by surgical means. It seems to be the judgment of the majority that all other lines of treatment, whether by serums, trypsin, or escharotic pastes, etc., are merely palliative. Turning, then, to the surgical methods of cure, we again find opinion focusing on a single method. In the early days amputation of the cervix was advised and practiced; later vaginal hysterectomy had its day. Following this came pan-hysterectomy by the abdominal route in order to remove the parametrium more completely; and then came the methods of Clarke, of Philadelphia, and Sampson, of Baltimore, in this country, and Wertheim in Germany, who were all working along the same lines, these lines being the application to cancer of the uterus of the surgical principles developed by Halsted in the cure of cancer of the breast, namely, the excision of the growth *en masse* together with those lymphatic nodes that anatomically drain the area affected, and the excision of these nodes, whether they were macroscopically involved or not.

I will not enter here into a discussion of the merits or of the necessity of these latter more radical procedures, as their details are of purely surgical interest and as such must be decided on by specialists in that line. One thing, however, is certain, that nothing more radical than the procedures of Clarke, Sampson and Wertheim can be conceived of. Modern surgery has done its best, and our only present hope of cure has reached its limit. If better results are to be obtained, surgery must rely on some outside ally. What, then, are the results of these surgical procedures?

In this country various operators report cures, over the three-year period, of from 5 to 8 per cent. or less. Contrast this with the statistics of Wertheim,[1] who there reports a percentage of cure of 22.5 per cent. of all patients seen. Surely the surgical ability of Wertheim is not sufficient to explain this discrepancy of results. The explanation lies in the fact that he sees his cases in an earlier stage than do the operators in this country, and herein lies the secret of his success. If 22.5 per cent. of all patients seen were cured after three years, cancer of the uterus would be practically only as fatal as pneumonia—a surely remarkable result.

We cure cancer of the lip in practically 90 per cent. of the cases. Why? Simply because we see it in its incipiency—in many cases, in fact, in the so-called precancerous stage. Under these conditions the surgeon is triumphant in practically every case. As Crile says, "Halsted quotes the elder Gross—and Gross was the first surgeon of his day—as stating that he had never cured a case of cancer of the breast. Halsted, however, developed this field by applying a perfected technic to a correct pathologist's conception, and his work serves as a general model for cancer operations.

"In the Johns Hopkins clinic 47 per cent of all patients with breast cancer operated on have remained well for three years or more. Considering only the cases that seemed at the time of operation to be clinically favorable, seventy-five out of every hundred were cured. A group of cases still more impressive is that consisting of those in which a clinical diagnosis of cancer could not be made prior to operation. Of these, 96 per cent. remained well for three years or more." I will not multiply instances, but these figures will illustrate my proposition that surgery plus, and always plus, an early diagnosis will give a high percentage of cures in malignant disease.

Coming back, now, to cancer of the cervix, we are met by an entirely different array of figures. Taking again the statistics of the Johns Hopkins Hospital as a concrete example, we find that of the cases which present themselves to this hospital over 70 per cent. have reached such a stage of development that no operation, save possibly a palliative curettage, can be considered; yet in over 60 per cent. (more than half) of these patients a history can be elicited that should have sent the woman to her family physician for advice, and this history has extended throughout a period of six months or more. Here lies at the present time our main point of attack. An effort must be made to bring these patients to the surgeon before the disease has reached an inoperable stage. The difficulty lies in the fact that in the majority of cases of cancer of the cervix the earliest symptoms begin to be manifest about the time of the menopause, and the earliest symptoms of cancer of the cervix are not pain or profuse hemorrhage, many text-books to the contrary notwithstanding. The earliest symptoms are most insidious, a thin watery discharge, a slight change in the character of the leucorrhea, with perhaps now and then a mere "show" of blood. The danger lies in the fact that these symptoms occur about the time of the menopause, and that most women, and not a few practitioners, have had inculcated into their minds the belief that at this time all sorts of irregularities in the vaginal discharge occur and are of no significance. The woman consults her elder neighbor and is reassured; she in many cases consults her family doctor and is again reassured that such changes mean nothing and that in the course of a few months all will be well. In many cases this will be so, but in the meantime those cases in which the changes are due to incipient malignant disease will have passed into the inoperable stage and the only hope of salvation will have been lost.

Our present hope lies entirely in the hands of the general practitioner. He must start a campaign of education among the women of his clientele. All women approaching the cancer age have, as a rule, some physician to whom they look for advice and who occupies to them the position of "father confessor" in all medical affairs. If the family doctor will impress on these women the necessity, as they approach the menopause, of reporting to him any changes in the character of their vaginal discharge; if he will then go to the point of impressing on his patients the value of a routine vaginal examination at least once in every six months in women between the age of 35 and 55, whether they have any symptoms or not, the statistics of operable cancer of the cervix will take their place along with those of cancer of the breast. Cancer of the cervix does not differ in its biology from cancer on the visible surfaces of the body, and could it be seen in the same stage of its development it would be just as amenable to surgical cure.

Another point which I wish to make is the necessity of the doctor considering as serious all disturbances of menstruation occurring in the cancer age. The woman is doubtless, through ignorance or misinformation, ften at fault in neglecting early signs, but too often, I ear, the doctor himself is negligent. The physician hould make it an iron-clad rule to insist, and insist bsolutely, on not only a thorough vaginal examination, but on a visual inspection of the uterine cervix in ll such cases on the occasion of the first consultation. f the inspection of the cervix shows the least suspicius sign, a piece of tissue should be removed for microcopic examination, and this may, and in most cases hould, be performed without allowing the woman to now what has been done. If the woman is informed hat the doctor desires to remove a portion of the terus for pathologic examination, the offer will be lmost invariably declined. The cervix is practically evoid of sensation. At the first examination, under he guise of an ordinary treatment, the cervix may be rasped lightly with a volsellum and a wedge-shaped iece of the suspected area removed with a couple of nips of the scissors without giving any more pain or iscomfort than the ordinary cervical application would ncur.

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[1] Wien. klin. Wchnschr., 1904, xvii, 783.

The aid of the microscope can then be invoked and he patient treated as the results of this examination ictate. The hemorrhage following this procedure is lways slight, can usually be left to the control of a aginal pack, and at most will require one suture for s control. This is the only salvation for these sufferrs—to obtain a microscopic diagnosis in the very early tages and in what might be called the precancerous age.

In general terms it may be stated that a cancer of e cervix that can be diagnosed unhesitatingly as such y the touch, the eye or history, has progressed to the order-line between possibility and impossibility of re. It is only by the use of the microscope in the ry early stages that we can hope to enlarge our perntage of favorable cases materially. I have dwelt pecially on cancer of the uterine cervix because of its uch greater frequency, but all of these remarks have ual application to cancer of the uterine body. Here, en more, if possible, than in cancer of the cervix, ust we rely on the obtaining of uterine curettings for absolute diagnosis, a procedure which requires only light primary ether, gas or ethyl chlorid anesthesia r its successful performance.

That a campaign of education can be made to produce results is proved by the experience of Winter, of önigsburg, whose results are not as well known as eir importance deserves. In 1902 he undertook to prove his results in cancer of the uterus by publishg a series of pamphlets on the early signs and sympms of uterine cancer, distributing these not only to e physicians of East Prussia, but also in popular yle to the laity at large. As a result, in one year his ses suitable for operation increased from 62 to 74 r cent.; after the instructions were issued, 90 per nt. of the patients applied for treatment within two eks after first seeing their family physician. The mber of cases seen within six months was reduced m 12 to 5 per cent.; cases seen within nine months, m 18 to 5 per cent., and in those cases in which mptoms had lasted a year the decrease was from 12 r cent. to none at all! With these statistics as a proof what can be accomplished by one man in a year's ne, certainly we should be optimistic as to the result a general campaign of the profession along these es.

RECAPITULATION

1. Complete surgical extirpation is at the present time our only method for the cure of cancer of the uterus, but the percentage of cures is much below what it might be made.

2. Our present means for lessening the mortality lie in a campaign of education, directed, first, to the general public by the family physician, so that the patient will not neglect to consult him on the occurrence of unusual symptoms, and, second, to the family physician himself, to the end that he may realize that every case of disturbance of the vaginal discharge at or about the time of the menopause is most significant and suspicious. We should emphasize also not only the necessity, but the ease of obtaining sufficient tissue for a microscopic diagnosis in every remotely suspicious case at the time of the first consultation and without the employment of any anesthetic. This idea has been so well epitomized by Kelly that I will close in his words:

> There can be no doubt that the most important agent in the instruction of the public is the general practitioner. Almost all women, and married women especially, have a more or less intimate acquaintance with some physician with whom they converse at one time or another on the subject of their own health or that of their relatives, and in whose opinion they place great confidence. If every family physician would make it a point to take advantage of the opportunities afforded him by such relations to point out the significance of hemorrhage, vaginal discharge and pelvic pain occurring about the time of the menopause, he would accomplish more toward diminishing the death rate of cancer than can be done by any means we can command at present. Every woman who has borne children should be examined by a competent physician at least once every year until she is fifty-five years old. The effect of an adoption of these rules would be prompt discovery of an enormous number of cancer cases in their very incipiency. That such a course would be distasteful to women at large, I do not doubt, but drastic measures are often necessary to purge ill humors, and who would measure such a trifling sacrifice against the great gain of even a small increase in the percentage of operability of this distressing and to-day largely hopeless class of cases?

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THE ROENTGEN RAYS AS AN AID IN THE DIAGNOSIS OF CARCINOMA OF THE STOMACH

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Since "35 per cent. of all visceral carcinomata are found in the stomach,"[1] and since surgeons believe that if this disease is recognized early many lives can be saved or prolonged, it behooves us to bring to our aid every means that will assist in making the diagnosis.

From time to time new methods have been added, each claiming superiority over the others and giving us a sense of exactness and certainty. As time passes, the results of each new method are found to have so many exceptions or possible errors that we are likely to go to the other extreme and cast each aside as useless, to grasp at something new. This may also be the fate of this latest and, apparently, most valuable and exact means at our command. I can already see many possible errors, and, unless the work is done thoroughly and most carefully and performed by an expert, or at least by one who is cautious and not too ready to jump at conclusions, it, too, is bound to fall into discredit.

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[1] Virchow, quoted by Rodman; Surgery, Gynecology and Obstetrics, June, 1908.

We shall be on safe ground if we look on this method as an aid only, and combine with the results from its use all the information that may be obtained by other methods of investigation.

True, the exploratory operation is probably the final means of exact diagnosis, but who is willing to submit to this method of investigation until all others have been exhausted?

Holzknecht and Jonas[2] have been the most faithful and thorough investigators that have yet made records in this new field of Roentgen diagnosis of carcinoma of the stomach. Their studies followed and were made possible by Rieder's masterly work[3] in the study of the size, shape, movements and position of the stomach.

IMPORTANCE OF USING BOTH THE PLATE AND THE SCREEN

In the investigation of the stomach for carcinoma probably the most valuable evidence is obtained on the fluorescent screen. By it we recognize the moving food, the moving stomach walls, and the constant variations during the process of filling, which are impossible by any other means. On the other hand, the plate will serve to record permanently and accurately the pathologic findings at each step, and will demonstrate finer detail than can possibly be seen on the screen. Therefore, both Roentgenoscopy and Roentgenography should be used in each case. This will, of course, double the time and expense, but no case is thoroughly studied without the use of both methods.

The serious objection to the use of the fluorescent screen is the danger to the operator. Ten men in this country have already sacrificed their lives through this exposure. It is doubtful whether we can eliminate all danger, but certainly all the protection possible should be provided, or fluoroscopy would be better omitted.

Much unnecessary exposure can be eliminated by making a thorough clinical study previous to the Roentgen examination. For this reason the Roentgenologist should be given all the clinical data, so that he may concentrate his attention on the affected region. Often patients and occasionally physicians expect us to look through the patient, as one would look through a window-pane, and see all that is within the integument. For instance, patients are sent because they have pain in the abdomen, with no other clinical data. Then we must hurriedly guess whether the stomach, the gall bladder, the kidney, the bladder or the intestines are most likely at fault and proceed accordingly in making our examination; for the technic for each of these organs is different, and we are likely to obscure the one while examining the other.

DATA FORMING THE BASIS OF THIS PAPER

The data forming the basis of this paper have been obtained from a study of twenty-eight cases in which evidence of carcinoma was clearly demonstrable, and in most of which this diagnosis was confirmed by operation, autopsy or the subsequent clinical course.

It is true that in most instances the disease was well advanced and the clinical evidence of carcinoma fairly strong, but in the majority of cases the tumor was not defined or at all palpable, and in all cases it served definitely to locate the disease and more or less indicate its extent.

This work is still in its infancy and we must collect evidence for the present from all cases, but I feel that later we should be able to make earlier diagnoses, for the evidence shown late should be present to a sufficient degree rather early.

EVIDENCES OF CARCINOMA

The evidences of carcinoma of the stomach may usually be classed as changes in the course of the food through the stomach, or as changes in outline, position, peristaltic movements, or in the mobility of the stomach.

1. *Abnormal Course of the Food.*—The course of the food is probably best studied by watching the first swallow, and for this part of the examination a tablespoonful of a mixture of bismuth subcarbonate and water may best be used. This is then watched carefully as it passes from the upper to the lower pole. To recognize the evidence afforded by this means one must first be familiar with the normal course of the food and the possible changes in the course due to other conditions than carcinoma. Briefly stated, it curves about two inches to the left of the median line and takes the shape of a funnel in the upper third of the stomach, with the point downward, and a small collection of gas (usually swallowed air) under the dome of the diaphragm. From the point of this funnel it moves downward, usually in a straight or only slightly curved line, to the lower pole, which may be located anywhere between two inches above the umbilicus and the crest of the pubes.

When carcinoma is present between the upper and the lower pole of the stomach the food is likely to take an irregular course, as if curving around an obstruction, just as the rivulet curves around a rock. This is best seen when the walls are in contact. When the walls are relaxed or widely separated, as in some advanced cases of gastroptosis, the food drops suddenly from the upper to the lower pole as in an open sack.

Here we must avoid errors, for occasionally extra ventricular conditions, such as a distended knuckle of intestine or the pressure of a tumor from the outside, may also change the course. These, I believe, can usually be differentiated by various manifestations, depending on the ingenuity of the examiner in each case.

This first portion of food can then be watched at the lower pole, as the peristaltic waves carry it forward. Then the stomach should be further distended and the course watched. This evidence can, of course, be obtained only on the screen, and I consider it very valuable.

2. *Gross Obstruction to the Passage of Food.*—This is best illustrated in an hour-glass contraction of the stomach. This is usually evidence of advanced disease, though it may at times be found before palpable signs are present, and even before the symptoms are definite.

Such obstruction can be observed on the screen, and the degree of obstruction can be estimated by finding the size of the smallest portion of food that can not pass. For this purpose I use pills or capsules of bismuth of various sizes, but these pills should be used only after one has observed the degree of delay to the passage of bismuth and water and then the thicker liquid of bismuth and kephir.

One must be cautious in diagnosing hour-glass contraction. There is normally a delay of several minutes

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[2] Die Radiologische Diagnostik der Intra- und Extraventrikularen Tumoren. Moritz Perles, Vienna, 1908.

[3] Fortschr. a. d. Geb. d. Roentgenstrahlen, Feb. 14, 1905.

at the juncture of the upper and the middle third of the stomach. Gross obstruction can not be diagnosed, therefore, until the stomach has been fully distended and until an attempt has been made to crowd food by massage and abdominal contraction from the one segment into the other. Here again, particularly in the middle of the stomach, a distended colon may produce a marked indentation and by intra-abdominal pressure cause considerable delay to the passage of food.

3. *Localized or General Diminution of the Stomach Shadow.*—This diminution of the stomach shadow is usually localized and will be most often found at the pyloric end. There is, in addition, usually some irregularity in shape. Such diminution may at times be seen only when the stomach is partially filled or, again, when nearly empty. This can be understood when one considers that if the tumor occupies either the anterior or the posterior wall without affecting the lesser or the greater curvature, the evidence of obstruction or diminution of shadow would be seen only at a certain stage during which the opposite wall is in contact with the tumor. After the stomach is fully distended a sufficient layer of bismuth will overlie the tumor and obliterate the differentiation.

When such evidence is first observed, while the stomach is partially filled, an attempt should be made to carry food into the affected area by massage. If this is impossible the evidence becomes stronger.

4. *Abnormal Contour.*—Anywhere along the greater or the lesser curvature there may be a tumor. This would ordinarily cause an indentation in the shadow cast by the bismuth contents of the stomach. Such indentation should first be observed on the screen. It should be constant and not obliterated by massage or peristaltic action or respiratory movements. It should then be recorded on the plate, where finer detail and, at times, the indentations of the growth itself may be observed. In order to make such a fine detailed record the exposure must be made in a few seconds, usually under five, so as to eliminate the effect of respiratory and peristaltic movement. Such short exposures require powerful currents, and powerful currents burn up tubes very rapidly, thus decidedly increasing the expense.

We must avoid the error of interpreting an indentation into the gastric shadow as carcinoma when produced only by a distended knuckle of intestine. Such indentation is smooth and is usually found on the greater curvature at about its middle or upper portion.

So, too, a strong and slowly moving peristaltic wave, f not observed on the screen and seen only in one plate, nay lead to an error. When in doubt, the examination hould be repeated.

5. *Interference with the Peristaltic Wave.* — Peritaltic waves in general are plainly observed only in he lower third of the stomach, and best when the tomach is only partially filled or, again, when nearly mpty. Their depth and frequency vary considerably n different individuals. They serve as evidence of carinoma when they are plainly visible and are seen to top at a certain point either on the greater or the lesser urvature. The evidence becomes stronger if they can e seen to begin again further along on the border of he stomach.

6. *Abnormal Position or Immobility of the Stomach.* —The stomach may be drawn by adhesions or crowded ut of its normal position by the tumor mass. Adheions may even twist the stomach so as to divide it into two distinct portions and give the effect of an hour-glass contraction. Such effect was observed in a case of Dr. Rodman's, in which it took the bismuth-kephir mixture nearly half an hour to pass from the upper to the lower segment of the stomach. The stomach itself was a very large one, so that the lower pole extended nearly to the pubes. The carcinoma was found on the lesser curvature, near the pylorus, with adhesions to the liver higher up, which twisted the stomach and divided it near its middle.

Adhesions below or anteriorly will render the stomach less mobile, but one must bear in mind that with large stomachs and relaxed abdominal walls, the mobility is not great. I usually depend on abdominal contractions to move the stomach, though pressure with the hand may be used. Such evidence is best obtained on the screen, but some evidence may be obtained by plates, if one takes a postero-anterior view with the patient in the erect posture and an antero-posterior view with the patient in the supine posture (lying on the back).

7. *Abnormal Evacuation.*—In two cases I have observed the stomach contents passing directly into the duodenum almost as fast as they entered at the cardia. This I interpreted as being due to a patulous pylorus. I believed that induration of the walls of the stomach prevented the pylorus from contracting and closing the orifice. One patient (Dr. Daland's) died in a few months with all the characteristic symptoms of gastric carcinoma, but there was neither an exploratory operation nor an autopsy. The other patient (Dr. Anders'[4]) was operated on by Dr. Rodman, confirming in every particular the Roentgenologic findings.

There may also be great delay in the evacuation of the stomach due to pyloric stenosis. Here again we must be cautious, for I have observed, in cases of marked gastroptosis in which there was no pyloric stenosis, retention of food as long as eleven hours. Retention of food can be interpreted as due to carcinoma only when it is combined with other evidence, both clinical and Roentgenologic. Generally the food should be followed through the bowel to detect other possible involvement, due either to malignant disease or adhesions.

GENERAL TECHNIC

The technic can be given only in a general way, for in the study of a case one step leads to another and good results will often depend on the ingenuity of the operator.

1. *Position of the Patient.*—This will,of course, vary much with the individual patient, and several positions are often necessary to confirm or to demonstrate more clearly. Generally the standing posture, with the abdomen against the plate or screen, will give the most evidence, probably because in this position the stomach is more stretched out, and because we can best watch the passage of the food, which is conveyed downward both by gravity and peristaltic action.

A position with the patient lying on the abdomen for postero-anterior view will probably be the next most valuable. Then one can easily, with the patient either in the erect or recumbent posture, change to the oblique or posterior views.

2. *The Bismuth Mixture.*—At the very beginning of the examination it is usually best to use a tablespoonful of a mixture of bismuth and water. This will give the greatest density with the greatest fluidity, and it can,

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[4] Pennsylvania State Med. Jour., November, 1908.

therefore, be best followed in a tortuous course and into the crevices; but one must not use too much of this mixture for fear of the water becoming absorbed and leaving the bismuth in hard masses.

For general use and for further distention of the stomach I have found a mixture of bismuth and kephir (or yolak), previously described,[5] to be most serviceable, since it keeps the bismuth in almost perfect suspension and is easily digested.

The remainder of the technic, with regard to the management of the tube, the apparatus, the dress of the patient, the patient, and the plates, will be similar to that used in other abdominal examinations.

CONCLUSIONS

1. Gastric carcinoma is demonstrable when it changes the course of the food through the stomach, when it decreases the volume, interferes with peristaltic action, fixes or displaces the stomach, causes an indentation in the stomach wall, or modifies the rate of evacuation of the gastric contents.
2. I believe that with this aid a diagnosis can be made earlier than has heretofore been possible.
3. As a rule it is a tedious and expensive study, and therefore each case should be studied well first clinically.
4. Great caution and thoroughness will have to be observed, or errors will be made, and this valuable method of investigation will fall into discredit.

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A CHAPTER IN THE HISTORY OF QUACKERY

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We are likely to think that quackery is comparatively new, or at least fostered by popular education, and that unscrupulous struggle for success which is sometimes considered a characteristic of our times. I have been rather interested, however, in tracing out a series of chapters in the history of quackery which show that the methods, the ways, the motives and the character of the quack have been about the same from time immemorial, in all countries of the world. We might think, for instance, that the quack of the occident would be quite different from the quack of the orient; but much evidence—among other things, a little story in the Arabian Nights—shows how many of the characteristics of the quack persist to the farthest limits of space and time.

The Arabian Nights themselves—that is, the series of stories which we know by that name—were given a definite collective form (probably by a single writer) at some time during the fifteenth century. However that may be, the individual tales are undoubtedly of unknown antiquity and derived from widely scattered sources. Variants are found in the folklore of Egypt, Syria, the valleys of the Tigris and the Euphrates, Persia, India and even distant China and the remote center of Africa. One of them, the story of the clever thief, was retold by Herodotus nearly 500 years before Christ; and he knew that it was old in his time. It may be that some of these stories represent the oldest tales that mankind has, and that many of them come from that central plateau of Asia where very probably the human race originated. It is all the more interesting then to find among them the following characteristic story of a quack with all the traits that we know so well to-day.

THE WEAVER WHO BECAME A LEECH

Once upon a time there was a man in Persia who wedded a woman of rank higher than himself and nobler of lineage, who had no guardian to preserve her from want. She was very loath to marry one who was beneath her; yet she wed him because of need, and took of him a bond in writing to the effect that he would ever be under her order to bid and forbid and would never thwart her in word or in deed. Now the man was a weaver and he bound himself in writing to pay his wife ten thousand dirhams in case of default. After such fashion they abode a long while till one day the wife went out to fetch water and saw a leech who had spread a carpet hard by the road, whereon he had set out great store of simples and implements of medicine and he was speaking and muttering charms, while the folk flocked to him from all quarters and girt him about on every side.

The weaver's wife marveled at the largeness of the physician's fortune and said in herself, "Were my husband such a one he would lead an easy life and that wherein we are of straightness and poverty would be widened to him."

When she went home she said to her husband, "Verily my breast is narrowed by reason of thee and of the very goodness of thine intent; narrow means suit me not, and thou in thy present craft gainest naught; so either do thou seek out a business other than this or pay me my rightful due and let me wend my ways."

Her husband chid her for this and advised her to take patience; but she would not be turned from her design and said to him, "Go forth and watch yonder physician how he doth and learn from him what he saith." Said he, "Let not thy heart be troubled; I will go every day to the session of the leech."

So he began resorting daily to the physician and committing to memory his answers and his jargon.

Then he returned to his wife and said to her, "I have stored up the physician's sayings in memory and have mastered his manner of muttering and diagnoses and prescribing remedies, and I wot by heart the names of the medicines and of all the diseases, and there abideth of thy bidding naught undone; so what dost thou command me now to do?"

Quoth she, "Leave the loom and open thyself a leech's shop."

"But," quoth he, "my fellow-townsmen know me and this affair will not profit me, save in a land of strangerhood: so come, let us go out from this city and get us to a foreign land and there live."

And she said, "Do whatso thou wilt."

Accordingly, he arose and taking his weaving gear sold it and bought with the price drugs and simples and wrought himself a carpet with which they set out and journeyed to a village, where they took up their abode. Then the man fell to going round about the hamlets and villages and outskirts of towns, after donning leech's dress, and he began to make much gain. Their affairs prospered and their circumstances bettered: wherefore they praised Allah for their present ease. In this way they lived and wandered from country to country, sojourning for awhile in one town and another, till they came to the land of the Romans and alighted down in the city thereof wherein was Galen the wise physician: but the weaver knew him not. So he fared forth, as was his wont, in quest of a place where the folk might be gathered together, and hired the courtyard of Galen himself. There he laid his carpet, and spreading out on it his simples and instruments of medicine, praised himself and his skill and claimed a cleverness such as none but he might claim.

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[5] Physiologic and Clinical Observations of the Alimentary Canal by Means of the Roentgen Rays, The Journal A. M. A., Dec. 21, 1907, XLIX, 2069.

Galen heard that which he affirmed of his understanding, and it was certified unto him and established in his mind that the man was a skilled leech of the leeches of the Persians, and he said in himself, "Unless he had confidence in his knowledge and were minded to confront me and contend with me, he had not sought the very door of my house, neither had he spoken that which he hath spoken."

And care and doubt got hold on Galen; so he drew near the weaver and addressed himself to see how his doings should end, while the folk began to flock to him and describe to him their ailments, and he would answer them thereof, hitting the mark one while and missing it another while, so that naught appeared to Galen of his fashion whereby his mind might be assured that he had justly estimated his skill.

Presently up came a woman, and when the weaver saw her afar off he said to her, "Is not your husband a Jew and is not his ailment flatulence?" "Yes," replied the woman, and the folk marveled at this; wherefore the man was magnified in the eyes of Galen, for that he heard speech such as was not of usage of doctors.

Then the woman asked, "What is the remedy?" and the weaver answered, "Bring the honorarium."

So she paid him a dirham and he gave her medicines contrary to that ailment and such as would only aggravate the complaint. When Galen saw what appeared to him proof of the man's incapacity he turned to his disciples and pupils and bade them fetch the mock doctor, with all his gear and rugs; and accordingly they brought him without stay or delay. When Galen saw the weaver he asked, "What drove thee to do that which thou dost?"

So the weaver acquainted the wise Galen with his adventure, especially with the marriage settlement, and the obligation by which he was bound with regard to his wife, whereat the sage marveled.

Then he entreated the weaver with kindness and took him apart and said to him, "Expound to me whence thou knewest that the woman was from a man, and he a stranger and Jew, and that his ailment was flatulence?"

The weaver replied, "'Tis well. Thou must know that we people of Persia are skilled in physiognomy, and I saw the woman to be rosy-cheeked, blue-eyed and tall-statured. These qualities belong not to the woman of Rome; moreover, I saw her burning with anxiety, so I knew that the patient was her husband. As for his strangerhood, I noted that the dress of the woman differed from that of the townsfolk, wherefore I knew that she was a foreigner; and in her hand I saw a yellow rag, which garred me wot that the sick man was a Jew and she a Jewess. Moreover, she came to me on First Day; and 'tis the Jew's custom to take meat puddings and food that hath passed the night and eat them on the Saturday, their Sabbath, hot and cold, and they exceed in eating; wherefore flatulence and indigestion betide them. Thus I was directed and guessed that which thou hast heard."

Now when Galen heard this he ordered that the weaver be given the amount of his wife's dowry and bade pay it to her and said to him, "Divorce her."

Furthermore, he forbade him from returning to the practice of physic and warned him never again to take to wife a woman of rank higher than his own; and he gave him his spending money and charged him to return to his proper craft.

HAEC FABULA DOCET

We have here the eternal underlying factor in the success of the quack: his readiness to promise absolutely to cure anything and everything. His apparent self-confidence is so unbounded that even the skilled physician begins to wonder whether the quack has not some secrets not possessed by the profession. When the physician gets a little closer to the quack, however, he finds that the main elements in the latter's success, besides his confidence-inspiring boasts, are his knowledge of human nature and his skill in playing on foibles and credulity. As a rule the medicines he gives, like those of the weaver-leech, are such as do harm rather than good, but yet is the quack in honor and the money he makes is far beyond the amount earned by the regular physician. The real motive for the leech's change of occupation is similar to that of the quack to-day: that he may have a more dignified occupation, make more money and live up to his wife's idea of social station. Galen's method of managing the quack is that which we have found necessary in modern times. We have had to investigate the methods of the quacks and their supposed new discoveries and then we have had to arrange that they should no longer be allowed to exploit the public.

The whole story is as true to human nature in the twentieth century as it was in the fifteenth, or perhaps in the fifth century B. C., when Herodotus may have heard during his travels a version of it with some forerunner of Galen as the learned physician in the case. Men do not differ much in essentials from age to age: and the history of quackery has many other chapters like this that show how enduring are the best and worst in human nature, and how superficial the changes produced by environment.

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THE TREATMENT OF FRACTURES; SOME PRACTICAL POINTS *

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The most important step in the treatment of fractures is that the surgeon shall have made a diagnosis of the condition which he is about to treat. To undertake the treatment without an adequate picture in one's mind of the bony lesion present detracts materially from the satisfaction in one's work and conduces sometimes to poor results, on the one hand, or to unnecessary confinement of the patient, on the other. So important is this that when the surgeon is not able to satisfy himself as to the full character of the injury by means of

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* Read before the Associated Physicians of Long Island, Garden City, Oct. 31, 1908.

the ordinary methods of examination, the two artificial diagnostic aids should be called on, and either general anesthesia or the *x*-ray employed.

Still, the old and simple methods of diagnosis are of the greatest value. In many of our hospitals young men are subjecting all their fractures to the *x*-ray for diagnosis. This is most valuable for corroborating the diagnosis, for bringing out the details, or for clearing up difficulties; but to employ the *x*-ray *de novo* as a routine, results in a blunting of their diagnostic sensibilities and places them at a disadvantage when required to treat fractures when they have not access to the *x*-ray.

Let us not fall into the error of thinking that, because this subject of fractures is one of the oldest branches of surgery and deals with the commonest of surgical lesions, it has attained to anything like its ultimate perfection. It is still in the hazy stage of development. I have no hesitancy in stating that some of the newer and more dramatic branches of abdominal surgery are more nearly perfected than is the surgery of fractures, which has occupied therapeutic ingenuity from a time antedating recorded history.

The surgeon does wisely to think of a fracture as a wound—a wound of bone—which in its treatment and healing is amenable to the same rules that govern the healing of wounds in other parts of the body. The more widely the wound surfaces are separated the greater is the damage to the blood and lymph channels and to the nerves. The more mobility there is the greater will be exudate and swelling. Conversely the sooner and more accurately the wound surfaces are brought together and retained in apposition the less will be the swelling and the more perfect the healing.

We have not only to think of the wounded bone, but of the structures which lie in relation to it. The muscles play an important rôle, but muscular resistance is often regarded as the obstacle to reduction when the trouble is due really to the interposition between the bone ends of fascia, of a bundle of muscle, of a clot, or of periosteal tissue, which the *x*-ray does not reveal. When manipulation does not force such fractures from their entanglements, a satisfactory result is best secured by operation. Unless operated on these fractures are the ones which give delayed union or non-union.

There is much misconception of this question of non-union. Students are taught much about constitutional weakness, old age, and lack of earthy salts in the blood; but these, in my judgment, are insignificant. The vast majority of cases of non-union are due to the conditions just narrated. Given broken bone surfaces held in close apposition, bone to bone, and they will grow together, just as they do in fractures of the skull; but let soft tissues be interposed and the patient is a candidate for the so-called non-union—and a diet of oyster shells and parlor matches will not alter the case.

Swelling is another important consideration. It is due to exudation, 1, from the wounded bone surfaces and, 2, from the surrounding soft tissues which are injured by bone fragments or by loss of support. We may put it down as a pretty general rule that this swelling is in direct proportion to the amount of mobility. The exudate from the bone itself amounts to but little. Most of it is from the damaged blood channels of the neighboring soft tissues. The swelling in fractures of the skull is inconsiderable, notwithstanding that the total area of bone surface involved is commonly more than in fractures in the leg or arm, and the vascularity greater. The reason for this is the natural immobility of fractures of the skull. For these reasons the best results in the treatment of fractures will be secured by early immobilization. The sooner a fracture is reduced, its bony surfaces brought into apposition and held immovably, the less will be the swelling and the more satisfactory the result.

There is a prevalent notion of waiting until "the traumatic reaction has subsided." This ancient phrase rolls off the tongue sonorously and sounds important—we have heard our teachers and the men we venerate use it. But there is traumatic reaction going on all the time as long as the bones are out of place or so long as they are movable. There is also an ancient practice of deferring serious treatment until "the swelling has gone down" (another legacy from the dead past). If we can effect immobilization soon enough, the swelling will not come up. Lead and opium and other embrocations have no place in the modern treatment of fractures.

In most hospitals, however, when a fresh fracture of the tibia and fibula is brought in, it is put up temporarily in a vast amount of cotton and basswood splints in such a way that the bones are not immobilized. Swelling is expected, and the expectation is fulfilled. After the muscles, tendon sheaths and nerves have been infiltrated with exudate for a week or so the serum is sufficiently absorbed for the leg to be properly immobilized.

Can anything better than this be done? I think there can. For many years it has been my teaching and practice to correct deformity and permanently immobilize such fractures as soon as possible. When the fracture is seen within two to twelve hours after the accident there is usually no swelling present. I am in the habit of drawing a long white cotton stocking over the leg and applying plaster of Paris immediately over this. It does not require a heavy covering with the plaster bandage to immobilize the fracture. It need not be more than one-eighth of an inch thick. It is important that the bandage next to the stocking be applied without folds and with the most perfect possible evenness. No reverses should be made. The bandage should be allowed to run out flatly, and when it is wished to change its course it should be cut and started in the direction desired. If you want an idea of the difficulty of doing this properly examine the ridges and unevennesses to be seen on the inside of the ordinary hardened plaster cast after it is removed.

A thin cast applied over the stocking conforms to the shape of the leg and allows of an estimate of the lines and contour which can be compared with the other limb. A good plan is to cut through this cast on either side so as to divide it into an anterior and posterior half. This can be done before the last banadage is applied, and while the plaster is still soft, by using a sharp scalpel or bandage scissors. Then the final bandage is put on. Later when the cast is hard, if it is desired to inspect the leg, it is an easy matter to cut through the outer bandage, following the underlying crack, and lift off the front half of the splint. This operation is facilitated by employing two stockings instead of one, and at the first cast-cutting operation, dividing the outer stocking, which is adherent to the cast, and leaving the under stocking intact.

Putting up a fracture immediately after its occurrence is not usually regarded as good surgery. It is no good surgery if the cast is not put on well. But if it is smoothly applied and the apposition is good there will be no further swelling, provided there is no extraordinary condition present, such as imperfect reduction, rupture of large vessels, or venous obstruction. After such immobilization the leg should be free from pain. There should be no throbbing or discomfort; if there is, the chances are that the reduction is not good. Such a splint should never be left on in the presence of pain. It is very rarely that pain is present after this treatment.

Now, I do not promulgate this as the best routine treatment of fractures of the lower extremities. To do so would be as wrong as to say that every fractured patella should be sutured or that every inflamed appendix should be operated on. That would be a dangerous teaching. What I do say is that in experienced and skilled hands this is the best treatment.

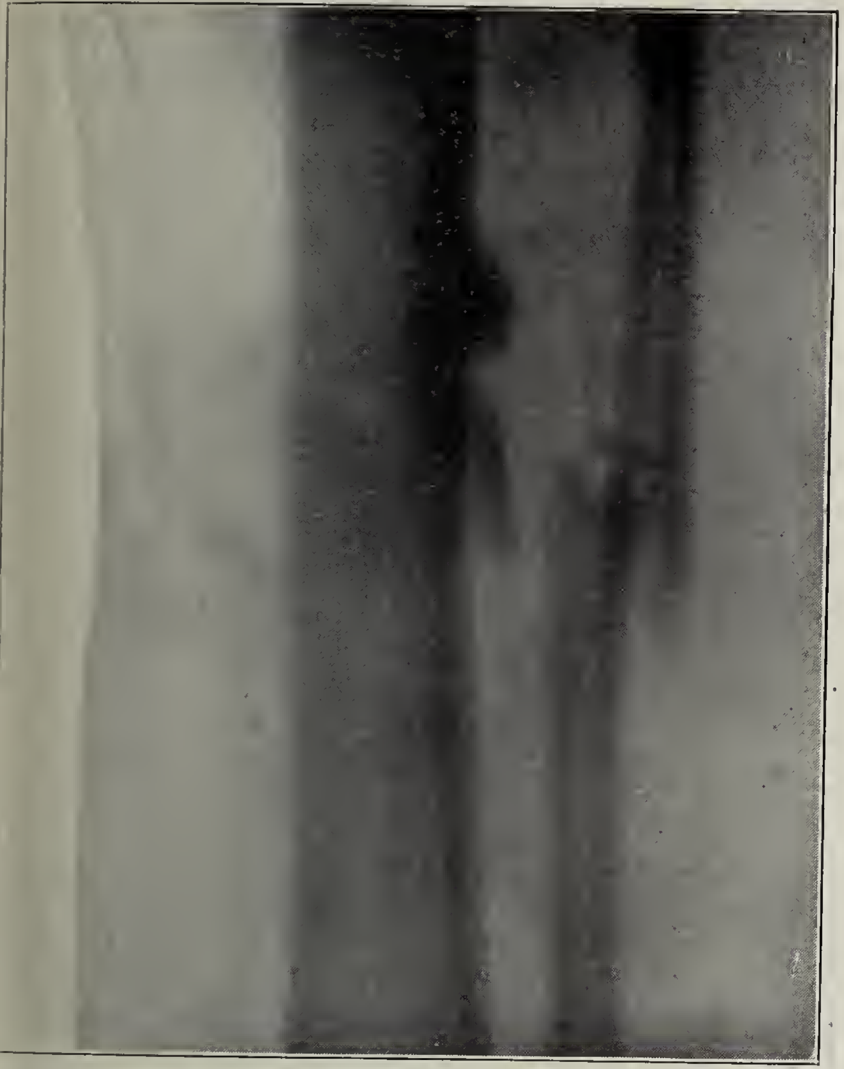

Fig. 1.—Fracture of tibia and fibula in plaster case. Position rrected with the aid of the *x*-ray. Best possible correction, bserve lateral displacement of fibula and loose fragments of bone.

Another matter to which attention may be called is e manner of extension in fractures of the thigh. In e ordinary fractures about the middle third of the mur, the overriding of the fragments is considerable, t there seems to be little appreciation of the great nount of force required to overcome the muscular con- action and bring down the fragments into place. Un- r the best conditions there is rarely a complete cor- ction of the overriding. Fortunately, most fractures the shaft of the femur are oblique and the broken ne surfaces slide over one another, longitudinal shortning causing but little lateral displacement. When the acture is transverse the overriding produces lateral splacement equal to the diameter of the bone, often terposes more or less soft tissue and becomes a more rious thing. In order to overcome these longitudinal displacements in a man an extension which is more than the patient can tolerate is necessary. If the fracture is oblique, twenty to forty pounds will nearly correct the overriding; if it is transverse, that amount will not bring the bone ends into apposition either with or without the use of a general anesthetic.

What I desire to call attention to particularly is that the time to apply this extension to accomplish results is immediately after the accident. Every hour adds to the infiltration, with serum, blood and leucocytes, of the connective tissue, fascia and muscle about the fracture, and diminishes the elasticity of these tissues. What can be done by twenty pounds of traction in the first twelve hours can not be done by forty pounds after the third or fourth day. Dr. Stimpson's proposition to tire out the muscles by traction does not work here. Instead of relaxing, the tissues become more resistant. Still, I have seen surgeons begin with a moderate amount of extension, then after a few days measure the legs and find shortening and add five pounds, continu-

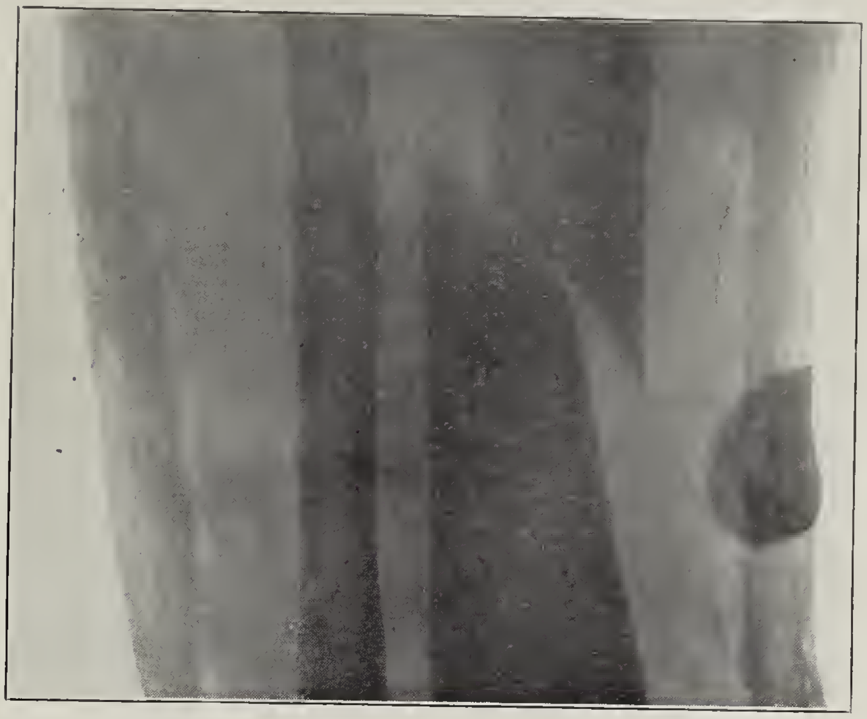

Fig. 2.—Fracture of lower end of tibia in plaster case. Presumably in good position. Observe lateral displacement and overriding.

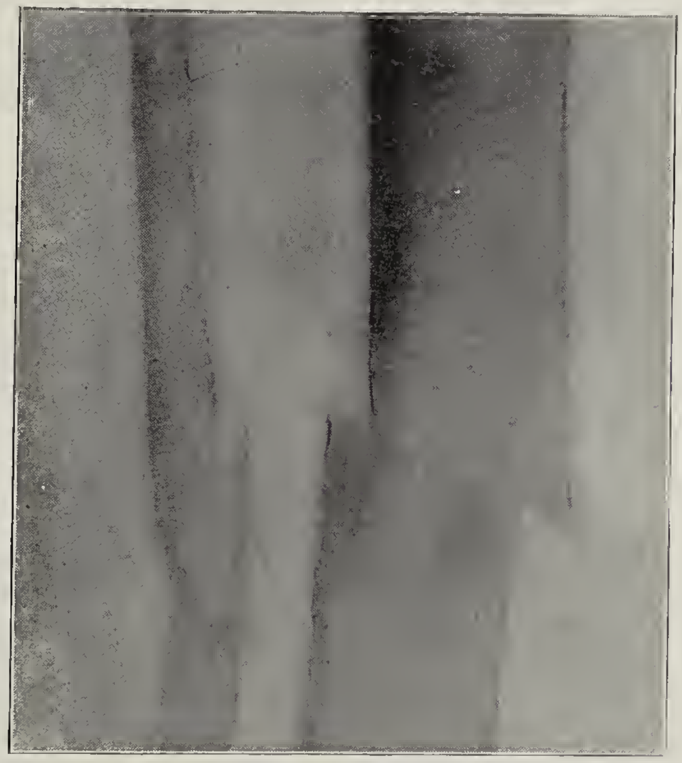

Fig. 3.—Fracture of tibia and fibula in plaster case. Presumably good position. Observe lateral displacement, angular displacement and shortening.

ing to repeat this until by the end of a week or so they get up to an amount of extension which if applied on the first day would have done much good, but which on the seventh day is ineffective. The time to put on the maximum extension is at the very first—from twenty-five to forty pounds in a man—then at the end of a week, ten days or two weeks, this extension can be reduced, or even sooner if necessary.

The x-ray has revolutionized our conception of fractures. A broken bone was once thought of as a simple mechanical matter to be considered in the same light as a broken stick or other broken object, the treatment consisting naturally of putting it back into position and keeping it there until it could grow together. Then came the callus, like a plumber's "wiped" joint, and sealed it together. There is still in the public mind an unfortunate practice of thinking of a fracture as a matter of the bone alone, when in truth so many other structures are involved that the bone is but a single part of a pathologic complex.

The x-ray has shown that an accurate replacing of fragments is rare. It is unfortunate that the public expects a perfect piece of joining from the surgeon, who works on an unseen structure covered by muscles, vessels and nerves, which often make it even impalpable. When we secure a perfect functional result we permit the idea to prevail that we have done a perfect piece of joining. Let us not forget that a perfect functional result is compatible with an imperfect piece of joining. In most of the complete fractures of long bones of the leg the apposition is far from correct. Open operation is the only method by which they can be made correct. A restoration of function is the thing we aim at. But we should disabuse the public mind of the idea that that requires accurate apposition.

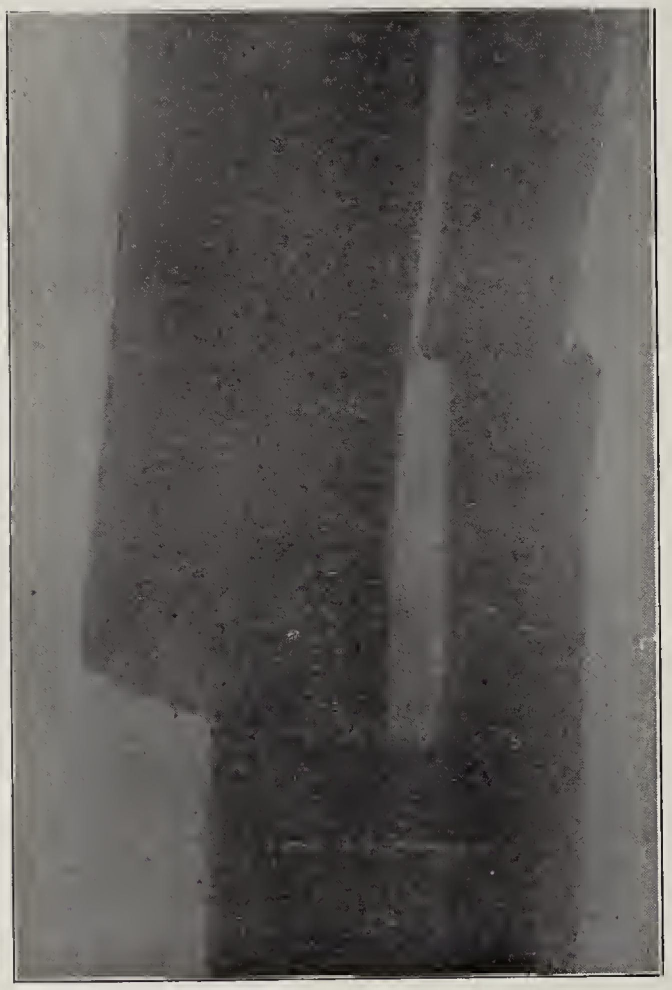
Fig. 4.—Fracture of tibia and fibula in a very fat leg in plaster case. Presumably good position. Observe lateral displacement of tibia.

Many times I have put up fractures of the tibia with the greatest care and been confident that the apposition must be perfect, only to find on x-ray examination glaring failures of apposition. Still, good functional results were produced in these cases, but had the patients seen the x-ray plates we may be sure that they would have been fearful lest they never again be able to use their limbs. This is one of the values and dangers of the x-ray—valuable to the surgeon and patient for the help it affords in permitting the surgeon to know the condition of the bones, dangerous to the surgeon and the patient for its misleading effect on the mind of the latter.

I show here a number of pictures illustrating the importance of the x-ray and also the difficulties in securing perfect apposition even when guided by this important aid. Good functional results were produced in all of these cases. It is true that I could present a larger number of pictures showing more perfect apposition, but the points which I desire to impress are the following:

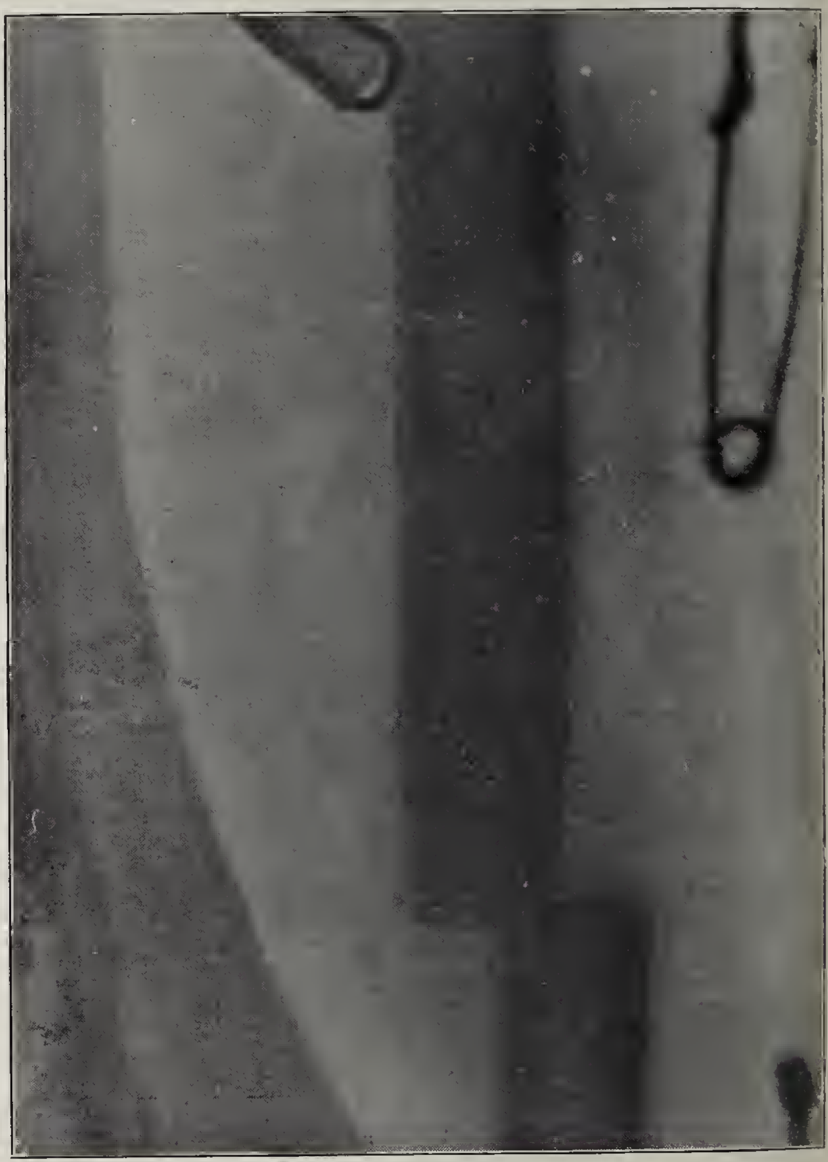
Fig. 5.—Fracture of shaft of humerus after reduction and immobilization. In apparently good position, but actually with lateral displacement equal to half the diameter of the bone.

1. The perfect reduction of fractures of long bones is difficult and often impossible without operation.

2. Without the x-ray we are always in the dark as to the actual conditions present.

3. Reduction with mathematical precision is not absolutely essential for a good functional result.

4. If surgeons would display as much zeal in discussing their imperfect results as they do in presenting their triumphs, our literature would be richer, more practical and of vastly more value, and the public would be less prone to expect impossible things in the treatment of fractures.

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BLOODLESS HYSTEROTOMY AND PRELIMINARY LIGATION

AS AIDS TO CONSERVATIVE MYOMECTOMY

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The correctness of the general surgical principle to conserve as much as possible has never been questioned, and in the operation on fibroids of the uterus this general dictum has been followed within certain limits. I lesire to present a plan of procedure looking to an exension of these general principles as usually carried out.

The factors which have limited the application of onservatism to the affections of the uterus have been ear of hemorrhage and of infection from opening into he cavity of the uterus. There are no longer grounds or the latter fear. We open into the cavity of the uterus without danger of general infection in the radical operation of supravaginal hysterectomy, and the body of the uterus is much less frequently the habitat of pathogenic bacteria than is the cervix.

The chief hindrance to conservatism, then, is the fear of hemorrhage. The difficulty of control of hemorrhage depends on the character and location of the tumor. In subserous myomata conservative procedures are the rule.

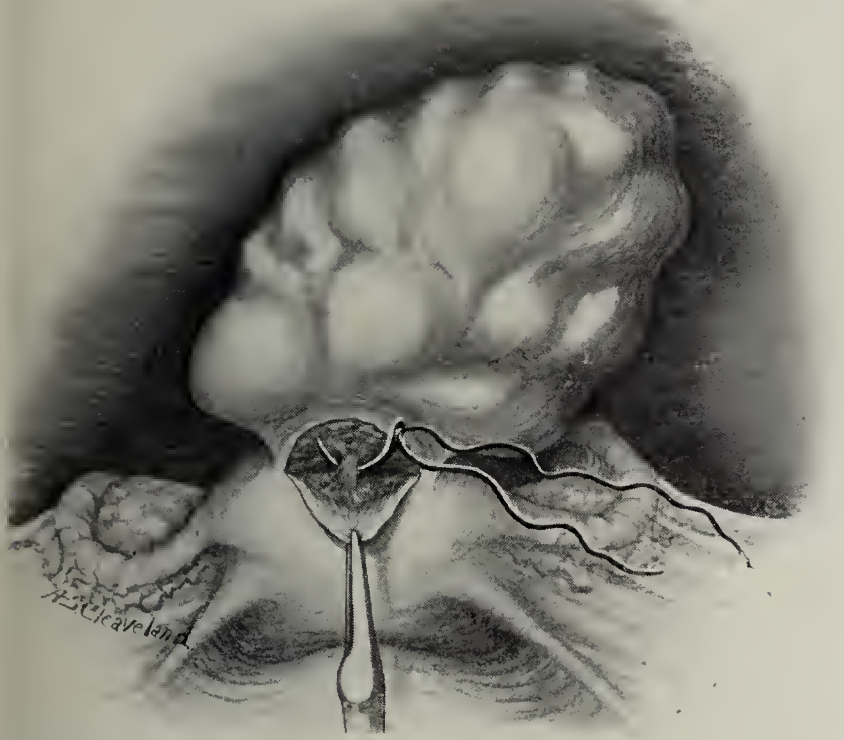

Fig. 1.—Ligation of the blood vessels supplying a tumor of the uterus.

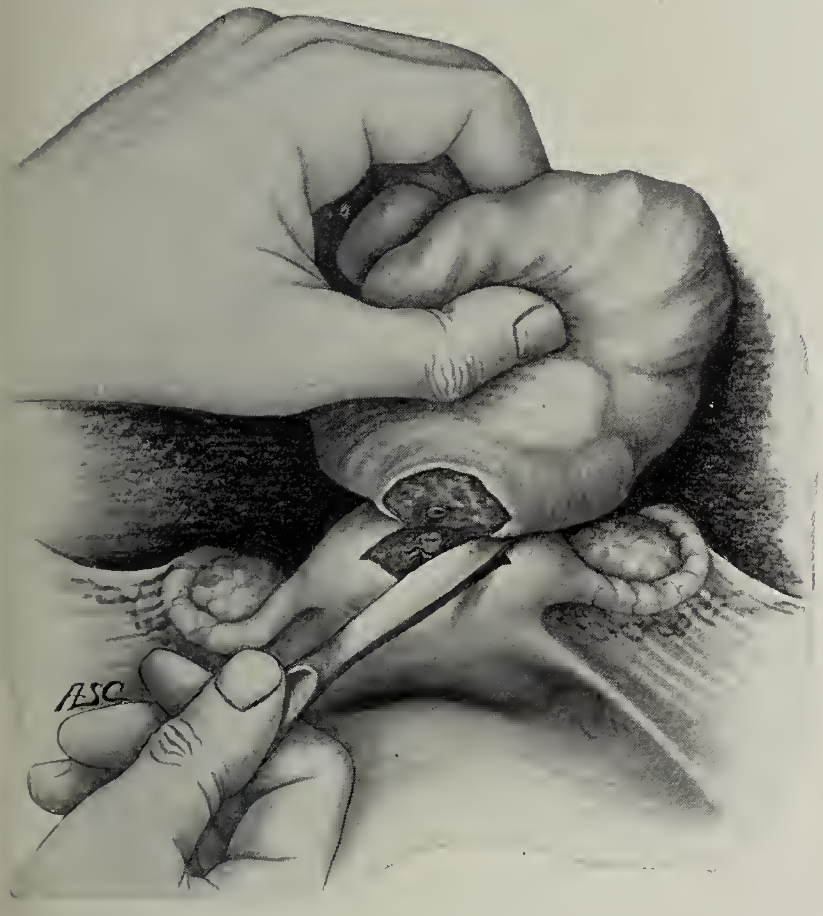

Fig. 2.—Removal of the tumor.

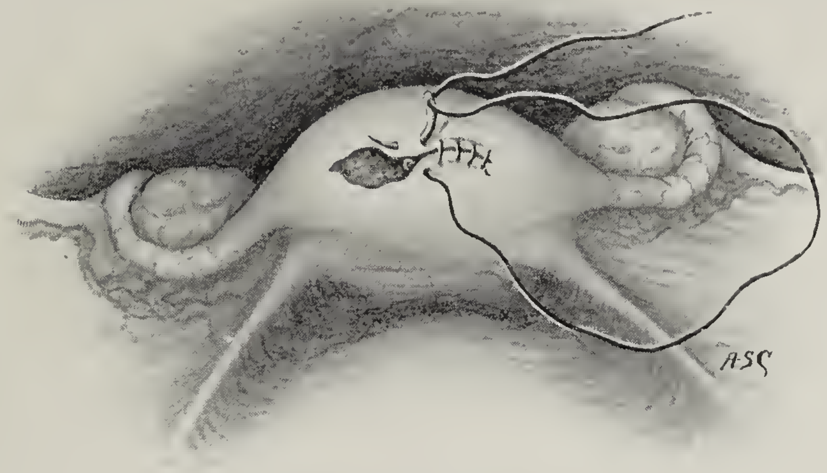

Fig. 3.—Suture of the peritoneal edges.

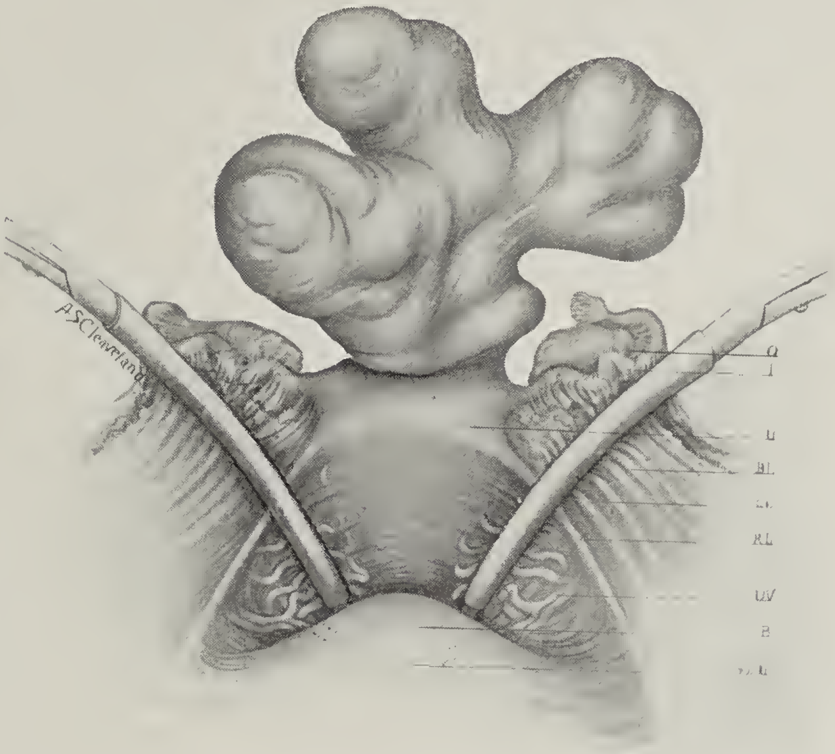

Fig. 4.—Bloodless hysterotomy in multiple tumors with common base. O, ovary; T, tube; U, uterus; B L, broad ligament; L U, left ureter; R L, round ligament; U V, uterine vessels; B, bladder; R and L U, right and left ureters.

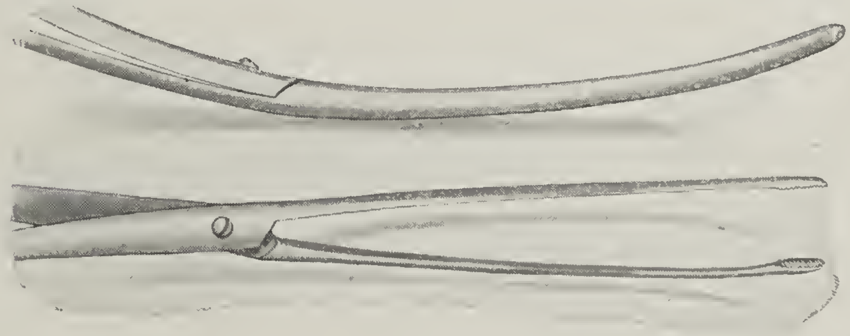

Fig. 5.—Clamps used in bloodless hysterotomy.

The technic usually employed is to make an elliptical incision about the base of the tumor and shell it out. Hemostasis is secured by passing a number of deep sutures through the wedge-shaped defect thus produced. The loss of blood in the interval between the removal of the tumor and the placing of the sutures is often considerable. The stitch-holes themselves often occasion troublesome oozing. At best such sutures combine the function of ligature and coaptation, which is always unsurgical.

I have been able in a number of instances, by a scheme of preliminary ligation of the blood vessels, to lessen the hemorrhage in these cases and to avoid the deep sutures, permitting a delicate approximation suture to be used. The scheme proposed is so well represented in Figures 1, 2 and 3 that a detailed description is not needed. The steps are as follows:

1. The peritoneum is incised about one side of the tumor.
2. The tumor is raised out of its bed by blunt dissection sufficiently to reach the point of blood supply.
3. This having been found, a ligature is passed and tied and the tumor severed.
4. The peritoneum is incised the remainder of the way around the base and the tumor removed.
5. The peritoneal edges are then approximated by a running plain 0 catgut suture.

In many of the tumors the blood supply comes from a single vessel. In others a number are encountered, and each must then be secured by ligation. This preliminary ligation of the blood supply saves the gush of blood which fills the interval between the removal of the tumor and the time of the ligature and permits a more exact approximation of the peritoneum.

In the more deeply situated tumors or those with a more diffuse base or in multiple tumors arising so close together that they can not be attacked as single tumors, it becomes necessary to remove a part of the uterus. Here the area of blood supply is diffuse and does not admit of preliminary ligation. Because of the attendant hemorrhage the exact removal is obscured, which is particularly undesirable when the uterine cavity is likely to be opened.

For this class of cases I have designed what I have designated as bloodless hysterotomy. By it I attempt to secure for the uterus what the Esmarch bandage does for the limb. As shown in Figure 4, the procedure consists in the placing of a rubber-covered clamp on either side of the uterus in such manner as to compress the uterine vessels. All that is required is that the vessels shall be sufficiently compressed to control the circulation but shall not be pressed hard enough to injure the vessel walls. In application of the pressure the same judgment is required as in similar procedures in other situations. The clamps are applied in such a manner that the tip lies in the triangle formed by the ureter externally, the cervix internally and the uterine artery above (Fig. 4). The base of the forceps passes externally to the ovaries and tube. This prevents any undesirable compression of the tube.

The clamps having been applied, the removal of the tumor is proceeded with. If it is necessary or desirable to open the uterus this is done with impunity. When the removal of the tumor is completed the resulting defect is closed by sutures. Usually at least two layers are employed. After the sutures are placed the clamps are removed. If necessary some additional sutures are placed. Before sutures are placed it may be possible to distinguish the lumina of the larger vessels on the cut surface. If such is the case, and it usually is, they are tied separately, as in the amputation of a limb.

The same method is useful for the diagnostic inspection of the uterus in conditions in which curettage is unsatisfactory.

The clamps (Fig. 5) are Moynihan stomach clamps ground to give sufficient elasticity to prevent undue injury to the vessel walls. The curved handles are convenient when the abdominal wall is thin, otherwise the straight Moynihan clamp may be used.

402 Argyle Building.

Special Articles

COLLARGOL (CREDE'S COLLOIDAL SILVER)

REPORTS OF THE COMMITTEE APPOINTED TO CONSIDER THE CLAIMS MADE REGARDING ITS EFFECTS *

MAJORITY REPORT OF THE COMMITTEE

To the Council on Pharmacy and Chemistry:

Gentlemen:—The attention of the Council was repeatedly called to certain claims made by the firm of Schering and Glatz for the substance collargolum. These claims were of a most unusual character. If true, they would place the substance in the front rank of therapeutic agents; if unfounded, they would constitute a most reprehensible abuse of the confidence of the medical profession. In view of the importance of the matter, the Council wished to proceed with especial thoroughness. It was decided, therefore, to appoint a committee to consider the question whether exaggerated statements are contained in the pamphlets on collargol that have been distributed by the above-mentioned firm, the agents of the preparation in this country. The undersigned, being four of the five members of the committee thus appointed, beg to submit the following report:

We have been delayed in finishing the report, because it was necessary to give considerable time to it, and, with our other duties, it was impossible to accomplish sooner the amount of work that seemed desirable. Any necessary delay, however, appeared wholly justified by the fact that the question is of very considerable importance, not alone in connection with the substance under consideration, but also because entirely similar conditions prevail with a large number of proprietary preparations, domestic as well as foreign, regarding which extremely optimistic claims are made. Any report such as this may exercise an important influence on similar investigations that are likely to appear desirable in the future.

THE IMPORTANCE OF THE QUESTION

It is manifest to any one acquainted with the situation that the very question that we are asked to settle with regard to a particular proprietary substance is one of extreme importance in its relation to many such substances; for in no way has more harm been done to legitimate methods of advertising articles of this kind, and in no way, likewise, have physicians and their patients been more improperly dealt with, than by advertisements that make apparently well-founded claims, which prove to be more or less completely erroneous, misleading, and often essentially fraudulent, if opportunity is secured to investigate their accuracy. Such practices deserve the severest censure whenever they exist.

At the present time, this is, of course, particularly the case with claims regarding the pharmacologic effects and the therapeutic value of proprietary substances;

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* See editorial, page 893, and also Department of Pharmacology.

for it is very easy to make assertions about these matters that are extremely difficult to disprove, even though they are grossly exaggerated or actually false, unless serious attention and much time are given in each instance to an investigation of the basis of the claims. This makes it all the more desirable, however, that, so far as possible, all claims that are very exceptional, such as those made for collargol, should be carefully investigated, and that, if any exaggerations or misstatements are found, these should be handled with great openness. Otherwise much harm will continue to be done to the public, who ultimately pay the money cost of these preparations, and whose health, and even life, suffers when anything is used for therapeutic purposes with an exaggerated impression of its value, more effectual treatment being thereby often excluded. Constant injustice will also be done to the medical profession, because of the deception practiced on it, and to reliable manufacturers, because they must struggle against unfair methods. It is notorious that such practices are employed by otherwise honorable firms, merely because they are so prevalent; but this is all the more reason why we should wish warmly to welcome every opportunity to aid those who adopt proper methods of advertising and keep within the bounds of exact truth, and to disinguish their methods from those that tend to deceive.

CONCLUSIONS BASED ON STUDY OF LITERATURE

The committee has thought it desirable, in this instance, to confine itself, so far as possible, to a critical study of the literature to which the agents of the preparation themselves refer in their advertising matter, going beyond this only in case it should be necessary n order to confirm or disprove questionable claims; for we must repeat that the question before the committee concerned merely the truthfulness of the advertising matter. We were not instructed to prove, to disprove or to define any supposed or actual intrinsic merits of he substance; we were not called on to decide whether he claims made were possible, but merely whether they were based on adequate evidence. Our task, therefore, onsisted clearly in the critical examination of the evience submitted by the agents. We have found it posible to confine ourselves entirely to the literature reerred to in Schering and Glatz's pamphlets and to a few eferences obtained directly from these articles. We have made no actual special search of the literature beyond his, and we have secured no verbal opinions and have urselves conducted no experiments, and have rigorously xcluded the personal clinical experience of the signers f this report, because any conclusions derived from uch sources might be thought to depend on the opinons of persons biased for or against the preparation.

Some experiments were conducted for us to test one oint, namely, the influence of the preparation on the actual toxicity of bacterial toxins. This appeared to be ecessary, since no definite evidence was offered on this oint. All the evidence that we have used is, therefore, already in print and, consequently, available to ny one in the same form as that in which we have sed it, in case any one desires to determine the correctess of what we have to say—excepting only the experiments mentioned, and these are given in the course of his report.

In reaching our conclusions as to the claims set forth in the pamphlets we have read critically more than 100 articles selected from the list of over 300 references in the pamphlets; those which we have read comprising all the evidence offered regarding its pharmacologic effects and all the clinical reports on general infections contributed by clinicians whose professional positions or general standing are such as to make their opinions, whether favorable or unfavorable, of undeniable value. We have also read all other articles by any authors regarding its use in general infections, so far as they were available to us, if particular stress had been laid in the pamphlets on their contributions. The opinions that we shall give are based on the information gained in the way indicated.

THE DISPUTED CLAIMS

Let us now consider the points at issue. The claims to which the Council on Pharmacy took exception and desired to have investigated are essentially comprised in the following statement which appeared in pamphlet that is marked "B," as sent to the committee:

> "Collargolum, Soluble Metallic (Colloidal) Silver, is a powerful and harmless systemic antiseptic in the most varied medical and surgical infections. It checks beginning sepses, and often effects brilliant recoveries in desperate ones. Recent investigations show that with its direct bactericide energy it exerts a marked electrolytic [*] and leucocytogenetic action, and thus greatly aids the natural protective forces of the body. In severe infections, collargolum should be injected intravenously or per rectum; but in mild cases, inunctions of Unguentum Credé, 15 per cent. Collargolum Ointment, are indicated. Collargolum and Unguentum Credé should be employed freely as soon as septic symptoms appear. Their prophylactic use is especially advantageous in puerperal cases."

In the pamphlet which appeared in the autumn of 1907, and which was sent to the committee as further evidence of the correctness of the statements, the following appears on the front page:

> "Communications from foremost clinics and clinicians of Europe and America demonstrate to certitude that—
>
> "Used prophylactically, it is an almost unfailing safeguard against sepsis from accidental or operative wounds or childbirth,
>
> "Administered early, it usually arrests incipient medical and surgical infections or renders their course briefer and milder,
>
> "Even when employed only as a last resort it sometimes achieves brilliant recoveries in desperate, apparently hopeless cases.
>
> "Whether exhibited intravenously, intramuscularly, rectally by inunction or locally, Collargolum is entirely harmless. Hence it should be used freely as soon as possible after the appearance of septic symptoms. Delay or timidity in the administration of the remedy endanger the success."

In a pamphlet entitled "New Therapeutic Agents," distributed in October, 1908, claims identical with these last quoted are made, and also the following:

> "These therapeutic powers are explained by its catalytic action which destroys toxins, bacteria and diseased cells, by the phagocytic reaction which it occasions, and by its inhibitory influence upon microorganic growth—effects demonstrated by laboratory studies."

Manifestly the claims made in these statements are very remarkable. There is no other drug known that has any widely credited effect on general infections with staphylococci, streptococci, the pneumococcus, typhoid bacillus, tubercle bacillus, anthrax bacillus, and the host of others of the most common forms of infections which are mentioned in these pamphlets as having been cured by collargol. Infections with some of the higher forms of bacteria (actinomyces, pathogenic yeasts, etc.) appear to be at times favorably influenced by drugs, chiefly the iodids. With several parasitic infections (malaria, syphilis, and perhaps some trypanosome infections) we have special specific drugs for each disease.

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[*] When action was first taken Messrs. Schering & Glatz asserted that the Council misquoted one claim and said "We never asserted that Collargolum possessed a marked 'electrolytic' action." When referred to their own pamphlets for verification, they replied that the word "electrolytic" is "a typographical error for electrocatalytic." Later Schering & Glatz say: "Our friends state that in speaking of the actions of Collargolum the work 'electrocatalytic' should be modified to read 'catalytic' . . ."

Such, in brief, have been our very limited resources in regard to infectious diseases and their treatment with drugs. With the great majority, and this includes most of the common infections, we have had no therapeutic measures of any kind that could rationally be considered to exercise any noteworthy direct control over the infection itself—we have, rather, been confined to measures that help the patient by increasing his resistance and to those that antagonize dangerous symptoms. If the claims regarding collargol are correct, we have in it for the first time a drug that will prevent nearly any bacterial infection if used prophylactically (especially puerperal infections, but these may be due to a great variety of bacteria). It is also said to check existing infections, if used early, and often produces recovery in desperate cases. No distinction is made against any variety of infection—it acts "in the most varied medical and surgical infections."

If this is true, the drug is a tremendous boon to humanity; if not true, these claims are cruelly misleading. No drug on the market that has a reliable standing has had made for it claims so far-reaching as these. The very importance of these claims demands that they should not be advanced without evidence that will withstand critical examination and that is at least reasonably convincing and fairly free from contradiction—at any rate among those writers whose opinions are justly looked up to.

TWO KINDS OF ACCEPTABLE EVIDENCE

The burden of furnishing this evidence rests clearly with those who make such unusual claims. It is, of course, not our province to present new evidence for or against the drug but to examine that submitted. Two kinds of evidence we may be prepared to find convincing: First, careful experimental demonstration that a preparation has properties that justify the expectation that it will produce the effects claimed, this to be followed by a reasonable amount of clinical demonstration that it does produce these effects in the sick human being; second, an overwhelming mass of clinical evidence that, whatever the pharmacologic action, the substance does produce the effects that are claimed. Both these forms of evidence together would be most satisfactory, but the latter alone will do, if the facts are unassailable, for we have repeatedly learned to recognize valuable effects from drugs empirically, and without being able to demonstrate clearly their manner of action.

THE EXPERIMENTAL EVIDENCE

In order, however, that the first method be convincing of such striking effects, the experiments must be extensive and the results must be very positive, and creditable investigators must not be seriously at variance with each other in their facts and conclusions. In order that clinical results shall be dependable, they must be very numerous, and the opinions must be reasonably near to unanimity, and, far more than this, they must be contributed by trained observers, and must show evidence of accurate and critical observation. Without these united characteristics, mere numbers of reports or observations count for nothing, for we well know in how many instances wonderful results have been thought to have been obtained from therapeutic measures that more or less rapidly fell into utter disrepute. Every one, we think, will agree with the conditions we have laid down. We state them here only to indicate frankly the attitude with which we approached the consideration of the testimony.

As to the pharmacologic properties claimed for the drug, those properties, as well as the clinical effects, are most systematically described in the pamphlet issued in 1907 and marked by you "C," and since this pamphlet in its context or in the bibliography covers nearly the whole matter we may devote our attention chiefly to the statements made in it. When any pamphlet is referred to henceforward we shall mean this pamphlet, unless otherwise stated. When references are made to individual investigators to substantiate the claims made we shall, of course, need to discuss the work of these authors from a critical standpoint and comment on it with customary scientific frankness.

COLLARGOL IN THE BLOOD STREAM

In the beginning of the description of the pharmacologic properties, on page 4, it is stated:

> "After intravenous injection, collargolum circulates in the blood-stream only a short time; two hours afterward, it is already deposited in the liver, lung, heart, spleen, intestines and kidneys. After eight to ten hours it is present in the blood only in traces;" etc.

No authority is given for the statement that any remains in the blood eight to ten hours after its injection. Cohn (who is repeatedly quoted by the writer of the collargol pamphlet in other connections) states directly that he could find none in the blood after forty-five minutes. The statement in the pamphlet might easily convey the impression that collargol circulates in the blood for eight or ten hours in effective quantity. This is evidently not the opinion of the agents, for, in a typewritten sheet sent to the committee by Schering and Glatz, it is argued that Brunner's results in experiments with collargol, in which the substance was injected after the infection of animals, are incomplete, because "after *an hour* (italics ours) collargol has disappeared from the blood." It is, of course, a matter of great clinical moment whether collargol is effective after one hour or for more than ten hours. The ambiguity is, therefore, very regrettable, though we are ready to believe that no misstatement was intended.

No evidence is given in the pamphlet as to the condition in which collargolum circulates—a matter of very serious importance, it would seem, for all its peculiar combination of harmlessness and great potency against infections is referred to its colloidal nature, and, unless it circulates in colloidal form, this which is emphasized as the only essentially valuable characteristic that it is recommended as having is lost. In your correspondence with Schering and Glatz which you sent to the committee, you inquired about this matter, and they answered that it was a difficult matter to determine, and that they had referred the question to the manufacturers of the substance, the Chemische Fabrik v. Heyden. Later, in their letter of Oct. 24, 1907, having heard from the manufacturers, Schering & Glatz state:

> "That collargolum circulates in the body as colloidal silver is shown by Hocheisen's findings, who found that it had precipitated on endocarditic ulcerations in the form of bluish-

black particles. Moreover, if collargol were changed in the body to ordinary silver, or to silver salts, the large doses which are usually employed would inevitably occasion argyria—an effect which has never been seen from it. Hamburger (*Arch. f. physiol. Med.*, 1906, Nos. 2 and 3, pp. 83-97) says that the fact that colloidal silver remains as such in the blood is due to the presence of other colloids, i. e., albumin."

This is certainly not evidence. Hocheisen's observations mean merely that it had precipitated out in some form. Whether this was colloidal silver at the time of its precipitation or shortly before is not determined by his observations. Indeed, he made no attempt to settle this point. The lack of argyria means nothing definite as to the actual form in which the drug circulates, and Hamburger merely expresses an opinion on the basis of analogies with experiments "in glass"—he did not actually investigate the question, and it should be noted also that Hamburger speaks here simply of "colloidal silver," and that in the sentence immediately preceding the portion quoted speaks of how much longer electrolytically prepared colloidal silver remains in the blood than does that which is chemically prepared (collargolum is chemically prepared). We have, in fact, been unable to find any definite evidence as to the form, colloidal or other, in which it circulates, but we might direct attention to the fact that van Waveren (*Weekbl. voor Geneesk.*, No. 10, 1905) is said, in an abstract of his article, to have reached the conclusion, after experimental work, that it is quickly transformed into silver-salts in the blood. The original of his article we were unable to consult. We would also direct attention to the fact that Bamberger, whose paper is referred to favorably in another connection in the pamphlet, states (and this not quoted in the pamphlet) that it is precipitated out after injection, and we must look on collargol as providing in the blood, not a solution, but a large number of actual particles of silver, and he considers that whatever effects are obtained by it are due chiefly to the leucocytosis that these numerous foreign bodies set up. The claim, then, that collargol circulates as such in the blood is not supported by evidence, and any statement that it has been proved that it does so circulate is directly misleading.

ABSORPTION OF COLLARGOL ENEMATA

Further down on page 4 of the pamphlet it is stated hat Henri and Gompel, and Loebl, have demonstrated hat collargol is absorbed when administered as an nema. Here there is, in the one case, an unjustiable assumption, and in the other painfully weak evience. Henri and Gompel, according to the reference given, did not work with collargolum at all, so far as s stated. They used, on the contrary, colloidal silver, lectrolytically prepared. This may be the same as ollargolum, or it may not; but it is a noteworthy fact hat a number of Henri and Gompel's countrymen consider that the effects of the two are different, and acually describe differences that they have observed in he two substances or in their therapeutic or experimenal effects. Until conclusive evidence has been produced o show that they are identical, we have no right to asume that the results of experiments done with the one may be accepted as applying to the other, any more han we have a right to assume that many other subances that appear superficially to be alike have the ame actual properties until so proved.

Loebl's work is so far from offering satisfactory evience that it scarcely deserves discussion. His evidence is comprised in the following observations. He administered it per rectum in several cases in which death was sure to occur. We quote from the translation of his article in pamphlet "D":

> "Histologic examination of the rectum in the one case, as that of the spleen, liver, kidneys and rectum in the other, showed *no* opaque granules [italics ours] of metallic deposit in either the stained or the unstained specimens. Only the unstained sections of the rectal mucosa in the former case showed the epithelial layer clouded and looking as if it had been dusted over with something; *but it was uncertain whether this was due to absorption or to postmortem imbibition* [italics ours], as the last injection was administered only a few hours before death. In the spring of 1903, however, in a case of erysipelas that died a few days after the last collargolum injection, high magnification showed isolated black granules in the epithelium of the glomeruli, *which were probably* [sic! italics ours] precipitated silver."

We doubt whether any one would be convinced from these observations that collargolum enemata are absorbed!

IS IT ABSORBED BY GASTRIC OR INTESTINAL MUCOSÆ?

It is also said that abundant experimental proof exists of the fact that collargolum is absorbed by the skin, by the subcutaneous and muscular tissues, and by the gastric and intestinal mucosæ. There is some evidence that it is absorbed by the skin and by the subcutaneous and muscular tissues, though Schering & Glatz omit to state here the highly important fact that many of the warmest advocates of the use of the substance insist that its subcutaneous use is impracticable, because of the danger of causing severe local reaction. We have been unable to discover any definite experimental evidence that it is absorbed by the gastric and intestinal mucosæ, though it is stated to be abundant. The closest that we have come to finding evidence is their statement from the October, 1907, pamphlet, p. 4:

> "When collargolum is given per os it may be that it is precipitated by the free acid of the gastric secretion, though Beyer thinks not. Even if it is precipitated, however, it again goes into solution when the acids are neutralized by the alkaline intestinal juices."

Who, however, has presented any direct evidence that it actually is absorbed? Who has shown that after being attacked, not only by the hydrochloric acid of the stomach contents, but also by all the other substances in the digestive tract, it is still colloidal silver when it comes to the point of being absorbed, even if it does go into solution again in the intestinal contents? Most drugs, when given by mouth, are absorbed in a different form from that in which they are administered, and we certainly can not assume, without evidence, that this particular drug is an exception. With most drugs the changes that occur are of no consequence, but in this instance we must remember that the original form is of paramount importance in its supposed action. Furthermore, the fact that is repeatedly stated in articles referred to in Schering and Glatz's advertising matter, that colloidal silver, *because of its colloidal character, does not pass animal membranes*, contradicts their other contention that it passes the gastric or intestinal mucous membrane in colloidal form, and it is only in colloidal form that special virtues are claimed for it. Nevertheless, this drug is positively recommended for oral and rectal administration in dangerous diseases. The statement, then, that there is abundant experimental evidence of the absorption of collargolum as such from the alimentary canal is not only misleading but totally unjustifiable.

NOT EXCRETED IN THE URINE

Also it is stated (p. 4) that Baginsky, Buberl and Kunz-Krause have shown the presence of collargolum "in the renal excretion," thus indicating that it is partly excreted in the urine. The facts are, however, that Lange, who worked under Kunz-Krause's direction (this is the article to which the pamphlet refers, Kunz-Krause apparently having done no work on it himself) found it *absent* from the urine, and distinctly so states, and this fact is referred to in several instances by authors whom Schering & Glatz quote in this connection. It may, indeed, be seen in print in their other pamphlet that you have marked "D," in the matter that they quote on page 7: ". . . or, perhaps, as Lange holds, the metal is not excreted in the urine." Buberl states clearly that in three of the four cases in which he found it in the urine there was pyuria, and he considers its presence accidental and due merely to the fact that the leucocytes of the pus had carried some into the urine with them—not that it was excreted by the kidney. Baginsky, so far as we can determine from studying the reference given, made no observations at all on its excretion. This is clearly a direct inversion of the results of one of these authors, a misrepresentation of the second, and pure fiction in regard to the other. These misstatements can scarcely be excused as "justifiable optimism."

EXPERIMENTAL RESULTS IN ANIMALS.

Under the heading, "Modes of Action" (p. 4, *et seq.*) the fact is admitted that experiments on animals have not given concurrent results, but this is accounted for as follows:

> "Some of the experimenters have chosen a mode of infecting the animals which is far more brusque than occurs clinically; they have injected intravenously highly virulent bacterial cultures. Moreover, a negative result was to be expected in all cases in which the injection of Collargolum was made before or simultaneously with the injection of the infective material, as eight or ten hours after Collargolum is injected only traces of it remain in the blood. Experimenters who gave the Collargolum injections only when the animals showed signs of severe infection have saved them (Beyer, Pinto). Ernst Cohn's unfavorable report is criticised by Bamberger (Senator's Polyclinic) because Cohn injected the Collargolum before the infective material. Thus, the infection reached the blood at a time when a large portion of the leucocytes was busied with the silver particles and the organism was robbed of an important element of protection. In one case in which Cohn waited until the animal was violently ill, it at least outlived the control."

A critical reading of the papers referred to in this paragraph illustrates this matter from a wholly different standpoint, however. In one or two points the statement quoted above can be looked on only as a misleading mutilation of the work of Cohn, which, in actual fact, is both the most extensive and the most careful work that has been done on this part of the subject. This author carried out experiments on nearly thirty animals. He controlled his cultures carefully, to see that they were actually capable of producing infection. He injected collargol before infecting the animals in some cases, but in numerous instances he injected it after they had been infected. He also infected animals otherwise than by the so-called "brusque" method of injection. In a series of animals he rubbed streptococci into the skin and produced erysipelas, and these animals he treated as follows: One was injected with collargol before infecting it. Of the others, one was not treated at all and was used as a control, while of the remaining two, one, after it became ill, was given collargolum intravenously, the other, after it became ill, was given collargol by injection. It is a somewhat suggestive fact that in this group of animals the control was the last one to die.

Beyer, whose results are repeatedly quoted in contravention of Cohn's, did experiments, so far as one can determine from the report referred to, on no more than three animals. He used no methods to determine how virulent his cultures were, so far as he states (he merely *says* that they were virulent), so that we have no means of determining whether his results were due merely to his having not produced an infection of any severity; the number of observations also is too small to be of any value as against the numerous negative results of more careful studies.

Pinto's paper we have been unable to read, but other authors who abstract it refer to Pinto as having done what is objected to in the work of Brunner and Cohn—namely, that he injected collargolum as a prophylactic. He is approved of because he seemed to get good results. Evidently the judgment of the writer of the pamphlet is governed more by commercial considerations than by scientific consistency. Even if the bias in such a case be unconscious, it is none the less misleading.

To turn back, however, to the criticisms of Cohn's results. In the first place he did not, as is essentially stated, infect animals only by intravenous injections. We have already mentioned that he used other methods also. Further, Cohn's results are criticised in the pamphlet, as are Brunner's experiments in a separate sheet that was sent to the committee, because these authors injected collargolum before or simultaneously with the introduction of infectious material. This is a direct and clearly intentional misrepresentation of Cohn's work, for, as we have noted, he in many instances introduced the infectious material soon after the collargolum. He did it in most instances only ten to fifteen minutes afterward, to be sure, but this is just what Schering and Glatz apparently demand, when they insist that collargolum should not be injected much before the infective material, lest the collargolum disappear before the infective material reaches the blood, for, they say, collargolum disappears from the blood stream within an hour. Certainly ten or fifteen minutes after the infectious agents have been injected into the blood stream these agents and the collargolum ought to meet if collargolum is injected at this time. Furthermore, when Cohn used collargolum before he infected the animals, it was only ten or fifteen minutes before, and Brunner in some of his experiments used it only ten minutes to half an hour before he infected the animals. If within this short period collargolum had escaped entirely from the blood stream, it requires pretty nice judgment to determine whether it does, as is claimed, circulate in the blood stream at all.

COHN'S WORK NOT DISCREDITED

But the most objectionable feature of the paragraph in question is this: Bamberger's criticism of Cohn, which is quoted above, when examined in the original, proves to be very weak and specious, and was apparently prompted by the fact that, unless he could discredit Cohn's results, his own work would have seemed wholly worthless. Bamberger, however, is truthful, in that, in connection with the criticism quoted above, he puts in the qualifying clause, in parenthesis, "This applies, however, only to the experiments with the staphylococens," thus intimating that there were other experiments to which his criticism did not apply. When Cohn's work is looked at carefully, this intimation appears important and pathetically weakens Bamberger's criticism, for the work with the staphylococcus is really only a small fraction of what Cohn did.

When Bamberger's criticism is translated into this pamphlet, however, the qualifying phrase quoted above has disappeared, and it is now in such form that it reads as if the criticism applied to the whole of Cohn's results and destroyed his conclusions. It implies that Cohn had in but one instance injected collargolum after injecting the animals; while, as a matter of fact, as we have stated, he did this many times. This is an injustice to Bamberger and misrepresents what he said, and it is somewhat worse than a misrepresentation of Cohn. Toward him and toward those who read the pamphlet, it is the opposite of what scientific men call honesty.

ITS PROPHYLACTIC VALUE

There is a further aspect of this criticism that is applied to the work of both Cohn and Brunner, though, as we have said, wholly unjustly to Cohn—the criticism, namely, that when collargolum is injected before infecting animals the results are valueless. Whatever the actual effects on infections may be, this criticism carries the critic himself into perilous channels, for this reason: We are told that collargolum is a prophylactic against infections. A prophylactic is, of course, usually given before the disease occurs; hence, before the infection occurs. On the other hand, we are told here that injecting the collargolum even ten minutes before the animals were infected resulted in the infection reaching the blood "at a time when a large portion of the leucocytes was busied with the silver particles, and the organism was robbed of an important element of protection." This would certainly be a strange and unfortunate sort of prophylactic. In other words, we are told in one place that collargol is an efficient and harmless prophylactic; but when an investigator has tried to use it for this purpose the idea is stamped as absurd. Such inconsistency is reprehensible from the moral as well as from the scientific standpoint.

Finally, regarding this matter, we would also direct attention to the fact that Trommsdorf, who did experiments on twelve animals and who did give his injections not only directly after infecting them, but also six to thirty-six hours afterward, had results that, he states, were absolutely negative. His paper is indexed under the literature of the pamphlet but is not discussed in this connection. Also Baldoni, whose paper is indexed but not discussed, is said by several writers, whose articles are quoted, to have done animal experiments with unfavorable results. His original article was not available to us. It would appear, then, that this question has been attacked from all sides and that the great majority of the experiments have been negative. Indeed, all the investigations that show intrinsic evidence of having been performed with due care are decisively negative. The implied claim that pharmacologic experiments have been, on the whole, favorable is, therefore, entirely misleading.

To go further in quest of the pharmacologic action of collargol: The pamphlet states (p. 5) that "it has no such bactericide effect as the silver salts," and that if it had, "it would then be destructive of cells as well," and hence dangerous. We can pass this over as not offering any explanation of its action. The pamphlet, however, does dwell on its bactericidal action in various connections, and particularly refers to the work that shows that in certain concentrations it restrains the growth of bacteria. Beyer, among others, has especially insisted on the importance of this. We would note in regard to this matter the remarks made by Mann in discussing Beyer's paper (these remarks are not referred to in the pamphlet, though Beyer's paper is referred to repeatedly). Mann says that if Beyer would compare the amounts of colloidal silver necessary to control bacterial processes in the laboratory with the amounts that are used, for instance, in horses, for the purpose of controlling bacterial growth in them, he (Mann) thought that it would appear that in the latter instance something closely approaching homeopathy was being used. There is certainly no evidence that collargol, in the concentration and during the time in which it could exist in the circulation, has any bactericidal action. Statements intended to convey the impression that it has such an action are unquestionably misleading.

ITS ACTION ON THE LEUCOCYTES

Much stress is laid on the fact that collargol produces a transitory leucocytosis. There are differences of opinion on this point also, but the general evidence seems to be in favor of the occurrence of this leucocytosis. We would, however, point out that, as several of the authors referred to in the pamphlet remark, and as is well known, a similar leucocytosis is produced by many drugs. Most of these drugs are not supposed to have the slightest influence on infections, and not one of them is credited with an influence at all like that claimed for collargolum. We may, indeed, state quite positively that at the present day the occurrence of a leucocytosis after the use of a drug is not known to have the slightest definite significance regarding its effects on a general infection; only a few enthusiasts still think otherwise. Hence this effect of collargolum, on which tremendous stress is laid in the pamphlet, can not be considered important. The effect after injection into the spinal canal in meningitis is a different matter. There it produces a local outpouring of leucocytes which may be useful; but, as Widal and Ramond, who did this, remark, the leucocytosis was due to the presence of particles of silver, and they clearly intimate that the effect was not specific in any sense, and that any other inert insoluble substance would have done the same thing.

Finally, we are told, in heavy-faced type, that:

> "By reason of its colloidal nature, **it has vigorous catalytic powers, which induce or enhance in the organism the process of oxidizing bacterial toxins, changing these to inert compounds."**

The evidence for this is said to be that Schade has shown that:

> "The electrocatalytic properties of metals, more especially in their colloidal form, may be developed in the living body. They facilitate the interchange of oxygen and hydrogen in the animal tissue fluids, and effect a quick and energetic increase of oxidation in the organism. It is readily conceivable that this may rapidly deprive ptomains and similar bodies of their poisonous character, as atmospheric oxygen does."

We need not devote much attention to this last remark, because it is stated here merely that "it is conceivable," not that Schade has shown it—and Schade actually has not shown it. It is conceivable but it is not to be accepted until evidence has been offered to support it. All the direct evidence given is that furnished by Hamburger, who investigated the effect of collargolum on the hemolytic action of staphylococcus toxin, Neisser and Wechsberg having stated that the hemolytic properties of the latter provide a reliable test of the activity of the toxin. (The following figures are taken from Pamphlet "B.") Hamburger found that ¼ c.c. of a 1 per cent. solution of collargolum added to 1 c.c. of staphylotoxin serum prevented hemolysis; and from this he decided that it destroys the toxin. He found, however, that it increased hemolysis when ¼ c.c. of a less than 1 per cent. solution of collargolum was used in 2 c.c. of staphylotoxin serum, and the same was true of still weaker concentrations. Does this mean that in these lesser concentrations it increases the activity of the toxin? We do not know, and are not told; but it would rather appear to do this, and certainly did not have a favorable effect.

REDUCTIO AD ABSURDUM

Let us grant that in the higher concentrations it has the influence desired on the staphylotoxin, and perhaps on other toxins, the figures given would, in relation to a human being, mean this: The concentration of (dry) collargolum, when ¼ c.c. of a 1 per cent. solution is added to 1 c.c. of other fluid (in the instance under discussion the fluid was staphylotoxin serum) is 0.2 per cent. Lesser concentrations than this increase hemolysis, according to Hamburger. Hence, to accomplish any good in the blood stream, and in order to avoid doing harm, we need at least a 0.2 per cent. concentration of collargolum in the blood. It has long been said that the amount of blood in the body is about one-thirteenth of the body weight, but more recent studies indicate that this is a little high. In order to be on the safe side, let us make it as little as one-twentieth of the body weight. With the usual so-called average man, who is commonly said to weigh about 70 kg., there would then be about 3.5 kg. of blood or 3,500 gm.; 0.2 per cent. of this amount of blood is 7 gm. That is, we should need 7 gm. of dry collargolum at each dose in order to keep up to the amount that Hamburger's figures demand if we are to do good. The preparation has been used for intravenous purposes most largely in a 2 per cent. or weaker solutions, until in the last few years, when it has been possible to use a 5 per cent. solution with the new collargolum. With the 2 per cent. solution we should need at least 350 c.c. to get the proper concentration in the blood; with the 5 per cent. solution the minimum dose should be 140 c.c.

The amount recommended and actually used, however, has ordinarily been less than 5 c.c.; only occasionally has the use of larger doses been reported, and never, so far as we know, more than 20 c.c. at a dose. Hence, if we follow Hamburger, the use of this preparation against bacterial toxins has not done any good, and, if anything, it would appear, indeed, to have done harm.

In any case the sole basis for the remarkable claim that collargol "has vigorous catalytic powers which induce or enhance in the organism the process of oxidizing bacterial toxins" are these experiments of Hamburger and Hekma, and a little consideration shows that they are totally irrelevant. The experiments were performed *in vitro* and have no bearing on what may occur "in the organism;" they simply show that a toxin (the hemolysin of staphylococci) which so far as is known has little or no pathologic significance is probably destroyed under conditions which do not obtain in the organism.[1] To build such far-reaching deductions on such a slender base of facts is certainly gross exaggeration, if, indeed, harsher terms would not be more accurately descriptive. The claim that experiment has proved that collargol in the body oxidizes bacterial toxins to inert compounds either is dishonest or, at best, shows an uncontrolled imagination which would totally unfit its author for drawing any scientific conclusions.

Some emphasis, further, is laid in the pamphlet on Robin's studies of the effects of colloidal metals on metabolism. In regard to these, we would say again that Robin has done nothing with collargolum, so far as he states; but, on the contrary, he seems to have worked exclusively with metals that were obtained by the electrolytic method, and chiefly with gold, according to the references given. As we have said in another connection, results obtained with colloidal silver prepared electrolytically can not by any means be considered to be results obtained with chemically prepared colloidal silver, namely, collargolum, and certainly the latter can not properly be compared with colloidal gold. Suppose, however, that this could be done; Robin's work is, in the first place, subject to the criticism that, contrary to the first rule in such investigations, it was carried out, so far as is stated, without control of the diet. Aside from this, however, if they mean anything, his results as recorded, indicate chiefly that there was increased tissue destruction; and this, in infectious diseases, is one of the things that we particularly try to prevent. The mere fact that a substance appears to have some sort of effect on metabolism is by no means direct evidence that it has a favorable effect.

This comprises all the matter of importance relating to the pharmacology of collargolum, so far as it is discussed in the advertising pamphlets and so far as we have been able to determine through other sources. It is apparent that this is wholly insufficient to establish or to aid seriously in establishing the very remarkable claims made regarding its effects and value. It seems to us, further, that while in some instances the statements made in the pamphlet are dependent merely on acceptance of insufficiently justified conclusions of the authors quoted, in other instances the statements made are directly the contrary of what the authors themselves have put into print, or they are palpable misrepresentations of the authors. Substantial experimental proof that collargolum has any of the pharmacologic actions claimed for it in these pamphlets is lacking, and this is evidence that the statements made regarding its pharmacologic effects are gross exaggerations. The misrepresentations are, however, to fair-minded persons, even more damaging evidence of the unreliability of the claims made. Whatever differences of opinion may exist as to the clinical significance of pharmacologic effects, everyone must agree that when pharmacologic claims are advanced they must be based on sound evidence. Still more important, they must not be contrary to the evidence, and, most important of all from the standpoint of common honesty, the statements made must fairly present the statements and conclusions of any investigators who are quoted. False claims are equally detrimental to the profession and to the public, whether the responsibility be referred to the house making the claims, to some subordinate, or to a vicious custom.

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[1] Dr. J. F. Anderson, assistant director of the Hygienic Laboratory, Washington, D. C., performed, at the request of a member of the committee, several series of experiments on guinea-pigs to determine whether collargol has any destructive action either *in vitro* or *in vivo* on a toxin of real importance and one whose toxicity can be determined with accuracy, viz., diphtheria toxin. The treatment of a minimum lethal dose of this toxin with solutions of collargol up to 0.5 per cent. for 2 hours had not the slightest effect on the toxicity; nor did the injection of 1 c.c. of 0.1 per cent. collargol directly into the hearts of guinea-pigs (250 gm.) delay in the least the death of animals which received a single minimum lethal dose of the toxin. We disclaim the intention of attributing to these results a wider significance than they possess. They merely prove that collargol has no action on one of the most important and experimentally most decisive toxins. At the same time, they emphasize the fact that we are not at all justified in presupposing that collargol has a general destructive action on all toxins, or even on most; or, indeed on any toxin. If it has such action, it must be definitely demonstrated with each individual toxin, before claims such as the foregoing can be honestly justified; and, as we have seen, no adequate evidence on this point has even been submitted.

THE CLINICAL EVIDENCE

It appears to us, then, that we have already sufficient evidence of conflict with the rules of the Council, which do not permit false, misleading or exaggerated statements. Let us, however, consider whether, putting aside the question as to the pharmacologic effects of the substance, there is clinical evidence of an amount and character sufficient to justify the statements regarding its clinical action.

As we have already indicated, we can not accept the standards regarding such evidence that Messrs. Schering and Glatz apparently adhere to. In their letter to you of Sept. 13, 1907, they say:

> "The claims made for collargolum are perfectly justified; they are not in the least 'at variance with the current scientific conceptions of the subject,' but, to the contrary, are substantiated by an enormous literature, as you will see on perusal of the pamphlets on collargolum which we sent you some time ago, and of which we mail you another set under separate cover. Few remedies have a stronger array of testimony in their behalf. We ourselves have record of more than 300 publications, and there are doubtless numerous reports which we have never seen, particularly in French journals."

METHOD OF DETERMINING VALUE

This clearly indicates that if the number of contributions regarding a substance is large, the value of the substance is thereby established. We must very frankly state that we do not agree with this. The number of observations must be large if clinical or other studies are to furnish reliable evidence; but beyond this, and still more important than this, the studies must be made by persons who show evidence of competence, and they must have been done with accuracy and care; and in using the literature to decide a question, adverse statements must be considered with as much open-mindedness as are those that are favorable. If any other course is pursued, multiplication of so-called "evidence" s merely multiplication of error. When any drug has been extensively advertised and very optimistic claims have been made regarding it, large numbers of favorable reports may always be found, whether the drug is valuable or not. If the favorable reports alone are considered and no attention is paid to their reliability or to any unfavorable reports, it would be exremely easy with any drug to reach the conclusion that t is of the utmost value.

Considering the fact that we confined ourselves almost entirely to the literature to which the promoters of this drug themselves refer, it would seem highly probable hat we have examined reports that are in larger proportion favorable to it than would have been the case had we searched also for articles to which Messrs. Schering and Glatz do not refer. It should be remembered, however, that our task was not to decide whether the drug has *any* value; if that question could be decided at all it would be only by a consideration of all available literature. What we needed to do was to determine whether it approaches reasonably near to the value set on it in the advertisements under consideration. This we have been able to do by keeping within the limits indicated.

GENERAL RESULTS OF EXAMINING LITERATURE

It is clearly impossible for us to make reference here in detail to all the literature that we have gone over. It will suffice to take up a number of points in the pamphlet and quote a sufficient number of references to show that these points are not substantiated. These references will indicate that there is no *overwhelming* evidence that the substance is "a powerful and harmless systemic antiseptic in the most varied medical and surgical infections," or in any infection; that, on the contrary, when we consult the articles of men of recognized ability and judgment, we find that a very large proportion of them are extremely guarded in their conclusions. We find that, after extensive use of it, many of them decide that collargolum is practically valueless. Furthermore, in articles in which it is warmly recommended as a systemic antiseptic we find often intrinsic evidence that the author is clearly an unreliable enthusiast or that he presents no noteworthy evidence to substantiate his opinion; while in some instances the statements made regarding the benign effects of the preparation are accompanied by others that show such deficient or erroneous conceptions of anatomy, physiology, pathology or other fundamental medical knowledge that we should involuntarily distrust the conclusions reached by the author regarding any medical question.

CONFLICTING TESTIMONY

In addition to this, without searching outside Schering and Glatz's list but merely in looking over the articles referred to in the pamphlet, we have had our attention directed to a number of articles or discussions that directly contradict and give positive evidence against statements made in the pamphlet. Although these articles are quite as available as those that they quote, and the authors of the pamphlets must have been familiar with them, they are suppressed, and the extreme statements made are still permitted to stand. We find, indeed, direct contradiction of some statements in the pamphlet in articles from which they themselves quote, but these unfavorable statements are usually suppressed and the articles are used only in some other connection.

We find instances, likewise, in which statements attributed to an author in society reports (and such reports are generally unauthorized) are used in furtherance of the claims made, while when the original article itself is consulted the author's actual views are found to be much less favorable or actually unfavorable. This clearly misrepresents the author's real views in a way that is entirely unjustifiable.

DISTORTED REPORTS

Furthermore, and much more objectionable than any of the things that we have thus far mentioned, there are repeated instances in which portions of articles are suppressed in such a way as to make carefully guarded and, at most, only mildly favorable statements appear laudatory to a grossly exaggerated degree; and there are instances in which words are introduced into author's sentences in order to make them more emphatic; and, finally, obsolete views of authors, that they have since corrected in later articles, are given as their present opinions.

Such methods are clearly the opposite of a fair presentation of the subject. The reader of such statements will be deceived in precise proportion to the faith that he has put in the fairness and honesty of the presentation. The higher the standing of the firm that descends to such practices the more serious the offense, the graver the abuse of confidence, and the more positive the harm done. The explanation that the offense is a common practice does not by any means lessen this harm. The principle of "caveat emptor" has no place in science, nor can it be considered laudable, when the lives of human beings may be the price.

Having found these evidences of exaggerated, false and misleading statements in regard to the clinical side of the question, as well as the pharmacologic, we feel that we have answered your question. We will, however, refer to a series of articles that exemplify the points we have made. We will take these points up, not in order, but collectively, since in repeated instances one article illustrates several of our points and we wish for brevity's sake to avoid an unnecessary amount of quoting.

It is stated on page 8 that "Locally collargolum is a *certain*, simple, *universally applicable* surgical antiseptic for the prevention and treatment of sepsis" (italic ours). Hochheisen, however, who is quite extensively quoted in two other connections but not in this, states that during two years, when he was acting as an assistant to Landerer, he used collargol in surgical cases, injecting it under the skin and into the veins, and also applying it in powder form and as an ointment in septic wounds, in infected amputation stumps, in general septic conditions, in peritonitis, in severe phlegmons, in puerperal infections and in tuberculosis. He states: "I could, however, not say that I have seen even one single result that could not have been secured quite as well by the other customary surgical or general treatment that was used." He thinks the intravenous use may have some useful effects on general surgical sepsis. His opinion regarding its local use is, however, clearly positively unfavorable, after a large experience.

ITS USE IN SEPTICEMIA

The drug is particularly recommended for various forms of septicemia and pyemia, erysipelas, and especially in puerperal infections, etc. Let us see what is actually said by some of the persons referred to regarding its use in these conditions: On page 13 it is stated that Professor Tillmanns "says that he has often seen surprisingly good results from the internal administration, injection or inunction of collargolum in phlegmons, lymphangitis, general septic infections, etc." This provides examples of three very objectionable things. The facts are as follows: The reference given is to Tillmanns' "Allgemeine Chirurgie." In the seventh edition of this work, published ten years ago, Professor Tillmanns said Credé recommends this metallic silver, internally, by inunction or by intravenous administration, in the treatment of phlegmonous lymphangitis, general septic infections, in scarlet fever, diphtheria, etc. He then immediately said "no conclusion can yet be reached in regard to the internal antiseptic action of the silver in general infections. I have repeatedly seen surprisingly good results, in other cases it could not be determined that there was any effect." As to later editions of his work, we can not find that there was any eighth edition of the "Allgemeine Chirurgie," though there was one of the "Specielle Chirurgie." In the ninth and tenth editions, however, published in 1904 and 1907, respectively, he says what was noted above as to Credé's recommendations and then alters his previous statement by eliminating any personal opinion whatever and simply says that in human cases and in animals some authors have described good results, while with others the results have been negative. That is, in one short sentence the author of the pamphlet has introduced three very objectionable methods of misleading his readers, methods which are very commonly used in such advertisements.

1. He has used an obsolete edition of the author's work that contained a clause (which the author had deliberately removed from later editions) because this clause could be dressed up into more laudatory form than any in the later editions. This suppression of an author's recent opinion because an earlier one seems more favorable we shall mention in another connection in a still more objectionable form.

2. What Tillmann said ten years ago as to his own opinion is combined with what he said as to Credé's recommendation of the substance, and it is all referred to Tillmanns.

3. A single clause that even in the original (in the ten years' old edition) is guarded in such a way as to make it a most indifferent opinion as to the actual value of the substance is taken out from the context and put into the advertisement in such a form that the author appears to be an enthusiastic advocate of collargol. By using this method almost anything, except violent condemnation of a drug, could be turned into warm praise. It is the more reprehensible because it is one of the commonest ways of misleading readers of advertisements.

Finally, we would note that while the advertisement reads as if Professor Tillmanns had come out with a warmly favorable discussion devoted to collargol, we actually find that all the matter that we have referred to is merely a mention of the substance in fine print, after he has mentioned twenty-five other substances which have been recommended by various authors as substitutes for the usual antiseptics; and when, immediately afterward, he takes up the question as to which of the numerous antiseptics that have been recommended is the most effectual and suitable, he does not even mention collargol, and in discussing the prevention and treatment of septicemia he again does not mention it, but does say "A substance that is an effectual remedy for general septic infection does not exist."

ITS VALUE IN PUERPERAL INFECTIONS

In relation to puerperal infections, let us take up several of the first references given under this heading (p. 13), which are said to attest the effectiveness of the substance in these conditions. The article mentioned as coming from Chrobak's clinic is by Buberl. It is quoted specifically in certain other connections and, as we have already shown, it is falsely quoted in connection with excretion through the urine, but the following statements are not quoted: He says that the reports regarding the clinical effects of collargol are partly positive and partly negative, a guarded expression being given by exactly those authors who have the largest amount of material at hand; and he then refers to Fehling, v. Herff, Küstner, Leopold, Osterloh, and v. Rosthorn as being examples of this latter class. Buberl's own work indicated to him that it appeared at times to exert a favorable influence on the course of puerperal fever, but that it is to be considered a specific against sepsis seems, from his experience, to be altogether too enthusiastic a statement.

Döderlein, referred to also, says, on page 43 of his book, simply that it has been recommended that metallic silver be used in impregnating ligatures. Later, on page 161, he says, in discussing the after-treatment of infected wounds: "Here silver in colloidal form and silver salts, used in intravenous infusion or in inunctions, have been recommended by Credé. The experimental basis of this Credé silver treatment is, however, but slight, for no results that are free from criticism have been obtained in animal experiments; though it might be said regarding these observations that perhaps bacteria of too high a virulence have been used for injection, and because of this even an increased power of the blood to check their growth was insufficient. Clinical reports, both with intraveneous and intradermal use, have not been unfavorable. We have ourselves very frequently used the inunction treatment without being able to reach any conclusion regarding it. Unequivocal results that strike the eye at once I have never seen."

As to Fehling, the reference is to a society report, in which it is merely stated that he had good results from the use of collargol. When the actual article by Fehling is looked up[2]—an article to which reference is not given in the index of literature in the pamphlet—it is found that he states that the substance had no bad effect, but the results were very variable. Sometimes the temperature and pulse fell; they generally improved; but there was no definite permanent fall of the temperature after the injections. As to whether any cures were due to its use, he says that he feels extremely guarded. A number of patients died and a number got well. Possibly the bad issue was sometimes postponed. Further clinical studies should be made to determine its value, but he thought it worth while at that time to continue testing it.

Harrison is correctly quoted as saying: "If one does not use collargol in those severe forms of infection, one has not done one's duty." This extremely pronounced view does not appear to us to be based on much experience. In the references given Harrison reports, so far as we can see, only two—or, at most, three—cases, one of these being from the notes of a hospital resident physician. In one of these it appears that collargolum was unable to prevent the advance of the general sepsis and the formation of an extensive local abscess and arthritis, and the condition improved only after the abscess had been opened and drained. Nevertheless, collargolum is lauded because the abscess cleared up with great rapidity after having been opened.

Osterloh, who is not referred to in the advertising matter of Schering and Glatz, though repeatedly mentioned in articles that they do quote, says[3] that he had already shown the uselessness of the ointment in severe sepsis, and then describes some cases in which he used intraveneous injections with apparently favorable influence on the temperature but no influence in controlling the disease. Three patients died and the others recovered only after the silver treatment had been stopped and other suitable surgical treatment had been instituted.

COLLARGOL IN ARTICULAR RHEUMATISM

Witthauer is very favorably referred to in some typewritten sheets[4] sent to the committee by Schering and Glatz. He had previously reported in a laudatory way in regard to the use of the substance in puerperal pyemia, and states that he has recently used it in articular rheumatism. He describes a series of cases in which he thinks the results were very good; but he makes the naive statement that if a case does not improve under the use of this substance, one may decide that either it is gout or a mixed form of arthritis, or that there was some complication present that prevented the action of the collargolum. He states that there were cases that he does not report in which "collargolum did not work so promptly and so strikingly, becaused mixed infections were certainly present, and new complications persistently appeared." Evidently this author modifies his diagnosis directly in accordance with the effects of collargolum, which makes his conclusions more than a little unreliable. In connection with its supposed action in pneumonia it is interesting to note that Witthauer supports his contention that it acts *in the right kind of rheumatism* by showing that in a case that it did not help the patient developed pneumonia while it was being used. He considers the pneumonia responsible for its lack of influence on the rheumatism. He also says that true streptococcic articular rheumatism may be successfully treated with collargolum, and may even be diagnosed through the collargolum treatment, because the latter is always effectual in this condition. This is rather too much of a discovery. There has been no determination as yet that articular rheumatism is definitely a streptococcic disease. To make a diagnosis of a condition by a therapeutic test before the existence of this condition is known to be a fact is surely a remarkable feat.

In the same number of the same journal, however (this is not mentioned by the promotors of the drug), Jung, writing from the Frauenklinik in Greifswald, after speaking of various measures used in the treatment of puerperal sepsis and mentioning antistreptococcic serum encouragingly, says: "The experiences with Argentum colloidale Credé in puerperal sepsis have been less favorable. In regard to this substance also there are a great number of favorable, but likewise some unfavorable, reports, and in our experience in Greifswald it has not proved satisfactory. We have, as have many other observers, repeatedly seen high access of fever and severe chill appear first after its use." After describing the disadvantages attending on its intravenous use, he says: "These difficulties make the procedure seem but little suited to the use of the practitioner, and, furthermore, as already noted, we have not had any favorable results to record. The percutaneous use of collargol, which was earlier practiced, has proved to be entirely without effect and is indeed very generally discarded."

Lenhartz, who wrote on sepsis in Nothnagel's "Specielle Pathologie u. Therapie," and whose authoritative article is repeatedly referred to by others who are quoted in the pamphlet, though not given in the list of literature in the pamphlet, states: "Whether colloidal silver, recommended by Credé, promises any permanent cures I hold also to be very doubtful. However, it appears in the dose ordinarily used to be harmless. Wenckebach considers that after intraveneous injections of 12 to 15 mg. of the silver in 1 per cent. solution good results were seen. For myself, after many personal experiences, I can not confirm this favorable action." Again, in speaking of its use in puerperal sepsis, he says: "We ourselves have seen nothing worthy of comment as a result of its use."

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[2] München. med. Wchnschr., 1903, p. 1409.

[3] Wchnschr., 1902, No. 21, p. 896.

[4] Med. Klinik, 1907, No. 42.

ITS UNTOWARD EFFECT

The opinion that it causes no dangerous effects is not shared by everyone. Rittershaus[5] is correctly referred to in the pamphlet as describing such good results in erysipelas that he thinks it must be looked on as having a directly healing influence in this condition; but no space is given to another article by Rittershaus, written a year later (the authors of the pamphlet are evidently familiar with this article, because they index it in their list of the literature), in which Rittershaus says that, after further experience and further consideration, he would note that he has repeatedly had periphlebitic infiltrations and abscesses formation as the result of intraveneous injections, and has repeatedly seen severe cyanosis and dyspnea immediately after its use, which *probably indicated embolus of the lung.* He also frankly notes that his more mature opinion is that the effects in erysipelas and pyemia are by no means so valuable as they at first seemed to be. While it appeared to have an influence in some cases on the temperature, general condition and local disease, he believes that it is impossible to attribute much effect to it because of the great variability of the ordinary clinical picture of such conditions, and he frankly states that, contrary to his previously expressed opinion, he thinks that up to the present no specific against erysipelatous conditions has been found. As to general septic processes, he would repeat the statement made in his previous paper, that no permanent results were obtained from the use of collargolum in these conditions.

Hochheisen is quoted most extensively in connection with its use in puerperal conditions. We would note one point as regards the quotation from this author; the first sentence as given in the pamphlet is: "Collargolum is an invaluable aid in suitable cases." A correct translation of Hochheisen's words here is: "Collargolum is an aid in suitable cases." Again there appears to have been a spontaneous generation of a word, which we can scarcely consider justified even for advertising purposes, since this is a direct quotation, in quotation marks.

Bonnaire and Jeannin,[6] who are considered by Schering and Glatz to have given an entirely convincing contribution concerning its effect in puerperal sepsis, make twice a statement that appears to us to be in strong conflict with the attitude of the pamphlet, in that they say that the only active way of using the substance is intravenously. They then give a series of cases in which they used it, in 46 of which the patients actually had some disturbance of temperature, etc., after childbirth. In 3 of these the result was unknown; 10 patients died and 33 recovered. There is no evidence that many of these patients had actual septicemia or pyemia, however, and the authors themselves, while favoring its use, say that one should abandon the chimerical hope that we possess a therapeutic agent that is able to stop an infection that is in full evolution; and they state that even if collargol simply aids in gaining time, through its influence on the general condition, but permits an infected woman to traverse the period of danger, stimulating the reaction of the organism in a favorable way, providing periods of freedom from fever "which depresses the patient, takes away appetite, disturbs sleep and produces headache and causes delirium, it must still logically be accorded a large share in a happy outcome." Its effects are only transitory, and the dose must be frequently repeated, if the drug is to be of any value. Now all this may be true or it may not, but it does not sound to us like the description of a specific against puerperal or other infections. It is indeed a rather vaguely cautious statement, and it would appear that since his first paper which is referred to in the pamphlet Bonnaire has become more guarded in his views as to the efficacy of the drug.

ITS USE IN CEREBROSPINAL MENINGITIS

Under "cerebrospinal meningitis" the pamphlet refers to a considerable series of authors; but it is somewhat illuminating to find that the whole number of cases reported by these men is extremely small, several mentioning only one case in which collargol was used. In most instances the diagnosis was not established by any reliable means. We would contrast two statements that we think are illuminating. One is the following, which we quote from the pamphlet marked "B," p. 20, where an article by Bjorkman is given in extenso. The quotation opens in this way:

> "In my own experience I have met with great success in meningitis from the combined treatment with silver inunctions (Credé) and antiseptic packs on the skull. In some instances the suppuration took an outlet through the nose and ears; . . ."

If this really occurred, as the result of the use of collargol or anything else, we should have profound confidence in its activity, indeed we should stand in awe of it; but we are inclined to hold in mind the statement of Dr. Jacobi, who says, in an article from which the pamphlet quotes (though this statement itself is not quoted) that in cerebrospinal fever collargolum had no action.

We would also note that, though Dr. Jacobi is repeatedly referred to as expressing a hopeful view regarding the use of collargolum, the pamphlet entirely suppresses the guarded statements with which he surrounds the hopeful statements. In speaking of Credé's silver preparations, he makes these remarks: "His followers are sometimes more enthusiastic than he is himself, though his own convictions approach sometimes a fervor of fanaticism," "The careful practitioner, who has seen many rockets to rise like stars and descend like sticks, will do well (to judge from what I have seen myself) to try the colloidal silver for what it is worth. We have all been looking for a soluble antiseptic which would kill cocci and toxins without harming the tissues. In this drug we are promised such a material. We are not bound to accept the dicta of enthusiasts, bent on writing an article which will carry their names through the ephemeral literature of a brief half year." In the other article referred to in the pamphlet, in speaking of these and other substances, Dr. Jacobi says: "I mention them without claiming prophetic gifts. They may be highly valuable, though whoever looks for a panacea is always mistaken."

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[5] Therap. der Gegenw., 1904, p. 305.
[6] L'Obstetrique, April, 1908.

It is, perhaps, natural that Schering and Glatz should have omitted also the following quotation from Forchheimer.[7] The article is, however, referred to by them. In speaking of the use of collargolum, he says that he began with a prejudice against it "on account of the fact that so distinguished a man as Credé had surrendered to commercialism." Dr. Forchheimer, at the end, gets only so far as to say that he does not unreservedly advise the use of this ointment but considers it worthy of a trial in so severe a condition as septicopyemia.

COLLARGOL IN ENDOCARDITIS AND INFLUENZA

In regard to endocarditis, the name most distinguished among those mentioned in connection with cardiac conditions is that of Wenckebach. The rest of the world, perhaps, will be inclined to think that he is overenthusiastic in his title, "An Effective Treatment in Septic Endocarditis," when we find that he has treated a large series of cases, and says that two, he thinks, are convincing and describes these, but that the other cases he will not mention because they are less convincing! One at least of the two that he describes certainly ran a course that has many times been seen when no supposedly antiseptic treatment was being used in this disease.

Under influenza, reference is given to an article by Afanasjeff, who is stated to believe that collargolum has a specific effect on influenza infection, and his article is given in full in one of the pamphlets. One case is the evidence offered by him to prove that we have a specific. Rommel likewise is quoted as showing the profound influence of the substance in influenza, measles and other conditions. He actually describes only one case (that one is erysipelas), and then makes vague general statements about other conditions, and in a most laudatory way recommends the drug in almost all kinds of conditions; but he does not *offer any evidence* as to the correctness of his views.

ITS USE IN GENERAL MEDICAL CONDITIONS

It is stated in some typewritten matter sent to the committee by the agents, under the heading "In Medicine" (referring to its use in medical conditions): "The most exhaustive investigations are those of Professor Netter[8] on the very large material in the Hospital Trousseau of Paris." "Exhaustive investigations" eems a somewhat liberal term when we find that in the ast of these two references Professor Netter gives as his most important experience the following: Nine cases of pneumonia, 9 of typhoid fever, 14 of bronchopneumonia of all kinds, and 4 of scarlet fever, together with 37 ases of diphtheria; and the effects in typhoid fever that he describes are not made more convincing by the fact hat, while he does not mention this himself, he finds it necessary to use in the second paper the same chart that e used on page 1111 in the preceding paper to demonstrate its influence on the temperature in typhoid fever. Moutard-Martin, in discussing Netter's first paper (a act, again, that it not quoted in the pamphlet), said hat the effects described by Netter are not at all convincing of the value of collargolum; they are certainly ften seen without its use, even the effects supposedly shown in the twice-used typhoid chart. Professor Netter's enthusiasm incidentally goes far beyond even the indications outlined in the pamphlet. He believes that he has used the substance with most beneficial results in gastrointestinal conditions and a variety of nervous disorders, including neurasthenia, hysteria, central nervous scleroses, epilepsy, etc. Indeed, according to him, collargolum would very narrowly escape being a panacea, for there are few pathologic conditions that would not be cured by it if we follow his view.

We would also note, in regard to another important disease, that Baginsky, whose article is, as we have said, incorrectly quoted in another connection, says (a fact that is not quoted) that he treated with collargolum thirteen patients with severe scarlet fever and ten died. The non-fatal cases were not very malignant, and he considers it probable that recovery would have resulted under a simple dietetic treatment. He also notes that collargolum did not prevent complications in any of these cases, one developing otitis media, another nephritis, and the other an infection of the face. He reaches the final conclusion that "the attempt, then, to influence scarlet fever favorably with Credé's ointment failed in every way." This statement from so distinguished an authority is certainly sufficient to offset the general statements, without specific details, that are quoted from others.

COLLARGOL IN DIGESTIVE DISORDERS

In connection with the digestive disorders of children, it is stated in the pamphlet that Professor Schlossmann "advises 1 per cent. collargolum in sweetened milk when an intestinal antiseptic is needed." Since Schlossmann's name carries weight, we looked this point up. We find that what he actually says is: "A critical decision whether any improvement was due to the medicament or to the rational diet that was, of course, instituted is extremely difficult; but I think that I may recommend colloidal silver to those colleagues who have the slightest faith in the use of intestinal antiseptics, because, while it has decided antiseptic properties, it is entirely non-poisonous." In other words, if one believes at all in the use of intestinal antiseptics (and Schlossmann does not say that he does, but rather intimates that he does not), one may try colloidal silver, because it is not likely to do any harm when given by mouth. This is certainly a different expression of opinion from that indicated by the statement made in the pamphlet.

It appears, however, unnecessary to multiply these references further. In relation to the clinical side of the question, matters seem to stand much as they do in relation to the pharmacologic evidence. There are, of course, many favorable expressions of opinion from clinicians; but there are many guarded or unfavorable opinions, some of which we have quoted. It is, as we have said, a matter of history that nearly any drug that has been widely advertised has had many enthusiastic advocates for a time, whatever its actual value. As to this drug, most of the authoritative writers whose articles we have seen have, at best, a guarded, and not infrequently an unfavorable, opinion. Many who have written in recent years (and this includes a number of those who are mentioned by Schering & Glatz as having presented some of the best evidence of the value of the drug), if they express an opinion on this point, consider collargolum nearly or wholly valueless unless used intravenously; and we repeatedly find the statement from those of widest experience that the effects

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[7] Cleveland Med. Jour., January, 1902.

[8] Bull. et mém. Soc. méd. Hôp., Paris, Dec. 18, 1902, Jan. 2, 1903.

In spite of this, the remarkable claims mentioned in the beginning are made in the most recent pamphlets as if they were beyond question, and all modes of administration are recommended except the subcutaneous. The latter is excluded only because of the likelihood of its producing local trouble.

Collargolum is also emphatically said to be harmless, whereas severe chills and marked rises of temperature after its use are mentioned by numerous authors. Such results certainly can not be said to be harmless. A number of writers mention severe infiltrations, and even abscess formation, from its intravenous use; and still more disquieting effects are described, notably by Rittershaus, who reports, in a number of cases, symptoms that indicated so alarming a condition as pulmonary embolism. Similar cases are mentioned by other authors.

CONCLUSION

We have presented sufficient evidence that there are gross exaggerations in the statements that were quoted in the beginning of this report, from the covers of the most recent pamphlets. In addition, we have shown instances of directly false and also of very misleading statements. These latter facts, even more than the exaggerations, have made us feel it incumbent on us to make a frankly adverse report. Until these practices have been entirely abandoned collargol appears to us to lie beyond the pale of scientific inquiry, for the latter, which is the search for truth, can not thrive in an atmosphere of falsehood or even unfairness. The question whether the substance itself has any intrinsic merit can not be approached at all scientifically until it is approached in the spirit of truth, frankness and fairness. The manufacturers and those who profess faith in the remedy should, more than any others, be interested in removing it from its present false position.

TYPICAL PROPRIETARY EXAGGERATION

In concluding, we wish to emphasize the fact that these remarks do not apply solely to collargol or to Schering and Glatz. All that we have said really illustrates conditions that, unfortunately, are all too common. The cry that this is a "common practice" is frequently made in extenuation. In our opinion, this is all the more reason why such practices should be exposed and condemned whenever and wherever they are found. So long as they prevail the claims advanced in all advertising matter must be considered with the greatest caution, if not with skepticism.

There are, however, two lamentable facts that are especially illustrated in the present instance. The first of these is that a large array of literature, quotations and references are misused to obscure the very views that the authors of advertising pamphlets pretend to present. It is, for instance, directly claimed by Schering and Glatz in their correspondence that the "over 300 references" mentioned in the pamphlet *substantiate the claims* made for collargol. As we have seen, this is very far from being the case, and in many instances they do directly the contrary. This, as well as the other misrepresentations and misquotations, implies a confident belief — unhappily too well justified — that most doctors are either too busy or too impressionable to verify such quotations by actually reading the original sources. Even a fairly ambitious inquirer would be effectively deterred by the seemingly hopeless task of reading 350 articles. The use of the names of widely known authors further serves to quiet any doubts of the reader and deter him from making a more accurate investigation of these claims, for most men would look on it as inconceivable that any one should have the presumption to misrepresent the actual views of such authors. The average physician has considerable confidence in the better pharmaceutical houses, and the abuse of this confidence is a serious matter—most serious of all to the pharmaceutical interests; indeed, on their part it would appear to be nothing less than suicidal.

We again disclaim the intention of singling out the firm of Schering and Glatz for criticism, though our present duty is confined to their pamphlets. On the contrary, we would urge that it is advisable and, indeed, necessary that in all instances in which remarkable claims are made the original sources on which these are based be carefully examined, whatever the substance may be and whatever firm makes the claims. We would, indeed, hold it to be an important duty of the Council to undertake such investigations in connection with any product that has been provisionally accepted, as well as with those that may be submitted in the future. The exposure of such practices, when they exist, is to the common benefit of all. We should consider that whoever has good reason to believe that such misrepresentations exist in connection with any substance can give material assistance by transmitting his information to the Council; and we would also hold that any person is remiss in the duties that he owes to the profession and to the public if he does not take such action and permits these practices to go on without doing his part to check them.

The other unfortunate fact is that while it would in some ways be very helpful if physicians could openly express their opinions in print in regard to proprietary articles in order that the good might be sifted from the useless or harmful, it is clearly very dangerous for anyone to attempt this now, for no matter how free from commercial interest in the product that he is discussing he may appear to be, anyone is always in danger of having his views, and even his very words, distorted, misconstrued, suppressed, or added to, in ways that will fit the purposes of subsequent advertisements of the drug. We thoroughly agree as to the desirability of the impartial scientific investigation of promising drugs; but we are convinced that the practices to which we have just referred are the main, if not the sole obstacles to such investigation.

We have gone into the task that you set us to a greater extent than its individual importance warranted, because as we investigated it more extensively it constantly appeared to point more clearly to an important moral that is not yet sufficiently appreciated: Advertisements of proprietary articles are usually *not even intended* to present scientific facts but, rather, the biased views or wishes of the owners.

Respectfully submitted,

J. T. BOTTOMLY,
C. W. EDMUNDS,
REID HUNT,
DAVID L. EDSALL, Chairman,

MINORITY REPORT OF THE COMMITTEE

TO THE COUNCIL ON PHARMACY AND CHEMISTRY.

Gentlemen:—The question presented to the committee I understand to be the following:

> "Does the advertising matter in relation to collargolum submitted by Messrs. Schering & Glatz, contain exaggerations or misquotations of such character that the Council should require their withdrawal before approving the product?"

As to this, I find, in substantial agreement with the majority of the committee, that the advertising matter of Messrs. Schering and Glatz is misleading, both through exaggeration and through misquotation. It makes a number of positive assertions concerning the pharmacologic and therapeutic properties of collargolum for which conclusive evidence is lacking, and modifies the opinions of some of the authors cited, by addition as well as by omission.

The practice thus illustrated—a practice which, unfortunately, is widespread among the manufacturers of controlled medicinal preparations, including some which have been accepted by the Council—even when fairly attributable to carelessness, rather than to evil intention, is not to be condoned. On this point I have no difference of opinion with the majority of the committee.

Physicians, pharmacists, and especially the editors and proprietors of medical and pharmaceutical journals, are not, however, without a large measure of responsibility for the inception and development of this evil, and in assuming the attitude of judge or prosecutor, the American Medical Association must not lose sight of its former position as culprit. It is to be hoped that the increase of knowledge, no less than the stricter enforcement of ethical codes by medical and pharmaceutical societies, will bring about amendment among professional men. As to pharmaceutical manufacturers and distributors otherwise of good repute—such, for example, as the offenders in this particular instance—may we not expect that the censorship of the Council on Pharmacy and Chemistry and the pressure of public opinion will direct their attention to the matter so strongly that, not in mere obedience to these extraneous influences, but because of their own recognition of their very grave responsibilities, scientific and moral, they will hereafter exercise the necessary care n the preparation and supervision of their advertising?

On the contradictions in the advertising matter I ay less stress than do my colleagues, being mindful of he contradictions that would be evident did we as-emble the reports, experimental and clinical, by recognized authorities, concerning some of the oldest and most important remedial agents.

On some of the other questions incidentally raised in he report of the majority of the committee, and with much of its criticism and comment on individual ob-ervers, I reluctantly find it necessary to express dissent.

This dissent is not based on a personal preposses-ion arising from clinical observation of good results rom the use of colloidal silver—for I agree with the majority of the committee that in an investigation of his kind personal views should be set aside. I look, erhaps, from a different viewpoint on the experimental nd clinical evidence submitted. As, however, these matters have no immediate bearing on the particular uestion submitted, and some aspects of the discussion ould lead us far afield, I do not wish to take the time r space necessary to particularize. It is sufficient that agree with the main conclusion, even though I can ot adopt all of the reasoning of my colleagues or ndorse all the views incidentally implied or set forth n their report.

PHARMACOLOGIC ACTION

In regard to the immediate matter before us, a further word is necessary. It is possible that the ordinary reader might infer from the majority findings that colloidal silver is devoid of pharmacologic action and of therapeutic value. It is true that the report does not say this, and I have no reason to believe that the majority of the committee wishes to imply it; yet to avoid misunderstanding I must enter on this point an explicit disclaimer. My own finding is that the pharmacologic action of colloidal silver is undetermined, and that while a number of ingenious conjectures have been made, with more or less plausibility, and even probability, the experimental evidence is not as yet sufficient to warrant any positive conclusion. This opinion applies as well to the experiments conducted by Dr. Anderson on diphtheria toxin as to those of Hamburger and others criticised by the majority of the committee; that is to say, Dr. Anderson's result demonstrates that under the conditions and to the extent of the experiment, collargolum is without neutralizing or destructive power on diphtheria toxin; but it would require a larger number of experiments, of many kinds, under varying conditions, and with different forms of toxin, to warrant either a general negative as to all infections, or a positive assertion as to any. On the other hand, I can not consider the fact of the absorption of the drug from the gastroenteric tract at all doubtful, though the form or manner in which absorption takes place is not yet established; neither is the usual increase of peripheral leucocytes doubtful, though the significance of this fact remains to be determined.

THERAPEUTIC VALUE

In regard to the clinical reports, I agree with the majority of the committee that very many of them are lacking in those exact details of observation which alone permit a reader to draw conclusions as to the correctness of the diagnosis and the true influence of the remedy. This does, not, however, of itself warrant us in casting suspicion on the honesty or the competency of the observers or in disputing the correctness of the statements made. It simply leaves the matter unproved. All clinicians are aware that certain conclusions impressed on them from observation of the progress of individual cases can not be so set forth, even in the most detailed and exact reports, as to convince others. And this will continue to be so while therapeutics remain an art rather than an exact science. Furthermore, as the majority of the committee truly points out, highly colored and optimistic — even absurd — reports are apt to be published concerning all drugs. This has occurred and will continue to occur in relation to the well established remedies of the Pharmacopeia, as well as concerning the newer legitimate remedies, and the nostrums and frauds, old and new. It is, however, as illogical to draw unfavorable conclusions from reports of this character as it would be to base favorable opinions on them. Cheiron, the wise centaur, is as fabulous as the contest of Athene and Poseidon; but the horse is, nevertheless, a very useful animal. All that can be done with reports which are lacking in exactitude and sufficiency of detail, whether from unknown writers or writers of authority, is to set them aside. We have, then, to consider such reports as may be sufficiently precise to permit analysis and conclusion and such generalizing expressions of opinion as may, from one reason or another, be of sufficient weight to arrest attention.

Without specifying, I find that among the reports and opinions submitted in relation to collargolum, there is a sufficient weight of trustworthy evidence to indicate for it—a limited field of established usefulness, and beyond this the possibility of a larger field needing accurate survey. In the very general way in which medical literature at present employs the term "indication," it is justifiable to say that the drug is "indicated" under certain conditions, which can be derived from a study of its genuine literature, and which it is not the province of this report to point out.

I should like to add a few lines concerning a larger question suggested by the present inquiry: It is to be regretted that as yet no satisfactory method has been devised by which the manufacturers of controlled preparations may enter into an arrangement with observers of competence and scientific standing for the prosecution, experimentally and clinically, of the exact researches necessary to establish the pharmacology and the therapeutic advantages and disadvantages of their products. The fact that a preparation is controlled removes it, as a rule, from the field of general scientific endeavor in which investigators may be moved to labor for the advancement of knowledge; while under present conditions, observers of the character indicated are, for the most part, unwilling to undertake such observations as a matter of professional employment. If, however, an analytical chemist may properly be employed and paid for work in the line of his profession, there is no reason why a pharmacologist should not accept similar engagements. If the chemist or the pharmacologist is expected to make an imperfect or untruthful report, then the bargain is, of course, dishonest; but if the chemist or pharmacologist is, as here assumed, employed simply to ascertain and report the facts, the employment is an honorable one and to be commended.

I need not here recall the arguments I have repeatedly made against the policy of "control" or monopolistic "proprietorship" in the agents of materia medica. So long, however, as it continues to exist under the laws of the United States, the situation which it creates must be recognized. Either through the medium of some special public association, or through the medium of the Council, there should be brought about a condition which will permit manufacturers to employ experts for the determination of the pharmacologic and therapeutic actions of their preparations, without loss of professional standing by the clinicians or experimenters who may accept such employment.

In the case of collargolum, it is my opinion that, while the investigations hitherto conducted have not been sufficient to establish the claims made by the proprietors of the drug, or to decide either positively or negatively as to its possession of the properties which have been conjecturally ascribed to it, a more extended investigation, taking up in a systematic manner the various points necessary for such determination, is desirable. Until such an investigation has been conducted and concluded, the matter must remain in doubt, and the advertising matter of the proprietors should discriminate, as it certainly does not now discriminate, between probability and certainty, conjecture and demonstration, plausibility and proof.

In regard to one portion of the report of the majority of the committee, I must register a specific dissent. I am not willing to put impute to improper motives the inclusion in the advertising bibliography of references to reports and observations unfavorable to the drug. That such reports and observations are not "featured" by the advertisers — an omission in which these promoters are, unfortunately, not unique — is simply an additional illustration of the evils inevitably resulting from the present system of private control of medicinal agents. The inclusion of the references in the published lists of papers is to be commended rather than condemned, but would have been more commendable had the advertisers indicated the character of the reports.

Respectfully submitted,
Solomon Solis Cohen.

OPHTHALMIA NEONATORUM AND ITS PREVENTION

REPORT OF THE COMMITTEE ON OPHTHALMIA NEONATORUM OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

F. Park Lewis, Chairman, Buffalo, N. Y.; C. A. Harper, Madison, Wis.; H. D. Pease, Albany, N. Y.

In almost all parts of the world it is the universal experience that the chief local cause of blindness is still pus infection of the eyes of new-born children. Yet it was more than a quarter of a century ago that the careful and scientific experiments of Carl S. F. Credé, then widely known as a successful obstetrician of Leipzig, gave to the world a prophylactic at once simple, safe and inexpensive, which if it had since that time been universally employed would have saved the eyes of numberless thousands who because of this neglect have passed their lives in darkness. There is no doubt whatever that through the unremitting efforts which have been made by physicians and others, and more especially during the last few years, the number of infections due to this cause, and consequently the amount of blindness resulting from these infections, has been materially diminished. But it is equally a fact that large numbers of cases occur having the most disastrous results which are never seen by physicians at all and of whose existence we are aware only when statistics are sought as to the cause of blindness.

REPORTS FROM SCHOOLS FOR THE BLIND, 1907

Schools for Blind.	New Admissions.	Blind from Ophth. Neonatorum.	
	No.	No.	%
New York State School for the Blind....	13	4	30.7
Penn. Institute for the Blind, Overbrook, Pa.	27	9	33.33
Institute for the Blind, Austin, Texas....	(Not definite—about 10)		
Perkins Institute and Mass. School for the Blind	43	13	30.00
Colorado School for the Blind, Colorado Springs	7	3	42.8
Western Penn. Inst. for Blind, Pittsburg, Pa. (P'c'tage of total number in school, 31.37)	28	8	28.57
Missouri School for the Blind, St. Louis...	19	6	31.57
State Board of Education for the Blind, Hartford, Conn. .... (Since creation of board in 1893, 34.74.)	8	1	12.50
State School for the Blind, Columbus, Ohio (Reduction of usual percentage and as low as at any time in last 12 years.)	25	6	9.83
Maryland School for the Blind.......... (Percentage of total number in school in 1905, 25.50.)	13	4	30.77
Ontario Inst. for Blind, Brantford, Ont... (Percentage of total number in school, 24.7.)	23	5	21.74

How general the ophthalmia of new-born children is and what results follow it is in this country exceedingly difficult to determine. It is known only that it causes a large amount of infantile blindness. Just how much blindness is due to this cause is not exactly known. Statistics are lacking to a singular degree, but that it is still appalling is shown by the report of the Committee on Ophthalmia Neonatorum recently presented at the meeting of the American Medical Association. Letters were sent to the superintendents of the various state schools for the blind with the request that the number of cases of blindness due to ophthalmia neonatorum of those who had been admitted to the school during the fall of 1907 be reported to the committee. From those in which trustworthy reports were received the rather startling figures shown in the above table were obtained.

The average, then, of the new admissions in the fall of 1907 to the ten schools in which exact records were kept and representing eight states and the province of Ontario was 28.69 per cent., or over one-quarter of the whole number, needlessly blind.

That these are not unusual results is shown by the following report from the Pennsylvania School for the Blind for the past eight years:

Year.	No.	%	Year.	No.	%
1900—Out of 25....	11	44	1904—Out of 56....	15	25.00
1901—Out of 26....	10	35	1905—Out of 42....	21	50.00
1902—Out of 39....	9	23	1906—Out of 38....	12	31.00
1903—Out of 50....	14	50	1907—Out of 27....	9	33.33

The average percentage of these eight years is 33.36 per cent. of the whole number admitted. As this enormously high proportion of blindness due to ophthalmia neonatorum is found in states maintaining the highest standards of medical education and general sanitation, there is no doubt whatever that when exact statistics can be obtained at least as large a percentage due to this cause will be found elsewhere throughout the country.

While the ophthalmia of the new-born is exceedingly nfectious and therefore avoidable. there seems to have been no concerted effort on the part of the health authorities to determine just how frequently it occurs, under what conditions it may be looked for, or how the eyes of the new-born child may be adequately protected. Attempts have been made by authorities elsewhere to determine these questions. N. Bishop Harmon, the most recent English authority on the subject, says:

"Ophthalmia neonatorum bulks large in our minds, not because it is exceedingly common among us, but because its consequences may be and frequently are exremely serious — blindness or partial blindness being oo often the result of its attacks. Almost all observers gree that the disease is much more frequent among the very poor and neglected than among all of the rest of the community combined."

Among 9,630 births in an average London district where no germicide was used as a routine prophylactic there occurred within the first few days of birth seventy ases of purulent discharge, or 0.72 per cent. of the whole. In four cases eyes were lost or damaged. One child had corneal nebulæ (scars), one lost one eye, and two lost both eyes. After giving such statistics as are obtainable Mr. Bishop says: "These figures point to the conclusion that in London among every 100 chilren born one child suffers from purulent inflammation of the eyes in the first few days of life, and that of every 2,000 children born one child is blinded by this disease." The probabilities are that in our congested centers the incidence of ophthalmia neonatorum may not vary largely from the London figures, but in the absence of exact data any estimate of the proportion of cases occurring in relation to the population is purely speculative. That it should be known there is no question.

The exact method employed by Credé is important and interesting. After experimenting with various antiseptics the eyes of all the new-born children in the clinic, without distinction, were cleansed immediately after birth with ordinary water and then disinfected by means of silver nitrate, 1 to 50. The eyelids were gently separated by an assistant and by means of a glass rod a single drop of the solution was placed in the eye. For twenty-four hours after the application the eyes were cooled by means of a linen fold soaked in salicylic acid, 2 to 100, laid over them. Babies treated in the way described remained free from ophthalmia. A slight hyperemia was not uncommon after the use of the silver drops, and for the first twenty-four hours a rather marked secretion of the eye was sometimes observed.

The figures which Credé adduced were most striking. They were as follows:

USUAL METHODS

Year.	Births.	Ophthalmia.	Per Cent.
1874	323	45	13.6
1875	287	37	12.9
1876	367	29	9.1
1877	360	30	8.3
1878	353	35	9.8
1879	388	36	9.2
1880*	187	14	7.6

* Jan. 1 to May 31.

BEGAN TO USE SILVER NITRATE AS PROPHYLACTIC

Year.	Births.	Ophthalmia.	Per Cent.
1880†	200	1	0.5

† June 1 to Dec. 8.

In the one case in the last six months disinfection had been omitted or there would have been no ophthalmia whatever.

The fact, however. that there is occasionally an irritation of the lids produced by the action of the silver has led to many experiments with other antiseptics, and especially with the newer silver salts, to discover whether equally good results could not be obtained without irritating the eyes of the child. It has been the experience of many obstetricians that weak solutions of the nitrate of silver, while not quite so efficient, were free from this somewhat alarming symptom to those not familiar with its use.

In this connection, however, the recent observation of Professor Greeff of Berlin is of value. He says: "Every case of conjunctivitis gonorrheica, at least that of the new-born, is curable." For prophylaxis he advises a 0.25 per cent. silver nitrate solution. In the treatment, at the Charité, they for a long time have used only 0.1 per cent. of silver nitrate for washing out the eyes, which must be done very frequently. This has given much better results than the stronger solutions. The eye can be saved if lavage is made every couple of hours, day and night, during the first critical days.

Greef asserts that the weaker solutions penetrate into the tissues better than the stronger ones. The irritation produced by the nitrate, too, was occasionally mistaken for an ophthalmic infection which it was supposed it had not controlled, and the silver was then continued at intervals with subsequent damage to the eyes. Young physicians and midwives were in some instances afraid to employ it, as the mothers, knowing nothing of the danger which threatened the child's eyes from gonococcic infection, were apt to believe that the prophylactic had produced an inflammation which would not otherwise have developed, and particularly in those exceptional cases in which ophthalmia neonatorum developed notwithstanding the use of the silver.

It seemed important, therefore, that two things be done: first, that an effective antiseptic be determined on, which could be used without producing silver catarrh, as the resulting inflammation is termed, because while it is in no way dangerous to the child's eyes except in the case of feeble or premature infants or when improperly used, it is important that young obstetricians and midwives shall desire to use it and not fear it; and, second, that prospective mothers and others be advised of the danger that threatens the eyes of the child when they are not protected in order that the use of a prophylactic shall be welcomed and sought and not feared.

As might have been expected, a subject of such importance has been most carefully studied and is still receiving most painstaking agitation. The general conclusion, concurred in by both ophthalmologists and obstetricians, is that infections can with almost absolute certainty be prevented, and in the rare cases in which the infection develops, early treatment almost certainly insures its cure. Fuchs, than whom there is no higher authority, says: "If a case comes under treatment in season, that is, while the cornea is still intact, the latter can almost to a certainty be maintained in a healthy state." It must not be forgotten, however, that there is the rarely exceptional case, especially in premature and feeble children, in which infection having once occurred may go on to complete blindness notwithstanding the most skilful early treatment. In order to avoid the irritation produced by the 2 per cent. nitrate of silver solution, however, the consensus of opinion favors the 1 per cent. for general use, which is practically free from this annoyance and is almost as effective as a gonococcocide.

Stephenson, whose recent monograph on ophthalmia neonatorum embodies practically all that is known on this subject, fully agrees with this conclusion. After giving an interesting table, in which silver nitrate in different strengths was used in the eyes of 112,584 children, he says: "It is a curious fact that the percentage of ophthalmia as shown in the above table is lower with the weaker solutions of silver than with the 2 per cent. solution originally recommended by Credé." Since the introduction of the newer silver salts they have been largely used in hospital service and in private practice in place of the silver nitrate. Cragin irrigates with boric acid and then uses a 20 per cent. solution of argyrol. He presents some interesting figures confirmative of the success of this treatment, while Hirst of Philadelphia says that since using a 25 per cent. solution of argyrol he had diminished the infections to between 1 per cent. and 3 per cent. of the infants born in between 900 and 1,000 cases. Without presenting actual figures, he says that he thinks that the number of cases of ophthalmia were one-third fewer than when nitrate of silver had been used as a prophylactic. Jackson believes that this indicates an efficiency which may be trusted, but in doubtful cases would still prefer the Credé properly applied. "It is not easy," says Dr. Hiram Woods, who has given much careful study to the question, "to induce from the foregoing a dogmatic conclusion regarding the comparative reliability of the full Credé method and the newer silver salts. The irritative cases due to the silver nitrate are not very common and, while disagreeable and tedious, are not dangerous. Before it can be definitely settled, there must be a comparative study of the prophylactic efficacy in babies born of mothers with known gonorrheal infection." We are justified, meanwhile, in accepting Stephenson's opinion: "On the evidence before me, I therefore conclude that the 1 per cent. solution of nitrate is fully protective and in our present state of knowledge may be regarded as the most efficient solution to employ in the preventive treatment of ophthalmia neonatorum." All these expressions are given to show that while there may be difference of opinion as to the most efficient prophylactic, that protection to an almost absolute degree is possible, and that to secure it would be required: first, great sanitary care in the toilet of the eyes of the child; second, the use of some accredited prophylactic; and, third, early and correct treatment when infection occurs.

In this connection the experience of Dr. Snell is not without value. He reports an almost absolute freedom from ophthalmia in the Jessop Maternity Hospital simply by reason of exceeding care given to the toilet of the baby's eyes. "The patients," says Dr. Snell, "are among the poorest; some are inmates of the hospital, but the great majority are confined in their own homes. The midwives have received instructions that immediately the head is born attention must be directed to the baby's eyes. Then with little pieces of lint moistened in tepid water the eyes are carefully washed, as well as the eyelids and parts adjoining. Subsequently in washing the child, care is taken to guard against reinfection. During the last three years there have been 2,242 labors among the in-patients and out-patients. In the first 200 there were a few cases of purulent ophthalmia, but in the last 2,000, since the method has been systematically adopted, not a single case occurred. Directions were also given to the nurses that if a child's eyes looked red it was to be taken at once to the hospital for a drop of nitrate of silver solution to be dropped into the eye." When the eyes become red, however, infection has already occurred. It would be better to anticipate it by a preventive drop.

To secure these measures the cooperation of the public health authorities is imperative. They must be in touch with those who are performing obstetric work, whether accredited practitioners or midwives. Efforts on the part of public authorities to control the effects of ophthalmia neonatorum are not new. As long ago as 1882 the Austrian government issued an edict in which Credé's method was recommended to medical men, and the Austrian regulations impose a penalty on midwives for neglect to call in a doctor in a case of ophthalmia neonatorum. The Hungarian government distributed to midwives in that country a popularly-written treatise on the blennorrhea of new-born infants. In Switzerland similar regulations have been passed. In France the Academy of Medicine made recommendations as follows to the French government: First, that in all the registry offices throughout France, with the certificate of birth, short notices be distributed indicating the causes, the symptoms, and the dangers of ophthalmia neonatorum; second, that some measures be taken for the immediate notification of all cases of ophthalmia neonatorum throughout France; third, that an ophthalmic surgeon be attached to all maternity hospitals for the treatment of ophthalmia neonatorum and the instruction of the medical pupils and midwives. In Bavaria the midwife is obliged to carry the 2 per cent. solution of nitrate of silver with her with directions for its use in case of a new-born child, while thirteen of the United States have adopted laws making it compulsory for midwives to give notice of any case of ophthalmia neonatorum occurring in their practice. The health department of Boston passed an act in 1905, of which the following is a portion:

“Should one or both eyes of an infant become inlamed, swollen and red, and show an unnatural discharge at any time within two weeks after its birth, it shall be the duty of the nurse, relative or other atendant having charge of such infant to report in writng within six hours thereafter, to the board of health of the city or town in which the parents of the infant reside, the fact that such inflammation, swelling and edness of the eyes and unnatural discharge exist. On receipt of such report, or of notice of the same sympoms given by a physician as provided by the following ection, the board of health shall take such immediate ction as it may deem necessary in order that blindness may be prevented. Whoever violates the provisions of his section shall be punished by a fine of not more than 100.”

The first essential in any movement of this kind is to secure a public understanding of the conditions and the ympathy and assistance of the people in carrying it orward. The publication through the health bulletins f the dangers attending infantile ophthalmia, and the ossibility of its prevention and cure, will do more than ny other measure to develop watchfulness and care. The birth certificates would serve as an admirable meium on which to advise all whose duty it is to record irths of the danger to the eyes of the child and the means of protecting them.

Dr. J. N. Hurty, state health officer of Indiana, one ear ago had printed on each birth certificate the simple nquiry, “Have you used a protective for the eyes of the hild?” and he writes that his returns show that 59 er cent. of the physicians in Indiana employ protecves; but how is it with the 41 per cent. and the army untrained and uncleanly midwives? One intelligent ounty health officer to whom the necessity for exact nowledge concerning the nature of this disease had me, wrote to Dr. Hurty asking what prophylactic he pected to have used and why. He undoubtedly reprented a vast constituency among intelligent medical en. It would be entirely practicable to print on the rth certificate something like the following:

TO PREVENT BLINDNESS IN BABIES

Ophthalmia neonatorum or babies' sore eyes may cause the ndness of the child unless prevented or cured.

Keep the discharge of the mother out of the baby's eyes.

Wipe the baby's eyes with absorbent cotton moistened in rm boiled water as soon as the head is born.

Burn the cotton used; the disease is infectious.

Do not include the eyes in the first general bath.

Drop in the eyes of the child as soon as it is born a 1 per nt. solution of nitrate of silver (or such other prophylactic may be recommended). This may be obtained from the Dertment of Public Health free of charge.

For Physician:
Name of prophylactic used ____________________
For Midwife:
Was protective used? ____________________

A midwife failing to report to the health physician a case of e eyes in a child which she has delivered will be prosecuted ording to law.

Signed by Health Physician.

The ophthalmia of infancy is a borderline disease. Its prophylaxis rests with the obstetrician who is not an ophthalmologist. The disease reaches the ophthalmologist only after it has progressed so far in many instances that irreparable damage has already been done. Consequently the practical physician needs explicit advice as to an eye treatment that under other conditions would be relegated to the eye specialist.

This is peculiarly true in the case of the midwives, who are often afraid, and justly so, to apply any medicine to the eyes without exact information as to its necessity and explicit directions as to the method of use. They should have such explicit directions. They should be instructed by printed leaflets for each in her own language telling how to manage the child's head when it is born to keep infection out; they should be supplied with a chosen prophylactic determined on—whether it be the 1 per cent. silver nitrate, the 10 per cent. protargol, the 25 per cent. argyrol, or the 1/2000 bichlorid of mercury. Midwives should be compelled to report the condition of the eyes when they report the birth, and if like reports were obtained at stated periods, say monthly or quarterly, from all practicing physicians, together with the prophylactic employed, the statistics would be of undoubted value, while the constant reminder coming in the request for the records would so stimulate attention and care as practically to wipe out the disease.

Many attempts have been made by private individuals and associations to limit the blindness due to ophthalmia neonatorum. Leaflets advising mothers and midwives what measures should be taken to protect the eyes of the new-born have been liberally distributed by the Gardner Trust Fund in London. Through the efforts of Emilio Alvardo of Spain like circulars have been spread broadcast by magistrates and priests in whose hands they have been placed for gratuitous distribution, and in this country the New York Association for the Blind has engaged in similar work. One of the best of these is that issued by the Valentine Haüy Society of Paris. It will be given in translation at the end of this report.

There has, however, been no organized and official effort anywhere until the American Medical Association seriously took the subject in hand. In 1906 a committee was appointed for the purpose of determining and putting into practice such methods as would stop this pestilence. This committee is entering now on the third year of its work. It was recognized that effective control of a relatively rare disease in the experience of most physicians and yet one producing so much blindness could be secured only by the combined efforts of the medical profession and the public health authorities. The medical profession is already organized and ready for work. The chairman of the Section on Ophthalmology and the chairman of the Section on Obstetrics of the American Medical Association have each appointed a member from these sections to act with the health officer of their state. They await only the action of the Department of Public Health to make the machinery effective. The Committee on Ophthalmia Neonatorum has made suggestions which are purely advisory. Conditions differ in the various states, however, and methods that seem advisable in one may not be in another. As far as is possible the effectiveness of the work is increased by uniformity of method. Your committee has reached, then, the following conclusions:

Ophthalmia neonatorum is still a most prominent cause of much unnecessary blindness. The efforts that have been made have already lessened its disastrous results in a large degree, but in many instances in which it seems to be infrequent it will be found to be producing blindness among the poorest and most neglected classes. In these the burden on the public treasury is greater because the victims of this neglect become almost inevitably charges upon the state.

The responsibility for the investigation, the recognition and the control of this infection rests on the department of public health. Your committee recommend, therefore, that the conclusions reached by the Committee on Ophthalmia Neonatorum of the American Medical Association be approved by the American Public Health Association, and that whenever practicable the health officer of the state or territory over which he exercises jurisdiction be urged to confer with the committee appointed by the American Medical Association and to inaugurate such measures through the state and its counties for the enlightenment of the people and the control of this disease as may in their judgment seem advisable.

The recommendations of the Committee on Ophthalmia Neonatorum of the American Medical Association are in brief as follows:

1. The enactment of laws in each state or federal territory requiring the registry of births and placing the supervisory control and licensure of midwives in the boards of health, requiring that all midwives be examined and registered in each county and that they be required immediately to report each case of ophthalmia occurring under their ministrations under penalty for neglect if found guilty, of fine, and for a subsequent offense forfeiture of license.

2. The distribution by health boards through bulletins and otherwise, of circulars of advice to midwives and mothers giving instructions as to the dangers, methods of infection, and prophylaxis of ophthalmia neonatorum.

3. The preparation and distribution by the health boards of ampules or other receptacles containing the chosen prophylactic with specific directions for its use. It is advised that the choice of the prophylactic be determined by the health officer with the advice of the committee representing the obstetricians and ophthalmologists for that state from the American Medical Association.

4. The maintenance of proper records in all maternity institutions and other hospitals in which children are born, of the number of cases of ophthalmia neonatorum with the method of treatment and the results. These reports, which should include all cases of scarred cornea as well as of blindness, should be filed at regular intervals with the department of public health and the records published.

5. Periodic report to boards of health by all physicians engaged in obstetrics of the number of cases of ophthalmia neonatorum that has occurred in their practice within a specified time, whether or not a prophylactic was used—if so, what?—together with the result.

As an evidence of the readiness on the part of the enlightened and philanthropic public to assist in any movement so practicable in its nature your committee wishes to call attenion to the work already inaugurated in these lines in the State of New York. A commission having been appointed by the legislature to investigate the condition of the blind of that state reported the existence in the state of a large amount of unnecessary blindness resulting from the neglect of new-born infant's eyes. The New York Association for the Blind, not waiting for official action, secured a sufficiently large sum of money to enable a special committee to carry on the work of prevention throughout the state. This committee, having as its chairman Mr. P. Tecumseh Sherman, a distinguished citizen of New York and former commissioner of Labor, has secured the services of Prof. George A. Hubbell, Ph.D., formerly of Transylvania University, Lexington, Ky., who will devote his entire time to propaganda for the prevention of this unnecessary waste of human eyes.

The medical societies in every state are prepared to cooperate. Resolutions to this end were recently adopted at the one hundred and twenty-seventh annual meeting of the Massachusetts Medical Society, Boston, June 9-10, 1908. It was noted that in view of the work that the American Medical Association is doing in the matter of the ophthalmia neonatorum, and the gravity of the disease, that a committee of five be appointed to consider the treatment of the disease and measures looking to its prevention. The committee was appointed as follows: Drs. Oliver F. Wadsworth, Boston; Frederick E. Cheney, Boston; Francis P. Emerson, Boston; David Harrower, Jr., Worcester, and John W. Bartol, Boston.

The following are the names of those appointed by the respective chairmen, Dr. Wilder and Dr. Dorsett, to represent the Section on Ophthalmology and the Section on Obstetrics and Diseases of Women of the American Medical Association in cooperation with the health authorities of the several states and territories:

STATE.	OPHTHALMOLOGISTS.	OBSTETRICIANS.
Alabama	Samuel L. Ledbetter	W. H. Sanders
Arizona	Ancil Martin	
Arkansas	J. W. Scales	Edwin Bentle
California	J. Bert Ellis	Frank T. Andrew
Colorado	Edward Jackson	W. A. Jayn
Connecticut	H. S. Miles	H. J. Ballar
Delaware	J. A. Ellegood	Frank Bellvill
Dist. Columbia	Robert Scott Lamb	Jos. Taber Johnso
Florida	Columbus Drew	E. N. Lie
Georgia	H. H. Martin	F. C. Hodgso
Illinois	Casey A. Wood	Chas. S. Baco
Indiana	Albert E. Bulson, Jr	Thos. B. Eastma
Iowa	E. R. Lewis	W. B. LaForc
Kansas	Herbert L. Alkire	Francis Harpe
Kentucky	F. Manning Brown	Louis S. McMurtr
Louisiana	H. Dickson Bruns	S. N. D. Clar
Maine	E. E. Holt	Fred W. Man
Maryland	Hiram Woods	W. A. B. Sellma
Massachusetts	Myles Standish	D. H. Crai
Michigan	W. R. Parker	J. H. Carsten
Minnesota	Frank C. Todd	A. B. Gate
Mississippi	James B. Bullitt	J. C. Blackstro
Missouri	P. J. Leonard	T. J. Beatti
Montana	John A. Donovan	D. Campbel
Nebraska	Harold Gifford	W. O. Henr
New Hampshire	C. B. Hammond	W. R. Garlan
New Jersey	C. J. Kipp	Charles L. I
New York	Charles S. Bull	Herman J. Bold
North Carolina	H. H. Briggs	J. F. Highsmit
North Dakota	Henry Beaudoux	F. J. Campbe
Ohio	Mark D. Stevenson	C. L. Bonifiel
Oklahoma	J. E. Fowler	
Oregon	J. F. Dickson	W. E. Lewi
Pennsylvania	C. E. de Schweinitz	Jos. Pric
Rhode Island	C. W. Van Benschoten	D. Frank Gra
South Carolina	E. F. Parker	E. S. Cathcar
South Dakota	E. O. Miller	
Tennessee	G. C. Savage	R. E. Fo
Texas	J. C. McReynolds	G. E. Cantre
Utah	Fred Stauffer	F. S. Basco
Vermont	F. J. Arnold	C. W. Bartlet
Virginia	J. A. White	R. S. Kig
Washington	David de Beck	Wm. M. Ha
West Virginia	T. W. Moore	J. Cannad
Wisconsin	Nelson M. Black	C. H. Maso

TRANSLATION FROM CIRCULAR ISSUED FOR PUBLIC DISTRIBUTIO
BY THE VALENTINE HAÜY ASSOCIATION, PARIS, FRANCE.

"It has been shown that in France more than one-third the blind (18,000 in 40,000) owe their affliction to an in flammation of the eyes that followed shortly after birth an which is called the ophthalmia of the newborn. The causes this disease are well known and may be avoided; when it once developed it may be cured. It is due to the ignoran and the neglect of the mothers and other persons charged wit the care of the newborn child.

1. *Measures to be Taken by the Mother.*—When the woma is subject to white discharges she must consult a physicia *It is these discharges that infect the baby's eyes and cau blindness.*

"2. *Care to be Given to the Child.*—Immediately after t birth of a child, before it is bathed, the lids and the tissu about them must be carefully wiped free from mucus and th should be bathed with pledgets of cotton dipped in a soluti of boric acid. The pledgets should be made of perfectly cle and dry absorbent cotton and should be burned after bei used. Each time that the child is bathed the eyes should first wiped clean in the same manner, with the boric acid solution. The hands of the person charged with the care of the child must be washed with soap and dried with a clean towel before the eyes of the child are touched. Everything that is brought near the eyes of the child must be in every instance absolutely clean. The cotton that is used on the eyes of the child must in every instance be immediately burned after it is used. The water, towels, sponges and the pledgets that have been used on the mother must under no circumstances be applied to the child. The air of the bedroom must be kept as pure as possible and the linen should never be dried in the sick-room.

"3. *What Must be Done When the Disease Appears.*—When the lids become red and swollen, are gummed along their borders, when the child sleeps or cries and mattery discharge is mixed with the tears, an oculist or a physician should be called immediately. Each hour of delay adds to the danger. While waiting, bathe the eyes of the child with pledgets of cotton dipped in a solution of boric acid every half hour. Open the lids wide and allow the solution, which should be warm, to flood the eyes and wash out any matter which may have gathered there. The hands should be washed with soap and water both before and after bathing the child's eyes. The cotton with which the eyes have been bathed should be immediately burned. The child should not be fondled and none of the appliances which have been used about his eyes or face should be used for any other purpose. All of those in the ome should be informed of the danger of catching the disease y getting the matter into their own eyes. Do not listen to hose who say that it will amount to nothing, or to those who ay to bathe the eyes of the child with mother's milk, such adice is pernicious and will cause the loss of precious time by elaying the employment of means which might save the sight f the child."

Clinical Notes

A SIMPLE METHOD OF EXAMINING THE LARYNX IN CHILDREN

RICHARD H. JOHNSTON, M.D.

urgeon to the Presbyterian Eye, Ear and Throat Hospital; Lecturer on Diseases of the Nose and Throat in University of Maryland
BALTIMORE

The old or mirror method of examining the larynx n children is crude and often unsatisfactory. Under eneral anesthesia the tongue is pulled out of the outh, a small mirror is introduced and an attempt is ade to see the larynx. Lucky, indeed, is the examiner he can catch fleeting glimpses of the pathologic con-ition. Diagnosis under such circumstances is difficult, not impossible.

The appearance of the direct laryngoscope was of de-ded advantage in the examination of children. With illian's or Jackson's instrument and with the pa-ent's head extended over the edge of the table, a satis-ctory view of the larynx can be obtained in many ses. The extended position is a disadvantage, because e muscles of the neck and throat are all rigid and on e stretch and the examiner is in rather a cramped sition. Though it is possible to operate successfully this position, there is danger of injuring important ructures.

In the early part of 1908 Dr. H. P. Mosher de-ribed some new instruments and "the left lateral sition" for examining and operating in the larynx. the left lateral position the left cheek of the patient brought near the table and the chin flexed on the ck; the instrument is then introduced and the epi-ttis and base of the tongue pulled forward, using the t upper bicuspid teeth as a fulcrum. The advan-ges of this procedure are at once obvious to those of who have tried both methods of examination. The scles of the neck are relaxed; the force used to pull the base of the tongue forward is insignificant; the distance of the examiner from the larynx is much less than in extension, and operative work is thus made easier; and, last. the position of the operator is more natural and comfortable.

The simplest method of examining the larynx, in my opinion, is as follows: The little patient may or may not be anesthetized as the examiner elects. If no anesthetic is administered, two assistants are required to steady the head and the body. The child is placed on the table with a pillow under the head to flex the chin. The operator stands at the left side of the table facing the head. The mouth is opened by pressing the finger-guard between the teeth; Jackson's child (not the slide speculum) laryngoscope is introduced and passed gently down until the epiglottis is seen; then the instrument is pushed behind the epiglottis and the base of the tongue pulled forward. In this procedure little force is used, since the tissues in a child's throat yield easily to slight pressure. With Mosher's instrument there is danger of loosening or breaking the incisor teeth, which is not the case with the smaller speculum. Success depends on careful manipulation of the tube rather than on force. A clear view of the larynx is obtained and delicate operations can be performed through the tube. Those who master this method will be well repaid for the time spent in learning it. Under general anesthesia adults can be examined in the same way. The tube is rather small for large throats, and for adults an oblong instrument will probably give a better view. I claim nothing original for the above method. It is a combination of Mosher's position and Jackson's instrument; it is superior to the extension position with the same speculum or to Mosher's instrument with flexion.

SHALL WE BURY THE STUMP OF THE APPENDIX?

A NEW AND SIMPLE METHOD OF DOING SO *

HARVEY P. JACK, M.D.

CANISTEO, N. Y.

The question of the disposal of the appendix stump is still a mooted one. It has not been universally settled among surgeons whether they prefer to bury the stump of the appendix or to content themselves with simple ligature.

The convincing article of Seligmann, written a few years ago, in favor of simple ligature of the appendix has converted many to this easy method of dealing with it. In the light of recent experience it would seem to be largely a question of whether the case was an infected one; in other words, whether drainage was used or not. In those cases in which it is necessary to use drainage after amputation of the appendix, burial of the stump is not necessary, as, in the event of a fecal fistula, exit is provided; but in the clean cases it seems well established now that the raw surface should be covered in.

Dr. John A. Wyeth a few years ago published a report of a large series of cases in which simple ligature of the appendix stump had been used with excellent results; and he reported several cases of hemorrhage from an unsecured artery at the base of the appendix in which the method of inversion of the appendix was practiced. In this article he advocated simple ligature of the appendix by means of a celluloid thread. This has been the method followed by Dr. Robert T. Morris of New York, who in his experience has seen no reason to change it. I have followed this method for the last few years until recently, when I have become convinced that burial of the appendix stump should be practiced in all clean cases. While we have had no bad results from simple ligature, in one case the ligature came away, causing a temporary fistula, which, however, healed kindly. That others have not had such uniformly good results from simple ligature is gathered from an article by Murat Willis of Richmond, Va. Willis wrote 105 letters to prominent surgeons in the United States, asking the following questions:

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* Read before the semi-annual meeting of the Steuben County Medical Association, Hornell, N. Y., Oct. 13, 1908.

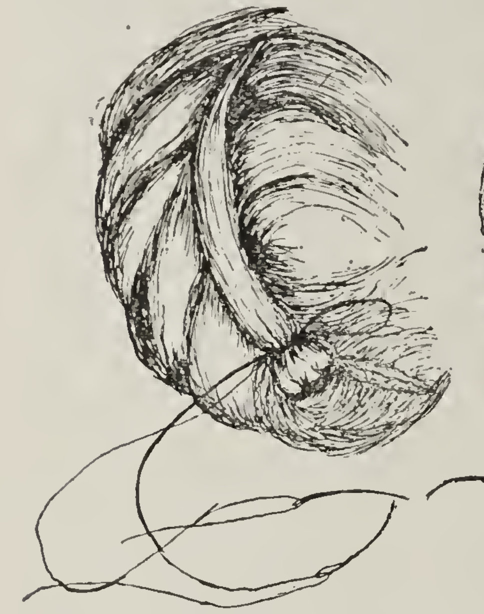

Fig. 1.—Burial of appendix stump. Ligature, 12 inches long, doubled, each end threaded into a fine intestinal needle tied about the base of the appendix, ¼ inch from the cecum, the knot placed on the side opposite to the raw surface left after dissecting away the mesentery of the appendix. (The illustrations are from drawings by Dr. C. C. Rowley.)

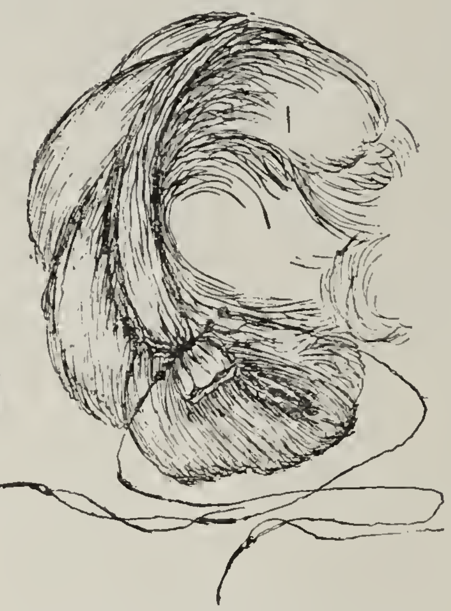

Fig. 2.—Burial of appendix stump. Each needle made to catch the wall of the cecum on one side ½ inch from the base of the appendix, opposite the knot.

1. Do you ligate or crush the stump?
2. Do you divide with knife or cautery?
3. Do you use a chemical disinfectant?
4. Do you bury the stump? (a) If so, how? (b) If not, why not?
5. Have you seen any ill effects arise from unburied stumps? If so, what?
6. Have you observed any harmful effects of any character from burying the stump?

The only questions that concern us are 4, 5 and 6. The answers to the former questions show slight difference in technic of the burying of the stump, dividing by means of the knife and disinfecting by means of carbolic acid. In answer to Question 4 it is found that 77 out of 105 surgeons always bury the stump, 66 by ligating and inverting into the wall of the cecum, 11 by invaginating the unligated stump into the cecum. These are the cases in which hemorrhage has resulted. Eleven usually bury the stump, leave unburied only those in drainage cases, and 11 never bury the stump. To Question 5, 23 of 105 answers mentioned bad results that had followed simple ligation of the stump; among these, 7 cases of intestinal obstruction from adhesion of the bowels to the stump, 2 of which were fatal; many temporary fecal fistulas; 5 cases of fatal peritonitis; many cases of postoperative adhesions; 3 cases of slipped ligature (all of which were fatal); 5 cases of secondary abscesses; 1 case of slow recovery, in which a stitch gave away during first bowel movement and a large swelling developed. This, however, was absorbed and the patient recovered.

The answers to these questions are from such men as Armstrong of Montreal, Bevan of Chicago, Blake, Bryant and Gerster of New York, Kelly of Baltimore, Matas of New Orleans, Monks and Munro of Boston, Senn of Chicago, Rixford of San Francisco, Vander Veer of Albany, and Willard of Philadelphia.

Two interesting cases, one of blown-off ligature with the result of the escape of fecal contents and death, and one of postoperative adhesion with bowel obstruction are reported by Willis himself. His first case was a perfectly clean one in which a sound appendix was removed, the stump being simply ligated. Two days after the operation the woman developed postoperative distention of the bowels. The ligature was blown off, the fecal contents escaped and the death of the patient followed. In this case a simple myomectomy was done and the appendix was removed at the same sitting. From these cases the conclusion seems established that we should always bury the appendix stump in sound or interval cases, in any cases in which drainage is not used.

There have been originated a great many methods of burying the stump of the appendix. The one most generally used is the purse-string suture. There are several objections to this method, the chief of which is the difficulty sometimes present in applying it to fat subjects or to those in whom the cecum is not very movable. When the purse-string suture method is used the appendix should always be firmly ligated first. Another objection to this method is that a considerable area of cecal wall is enfolded. When postoperative distention occurs considerable tension is placed on the purse-string suture for this reason. Another objection is that it takes an unnecessary amount of time and more needle punctures are required. The results of this method, however, have been excellent.

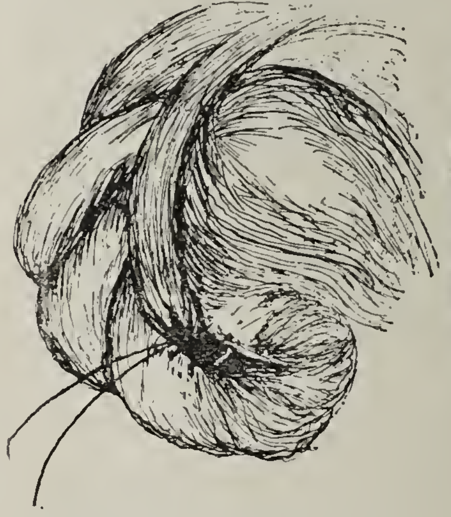

Fig. 3.—Burial of appendix stump. Suture tied.

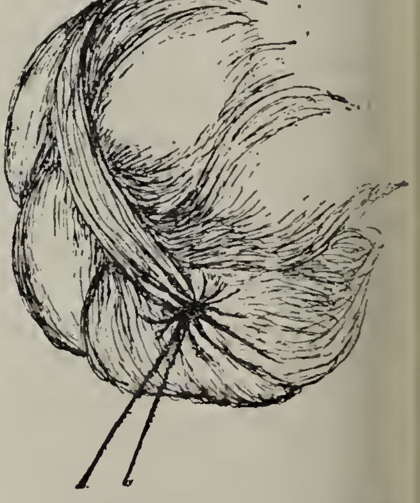

Fig. 4.—Burial of appendix stump. Final mattress suture.

The method I here propose to explain is much simpler and the performance of it attains exactly the same ends as those of the purse-string and ligation method. The method consists of this: First, a good strong intestinal silk or fine celluloid yarn is selected. A ligature is cut off about twelve inches in length and each end of this ligature is threaded into a fine intestinal needle. The needles are handed to an assistant, who is directed to hold one in each hand. Sufficient length of the doubled portion of the ligature is used by the operator to tie a firm knot about the base of the appendix one-fourth inch from the cecum, the knot being placed on the side opposite to the raw surface left after dissecting away the mesentery of the appendix. Now one needle grasped in a pair of forceps is made to catch the wall of the cecum on one side one-fourth inch from the base of the appendix, opposite the knot tied around its base and piercing the intestine to the depth of its fibrous coat. The same procedure is gone through with on the opposite side of the appendix with the other needle. This suture is now tied. When the stump of the appendix becomes buried, neatly and completely, in the wall of the cecum usually no further suture is necessary; but should there be a slight puckering of the wall of the appendix which does not completely cover the stump, one needle is made to puncture both sides of the cecal wall which projects above the stump and is then tied to the suture on the opposite side, thereby forming a single mattress suture in addition to the one first described. This will always result in a complete burial of the appendix stump. The ligature attached to the mesentery of the appendix has been left long in the beginning; one strand of this is now tied to the silk used in burying the stump, thereby bringing the mesentery as a cap over the buried stump. This, it will be seen, results in a complete covering in of all raw surfaces. I have used this method in the last few cases in which I have operated, with great satisfaction. It seems to me that there is less postoperative pain for the reason that only enough intestinal wall is used to accomplish the desired result. The simplicity of the method shortens the time of the operation, which is another reason for its use. The accompanying drawings show the method of application for this method.

39 Greenwood Street.

LINICAL OBSERVATIONS ON PULMONARY HEMORRHAGE

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The sight of blood is at all times disquieting to the ayman, and is particularly alarming in the case of ulmonary hemorrhage. Even the attending physician hares in the perturbation produced by a copious hemrrhage, knowing his comparative impotence in coping ith the condition. It is generally conceded that there s no direct hemostatic for blood coming from the lungs ecause of the inaccessibility of the bleeding point. he medicinal agencies usually resorted to are such, as s believed, bring about a formation of blood-clot in a ore or less indirect way. Some of these agents are irected to the heart, reducing its force, as aconite; ome to the arteries, diminishing their pressure, as the itrites; others, again, to the lungs, limiting their acvity, as opium. Some are assumed to act on the blood self, increasing its coagulability, as the calcium salts; thers by reducing its bulk, as saline cathartics.

What procedures shall we employ in our attempts to ntrol pulmonary hemorrhage, and what shall be our uide in their selection?

Theoretically, the condition of the heart, the lungs, e vessels and of the blood itself, should be our inditor. Practically, however, those who have much to o with this condition realize how uncertain is the inical application of this guide in the great majority cases. From a somewhat extensive experience in the andling of varying grades of pulmonary hemorrhage the Bedford Sanatorium of the Montefiore Home (early cases) and the Sanatorium of the Jewish Consumptives' Relief Society at Edgewater, Colo. (advanced cases), I have formed the following conclusion:

Hemorrhage from the lungs is a common outward expression of an abnormal state of the respiratory organs, and, like any other symptom, requires for its rational treatment an understanding of the causative factors. I would, therefore, divide pulmonary hemorrhage into three types, according to the pathologic condition:

Type 1: Hemorrhage resulting from a hyperemic condition of the bronchial mucous membrane or lung tissue, associated with a relaxed or eroded area of mucous membrane (capillary hemorrhage).

Type 2: Hemorrhage resulting from the destruction of lung tissue, associated with an eroded small or medium-sized blood vessel or vessels (arterial or venous hemorrhage).

Type 3: Hemorrhage resulting from the rupture of a large blood vessel.

By far the vast majority of cases belongs to Type 1. Clinically, we may assume that such hemorrhages are brought about by any one or more of the following exciting causes: sudden chilling of the body; here the blood finds its way out by rhexis or diapedesis through a vulnerable area—I have seen many examples of the influence of this agent in patients who have been successfully tided over a period of bleeding in the warm wards only to have a prompt recurrence on their being removed to the exposed tents; by a pneumonia or pleurisy; by overexertion or excesses of various kinds; by exposure to wind; by hill climbing; by high altitude; by co-existing cardiac disease; by disturbances of the portal circulation; by over-distention of the stomach and by vomiting; by alcoholism; by vasomotor influence and menstrual disturbances, and by many other factors of varying degrees of frequency and importance which may tend to increase the pressure of the blood. The peculiar idiosyncrasy on the part of some individuals to bleed easily is also to be taken into account.

The question arises: How are we to discover the pathologic state in a given case, especially when we had not previously examined the patient and have no definite knowledge of his history? Here the following data may be of service: The immediate precursory signs of the bleeding and the character of the blood that is discharged. It is of value to know whether the hemorrhage was preceded by a tightness or feeling of oppression in the chest; whether the hemorrhage was intermittent and moderate or sudden and copious. It is to be assumed that in the first two instances the hemorrhage is due to congestion in the diseased area, and that in the latter it is caused by the rupture of a vessel. Regarding the information derivable from the blood itself, we are justified in believing that in the hemorrhage due to congestion the blood is red, has little or no air bubbles and little or no sputum, while in rupture the blood is mostly of a darker color, has numerous small or big air bubbles and is mostly mixed with purulent sputum. In the congestive variety, the blood is thin, in rupture it is more consistent. In congestion the blood is always coughed up, while in rupture it is either spurted up without effort or comes in a gush. In vasomotor or hysterical bleeding the blood is pink or rose-colored. The periodicity of the hemorrhage may be of value in establishing an etiologic influence; true vicarious hemorrhage is very rare, but there are innumerable instances of blood spitting in tuberculous women, usually moderate in amount, but at times rather severe, which occurs only at the time and coincident with menstruation; these instances perhaps may be ascribed to the vasomotor excitability which is so usual an accompaniment of this function.

I believe that the management of pulmonary hemorrhage would be much more fruitful of results if our treatment were based, so far as possible, on the underlying pathologic condition.

Every patient with bleeding from the lungs should, first of all, be put to bed, in a semirecumbent position. This position favors the easy and rapid expectoration of retained blood and sputum, and thereby greatly lessens the danger of an aspiration pneumonia or a dissemination of the disease, both of them being too frequent sequelæ of this condition. The patient himself and those about him should be reassured by the calm and resolute demeanor of the medical attendant; the impression must be subtly conveyed that the case may, indeed, be serious, but nothing uncommon or necessarily menacing is transpiring. The room should neither be too warm nor glaringly sunny, as both these conditions produce mental and physical unrest; the bed covers should be warm, but not too heavy. Occasionally in case the patient is very excitable it may be a necessary preliminary to give a small hypodermic dose of morphin, say 1/8 grain, but if possible this medication should be avoided. The patient should not be permitted to converse unnecessarily, nor should he be much spoken to. Solicitous and sympathetic friends and relatives should be barred from the room, and the sick one placed in charge of a competent nurse or a level-headed member of the household, who will not disturb him by undue zeal. The food should be given in small quantities and should be of a highly nutritious quality; it should be semisolid and not more than lukewarm; necessarily it should be as easily digestible as is possible. The quantity of fluid given should be limited. The bowels and kidneys should receive prompt and proper attention. The administration of cracked ice—a very popular procedure—is of doubtful value, and its immoderate employment is to be condemned; it is apt to produce vomiting, which tends to a recurrence of the hemorrhage. It also increases the volume of blood and thus heightens the tension which again is prone to bring about a relapse.

In the class of cases supposed to be due to congestion, agents that will bring about a reduction in the blood pressure are indicated and often are of signal service; among these the nitrites, especially amyl nitrite, take the front rank.[1] When the latter drug produces headache or palpitation, potassium nitrite may be given hypodermically, usually in grain doses; the sodium salt is also greatly extolled, but the potassium salt has a more enduring effect. The bleeding once under control, resort should be had to nitroglycerin, say 1/50 grain, every three or four hours. By employing this drug according to the degree of high or low pressure (determined, if possible, by systematic use of a blood-pressure apparatus) recurrence frequently may be avoided. In case of a very troublesome cough, a small dose of morphin may be given at bedtime and will ensure a good night's rest. As the danger of pulmonary hemorrhage is not the loss of blood, which is generally made good rapidly, but the after-effects in the shape of pneumonia or spread of the disease process, I am in the habit of giving ammonium muriate combined with codein, both in small doses. The ammonium salt favors the expulsion of retained secretion, and the codein is given in small quantity so as not to interfere with this action while at the same time inhibiting too excessive coughing. As an additional eliminant, I also administer magnesium sulphate, one dram three times daily; this reduces congestion and removes excrementitious matters which when retained stimulate the vasomotor center and raise the blood pressure. Above all, care should be taken not to over-medicate, for the digestion may be upset, vomiting ensue and nutrition be lowered. While the keynote of treatment should be to avoid stimulation, caution should be observed not to go to the other extreme and still further depress the patient.

In the second type of cases, when the hemorrhage is due to rupture of a small vessel, the aim primarily should be to reduce the force of the heart and to lessen the flow of blood through the lungs. In my experience aconite is the best agent for this purpose. In addition I use the calcium salts, preferably calcium lactate, to increase the coagulability of the blood. It may be well to warn against the generally prevailing opinion that this drug may be safely given in unlimited doses; this is an error, as it is often known to disturb the stomach. Occasionally the subcutaneous or rectal injection of sterile gelatin solution is of great service in bringing about this result. Ligation of the thighs or arms or both will greatly diminish the amount of blood circulating in the lesser system; here again I find magnesium sulphate useful in aiding this effect. Vasodilators should not be given in this type of bleeding, as they stimulate the circulation. Styptics in general are of very little if of any value.

Ergot, a drug much used in routine practice for pulmonary hemorrhage, in my opinion, is not only useless, but may even produce an effect opposite to the one intended. In the case of a ruptured vessel which usually is atheromatous, its effects are *nil*. The only result is a general contraction of the muscular coats of the sound vessels, with an accompanying increase of tension of the blood and consequently a greater flow through the ruptured point.

Unfortunately in the class of cases embraced under Type 3, in which the hemorrhage is from a rupture in a large vessel, the patients respond very poorly to the efforts of the physician. When the loss of blood has not been sufficient to produce a fatal end, the most we can do is to tide the patient over the period of collapse and afterward combat the profound anemia by suitable measures, even to the extent of employing transfusion of physiologic salt solution. Ligation of the extremities may occasionally be of service.

So-called vicarious hemorrhage, or hemorrhage coincident with the catamenial period, if moderate in character, requires no special treatment. In this condition, ergot and hydrastis are recommended by some practitioners. It would be a wise step to put such patients to bed a day or two before the expected menstrual period and to shield them from disturbing or exciting influence of any kind.

Slight hemorrhage occurring in hysterical individuals should not be treated too seriously, nor should it, on the other hand, be given too little heed; for it must be kept in mind that the co-existence of hysteria with tuberculosis of the lungs occurs frequently enough and that we have to deal with a very disturbing element in a disease sufficiently serious without it. When it is possible to demonstrate that blood-spitting is produced by sucking or pricking the gums, wounding the nasal or buccal mucous membrane, the approved medicinal and psychic resources may be confidently turned to account. When this evidence is lacking, however, a hysterical individual suffering from hemoptysis should be treated for the blood-spitting, with little regard for the nervous condition which may be an accidental, not a causative, complication.

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[1] Instead of amyl nitrite, of late I have been using chloroform by inhalation, with excellent results. The number of cases, however, in which this agent has been applied is not sufficient to form a scientific conclusion. A more detailed report on the use of chloroform in pulmonary hemorrhage will appear later.

Finally, it is of some importance to be alive to the occasional occurrence of malingering. There is always a certain number of people who manage adroitly to deceive one into the belief that they are spitting blood, their object being to obtain sick benefit, to escape work or to enter a comfortable institution. It is often difficult to trap these people and to expose the spurious nature of the complaint, but one who is on his guard and who has much to do with genuine cases of pulmonary hemorrhage will usually be able to classify them in their proper category.

I have not gone into the matter of conditions other than pulmonary tuberculosis which may have hemorrhage as a prominent symptom. In most instances, a hemorrhage from the lungs means phthisis of that organ, but we can not forget the by no means rare cases of blood-spitting in bronchiectasis and in mitral stenosis.

A SHAWL PIN IN THE MALE URETHRA

B. CLARK HYDE, M.D.

KANSAS CITY, MO.

Patient.—E. P., white, aged 13, a schoolboy, was admitted to Kansas City Post-Graduate Hospital, Nov. 23, 1908.

Previous History.—The patient stated that on the night of Nov. 19, 1908, in attempting to remove an accumulation of dirt or foreign matter from the glans penis, he had passed a shawlpin head first into the urethra, and it had slipped away from his grasp and become fastened in the urethra. He denied sexual perversion.

Present Condition.—The boy is well nourished and well-developed. Intellectually, he seems below normal and has a peculiar defect in speech, something between a lisp and a stammer. He complains of nothing referable to bladder or otherwise, and passes urine without difficulty. He was brought to the hospital by his father because the boy had told him of osing the pin in his urethra, not because of any particular discomfort caused by the foreign body.

Examination.—The prepuce could be easily retracted from glans; the penis was well developed. At the penoscrotal angle, deep in the tissues, could be felt a round mobile mass about the size of a pea. Nothing like the shaft of a pin could be outlined or palpated. There was no particular pain on palpation of the foreign body, which was considered to be in all probability the head of the pin.

Roentgen Examination: An *x*-ray photograph was taken by Dr. E. H. Skinner, the hospital roentgenologist. It showed the pin lodged in the membranous urethra, with an apparent shortening of the pin to about one-half its size, its actual length being six centimeters. The picture seemed to confirm the opinion that the small mass felt at the floor of the urethra was the pin's head.

Operation.—Nov. 24, 1908, after the usual surgical preparation, an incision was made at the penoscrotal angle along the urethra, over the small round mass. It had been anticipated that when the incision reached the urethra, the head of the pin could be grasped and withdrawn; however, on approaching the urethra it was discovered that it was the point of the pin which had been nearest the surface, and that the rounded feeling imparted to the touch had been caused by the stretching of the tissues over, and, as it were, "padding" the point. The head of the pin rested in the bladder, into which viscus the entire pin had been denied ingress only because of the length and lack of flexibility of its shaft. The point of the pin was grasped by forceps and drawn through the, as yet unopened, floor of the urethra into the wound. Its entire removal was prevented by the pin head coming in contact with the urethral floor. Instead of enlarging the opening in the urethra to a sufficient size to permit the delivery of the head, the following procedure was adopted: the head of the pin was turned toward the external meatus and passed along the urethra until it could be grasped by a forceps introduced through the meatus, by which route the *corpus delieti* was easily extracted. This left only a very small puncture in the floor of the urethra, merely large enough to admit the diameter of the shaft. The wound was closed by three deeply placed silkworm-gut sutures.

Subsequent History.—The patient suffered from nausea for four hours. He was catheterized seven hours after the operation, four ounces of urine being obtained; afterward he voided urine naturally. He passed a good night and was put on general diet the next day. There was never any leakage of urine through the operative wound, which healed perfectly. The stitches were removed on the seventh day following operation, on which day the boy left the hospital. He has remained in good health since.

CYSTS WITHIN THE SPINAL CANAL

M. A. BLISS, M.D.

ST. LOUIS

Krauss[1] reviews eleven cases of cyst of the spinal canal. Of these only one, that of Spiller[2] appears to be identical with the one herewith reported. Spiller[3] says: "A collection of clear fluid in a cyst of the spinal pia arachnoid is a condition little known in America, as only one case occurring in this country is on record (Spiller, Musser and Martin), and only a few are found in the German literature. So far the French and English journals contain no examples."

History.—Miss M., a patient of Dr. Willis Hall of this city, aged about 50, was well and always very active up to August, 1905. In jumping from a rapidly moving buggy she fell heavily on the left buttock. The left ankle was broken. The hip continued to hurt after the ankle healed, and since the accident she has suffered from a "shifting neuralgia." She felt after the accident that "her spine was all jolted up." The gait was at times disturbed by the pain in the left hip. In 1906 (date can not be fixed) the patient suffered severely from pain across the chest at the upper level of the breasts. This increased through 1907. In March, 1907, she had a hard fall in a railway coach, which made her sore all over but produced no local pain. In April, 1908, the patient was in St. Luke's Hospital three weeks on account of pain across the front of the chest. In El Paso, Texas, she had "grip" (?) in August, 1908; she had no cough, no cold in her head, but ached all over, most intolerably in her hips and back. About the same time severe cramping occurred in her legs. When out riding she would frequently have to stand up in the carriage on account of the cramping. By the last of August she became extremely awkward in her gait.

Dr. Fry, who saw the patient September 5, noticed that incoordination of gait and station was the most conspicuous symptom of the case at that time. He noted also loss of pain and temperature sense with fair preservation of tactile sense in her legs.

About October 1 she became entirely paraplegic. The muscular contractures and startings were more severe. If the legs

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1. In Brain, l, 1907, Part CXX, 533.
2. Univ. Penn. Bull., March and April, 1903.
3. Am. Jour. Med. Sc., January, 1909, p. 95.

were passively placed in extension, violent involuntary flexion occurred. The bladder and rectum ceased to act. When the patient was brought to the hospital the bladder was greatly distended. The catheter brought away 74 ounces of urine.

Examination.—Nov. 9, 1908, she lay on her side with knees drawn up, unable to move any muscle groups in the lower extremities, except the adductors of the thighs. The legs and feet were entirely paralyzed. Muscular cramps were frequent and severe and awoke her from sleep. Contractions became more severe if the legs were passively extended. The bladder and rectum were functionless. Ankle-jerks and knee-jerks were much increased; ankle clonus sides and reversed plantar reflex were present on both sides. No abdominal reflexes could be elicited. Pain sense was very much obtunded in the feet and legs; less so in the thighs and trunk except on a level with the upper half of the mid-piece of the sternum, where the severest pain had always been. A space an inch wide vertically and about three inches wide horizontally was without pain response, but tactile and temperature impressions were recognized. Analgesia shaded off into hypalgesia. Elsewhere below this point tactile and temperature sense were obtunded to about the same extent as pain sense. The upper limit of the hypalgesia was at a line drawn horizontally through the junction of the first with the second piece of the sternum. There was no zone of hyperasthesia above this line. Arms and armpits, neck and head were normal. There were no cranial nerve symptoms.

Operation.—By Dr. Harvey Mudd, Nov. 30, 1908, 9 a. m. The spines and part of the laminæ of the seventh cervical, the first and second dorsal vertebræ, were removed. The dura bulged irregularly at the upper and lower ends of the part exposed, seeming to indicate a constriction between. The dura was a darker white at the bulging points. The dura was slit centrally from below upward. A sharp spurt of clear fluid, which could not be distinguished from the cerebrospinal fluid, occurred. It seemed that the lower end of a sack had been opened, for the upper end ballooned up with cerebrospinal fluid, as it surged upward in response to the cardiac movements. When the dura was grasped by forceps and gently lifted, small bands of tissue were seen stretching between the dura and the pia. Very slight force with a dural probe sufficed to break these up, after which the ballooning process ceased. There was proliferation and engorgement of the vessels of the pia. The dura was stitched. The wound was closed with a small catgut drain. Surgical recovery was prompt and uninterrupted.

Postoperative History.—December 2 there was movement of left ankle, and fairly good excursion. Reaction to pain and tactile impressions in both legs were much improved. The patient could not be thoroughly examined on account of her objection to it.

December 4: There was improved sensation in all forms. The patient moved the left toes, ankles, leg and thigh; she moved the toes of the right foot feebly. The adductors of both thighs moved. There was a sense of desire to urinate.

December 7: There was no increase of motor power but the patient recognized and localized all forms of sensory stimuli in both legs. There was some pain in the area at the sternum, but better pain sense.

December 11: There was gain in power of all muscle groups of the left leg. The patient could raise her heel off the bed when the toes were resting on the bed. There was no movement of the toes of the right foot but good excursion at ankle; the adductors and abductors of the thigh were improved. Pain and tactile sense responses were prompt and accurate over the entire surface of both legs. There was marked desire to pass water an hour before catheter time.

December 18: The patient passed a small quantity of urine voluntarily. The left leg and foot, including the toes, moved freely. The ankle clonus persisted. The patient had some cramping but very much less severe. The right leg was much improved in all movements, including the toes. The abdominal muscles were active.

December 19: The patient voided eight ounces of urine voluntarily and thereafter emptied the bladder successfully and bowel movements became normal.

December 30: The patient moved all muscle groups in both legs. The ankle clonus, on both sides and all deep reflexes were present. The patient kept her legs flexed but could extend them voluntarily.

January 1, 1909: The patient swung the legs out of bed and sat up on the edge of the bed unaided. The right leg was as good as the left in motor power. The ankle clonus and plus knee-jerks persisted. The feet felt "sleepy," but pain, tactile and temperature tests brought prompt and correct responses.

January 14: The patient could support her weight by placing her hand on a chair to steady herself. There was some contracturing at the knees and full extension brought discomfort, but she could extend the legs voluntarily. The "startings" had ceased. Her general health was perfect.

PROBABLE INSOLATION FOLLOWING ABDOMINAL SECTION IN AN INSANE WOMAN

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Patient.—Woman, aged 50, brunette, of medium height, weight 150 pounds, the mother of one child. This child died at the age of nine and the patient continually mourned its loss.

History.—I was this patient's medical adviser for fifteen years. While she was never very strong, she had fairly good health, until about four years ago, at which time she learned that she had a fibroid tumor of the uterus and was advised to have it removed. She refused operation, and since then had suffered with a variety of obscure symptoms, seemingly neurasthenic in character. She has always lived a sedentary life of luxury at hotels, both at home and abroad. She rode around the country a great deal in a motor car. I first treated her about fifteen years ago for constipation, and at intervals during eleven years I treated her for attacks of suppression of urine and attacks of vertigo. In April, 1898, I removed a benign polyp of the cervix. She first consulted me six years later about having attacks of vertigo, and I sent her to Dr. H. Bert Ellis, who fitted her with lenses for a slight error of refraction and a little astigmatism. The ophthalmoscope revealed normal and healthy fundi. With the glasses the attacks of vertigo were less pronounced, but she stated that when walking outdoors the sidewalk appeared to rise up in front of her. At this time she was under the care of Dr. R. Wernigk, who reported no evidence of kidney disease. He called in consultation Dr. Elbert Wing, who thought the case one of either hysteria or neurasthenia. There was then no evidence of gross brain disease.

Present Illness.—On June 15, 1908, about ten days after Dr. Wing saw her, I was called. Her husband stated that she had gone insane, and was destroying all her letters, etc. She had turned all her jewelry over to him, remarking that she would not need it again. I advised that she be put to bed in the care of a trained nurse and closely watched day and night. In the morning the night nurse informed me that the patient had had a restless night and had slept very little. She took nourishment under protest; in fact she protested not by word but by action against everything that she was asked to do. I diagnosed the case as one of melancholia. On the following day I made a thorough examination and found the uterus about four times its normal size with a fibroid projecting from the right side of the fundus. Her husband stated that a Buffalo physician had diagnosed fibroid three years ago and advised its removal, and that Dr. Wernigk had recently done the same thing. The growth of the tumor had been slow and had not interfered with menstruation.

Course of the Disease.—The patient slept very little for the first week. After the first week one gram of chloral was given about 8:30 p. m. and in five minutes she would fall into a sound sleep and generally would have a good night, sleeping from six to eight hours. Without the chloral she would not sleep. Only on a few occasions were we obliged to administer bromids to keep her quiet during the day. On one occasion, during her husband's absence, she became unmanageable, both nurses being unable to control her. After this she was very restless and disturbed for a couple of days. When first taken ill she appeared to be well nourished but was anemic. This condition was caused principally by self-dosing for many months previous. Every night before retiring she would take a strong laxative pill of some sort or other and follow this in the morning with from 4 to 8 grams of Carlsbad salts, insisting that she was bilious.

Blood: Examination of the blood showed, white cells 7.000, red 1.000,000; hemoglobin, 60 per cent. She was given a tonic and hematopoietic, and encouraged to take a good supply of nourishing diet. At the end of two months the blood examination showed, white cells 1,625, red 1,000,000, and hemoglobin, 85 per cent.

Urine: She secreted a normal quantity of urine and frequent examination always showed it normal.

Mental Condition: Her mental condition continued to grow worse; she would not speak to any one, including her husband, and frequently refused to take nourishment.

Treatment.—From the first I advised her removal from the hotel to the country but could not prevail on her husband to do so. I then advised removal of the tumor. Dr. H. G. Brainerd and Dr. M. B. Campbell were called in consultation and concurred in the diagnosis of melancholia. The question foremost was whether the removal of the tumor would have a tendency to aid recovery. Dr. Brainerd argued against operation; Dr. Campbell advised it. The question of operation was then left entirely with her husband, who, about two weeks later, requested that the operation be performed. She was removed to the Pacific Hospital, and apparently did not realize the change of surroundings.

Operation.—She made very little resistance to being prepared for operation. On September 2, at 9 a. m., I performed a total hysterectomy. Pulse was 90, temperature 99 F. One hour before operation a hypodermatic injection consisting of morphin 0.016 gm. and strychnin 0.0016 gm. was given by advice of the anesthetist, Dr. F. D. Bullard. The patient took the anesthetic, ether, very quietly and safely throughout the operation. On opening the abdomen, the uterus and fibroid tumor presented. There was also a large cystic tumor on the left side (the size of a child's head), which proved to be a tubo-ovarian cyst, intraligamentous, covered by intestines and adherent by fibrous cords and bands over its entire surface, requiring many ligatures and much time in enucleating it. On the right side I encountered the same difficulty but the cyst was only about the size of an orange. The left cyst contained 600 c.c. of brown colored fluid and a concretion the size of an English walnut, the right cyst contained 100 c.c. clear fluid. I removed the entire mass without the use of clamps by double ligating the arteries and adhesions and dividing between ligatures thus obviated the bruising of tissue and preventing any loss of blood. The entire operation was done without any mishap except that the walls of the small cyst, which were very friable, were ruptured in extracting it. As it contained a clear fluid no damage was done. The abdominal cavity was washed out with sterile normal saline solution, and about 500 c.c. at 100 F. were gently poured in before sewing up the peritoneum. Time under the anesthetic was 2 hours 15 minutes. The patient showed some signs of exhaustion but stood he operation well and left the table apparently in good condition. Pulse was 110, of good volume and regular. The last alf hour of the operation the patient took very little anesthetic. The entire amount of ether consumed was only 600 c.c.

Postoperative History.—The day was one of the hottest of he season. The temperature of the operating room was from 0 to 95 F. As the patient was perspiring freely she was placed in a comfortable bed previously warmed with hot water ottles. The day nurse who had cared for the patient for the ast three months was placed in charge. Between 3 and 4 p. m. was astonished to learn that the hot water bottles had been newed because the patient had ceased to perspire. On touching he patient I was shocked to find the skin so extremely warm. he nurse had not noticed any change for the worse. The hot ater bottles were hastily removed and the temperature taken rectum. The thermometer registered 108 F.; the pulse was 0, full and strong; respiration was 26 and the skin was dry nd hot. In the axilla the temperature was 107.2 F. The pupils were dilated, the conjunctiva not reacting to touch. An ice cap was immediately placed on the head and the patient was sponged off with alcohol. She was catheterized and 120 c.c. urine drawn. One hour later the temperature was 106.8 in the rectum; respiration was 30, not full; pulse was 140, full and strong; the pupils were dilated. At 7 p. m. temperature was 106, skin moist, pulse 120 and full, regular and strong; respiration was 30; pupils were dilated, conjunctival reflex did not respond to touch. Up to this time the patient had apparently not reacted from the anesthesia. At 10 p. m. temperature was 105, skin dry, pulse 120, full, regular and strong; respiration 35; pupils less dilated, no reflexes. The catheter was again used and 150 c.c. urine drawn. The symptoms gradually improved during the night. At 7 a. m. patient was again catheterized and 180 c.c. urine drawn. She then commenced to show signs of restlessness, moved her arms and legs, and occasionally rolled her head from side to side. The conjunctiva showed return of reflexes; the skin was dry; temperature was 103.4 by rectum; pulse was 120, full, regular and strong; respiration was 36 and shallow. At 10 a. m. the condition was about the same except that the restlessness was increased. At 12:30 p. m. the pulse was 125, irregular but full and strong; temperature was 103; skin was dry; respiration was 40, very shallow and irregular. The patient became less restless, and had involuntary bowel movements.

Termination of Case.—Suddenly there was a change in the patient's appearance, the lips became livid, and the cutaneous circulation sluggish. There were some slight internal convulsive movements of the chest, the eyes oscillated, the pulse became more irregular but remained full almost to the last, when at 1:40 p. m. life became extinct, twenty-seven hours after operation.

I am at a loss how to determine the immediate cause of death. On the death certificate I inscribed as immediate cause of death basilar meningitis. From the symptoms presented I could not lay the cause of death directly to the operation.

The question foremost in my mind, was the prolonged anesthesia in a patient having some brain lesion the cause of a meningitis? Or was this a case of insolation induced by the prolonged use of the hot-water bottles on this fervid day? Also the patient was more or less fatigued from the prolonged operation, and the system was, therefore, less able to resist the excessive heat, due, in the first place, to the high atmospheric temperature of the weather, and, in the second, to aggravation of this by the uncalled-for prolonged use of the applied artificial heat (temperature unknown).

Bonniman[1] says: "By far the greater number of cases of thermic fever that occur yearly in India are in persons who have not been exposed to the sun. . . . Patients in hospitals who have been confined to bed are frequently the subjects of attack."[2]

A SIMPLE CANULA FOR THE DIRECT TRANSFUSION OF BLOOD

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In the operation of direct transfusion of blood by the method of Crile, certain difficulties have sometimes been encountered, and efforts have been made by a number of operators to simplify the procedure. Some experience is required before the Crile instrument can be handled with ease; the caliber of the cuffed vessel is decreased by the canula; sometimes there is difficulty in telescoping the artery over the vein. The steps of the operation with Crile's canula are numerous, and the application of guide sutures and the tying of ligatures complicates the operation, as the following enumeration of the steps of the operation will show. The technic of direct transfusion by Crile's canula comprises the following:

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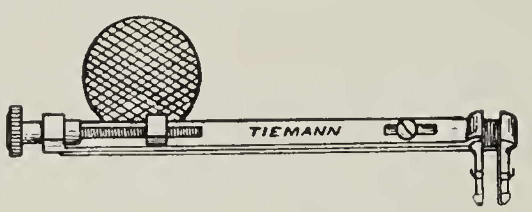
[1] Edinburgh Med. Jour., Vol. XIV, p. 1029, 1864.

[2] I also refer the reader to article on Thermic Fever in Pepper's System of Medicine, 1st edition.

1. The choice of the canula of the proper size.
2. The exposure of the vein of the recipient, its isolation and division.
3. The stripping back of the adventitia and the application of fine guide sutures.
4. The threading of the vein through the lumen of the canula.
5. The cuffing of the vein and the ligature of the cuff behind the basal ridge of the canula.
6. The exposure and isolation of the radial artery.
7. The application of a temporary hemostatic clamp.
8. The division of the artery after the application of a peripheral ligature.
9. The application of the guide sutures to the artery, and the telescoping of the artery over the cuffed vein.
10. The application of a ligature to keep the artery in place.
11. The removal of the hemostatic clamp from the artery so that the blood may flow from the artery of the donor to the vein of the recipient.

The following is the description of a canula which I have devised, the use of which will make a number of the manipulations above enumerated unnecessary and will simplify the entire operation.



Simple canula for the direct transfusion of blood.

The canula is built on the principle of a monkey-wrench, and can be enlarged or narrowed to any size desired by means of a screw at its end (see illustration). The smallest lumen obtainable is about equal to that of the smallest Crile canula, and the largest greater than the lumen of any radial artery. The instrument is cone-shaped at its tip, a short distance from which is a ridge with four small pin-points which are directed backward. The lumen of the canula at its base is larger than at the tip. The construction of the canula can be easily understood from the following description of the method of using it.

The radial artery of the donor is exposed and isolated in the usual manner. The canula, screwed wide open, is then slipped under and around the vessel. It is then screwed shut until the two halves of the instrument slightly compress the vessel. The artery is then tied off about one centimeter from the tip of the canula. Before the vessel is divided three small eye tenacula are passed through the wall of the artery at three points of its circumference, a few millimeters from the ligature. Small mosquito forceps may also be used. These are given to an assistant, who makes traction on them while the operator cuts the vessel near the ligature. The moment the artery is cut the stump is pulled back over the canula by means of the tenacula or forceps, and is held in place without ligation by the small pin-points. There is no bleeding from the artery, even though no hemostatic clamp has been applied, because the canula itself acts as a hemostatic clamp. The vein of the recipient is then exposed (but not freed), two ligatures are passed around it; one is tied peripherally in the usual manner. A small transverse slit is made in the vein, the canula with the cuffed artery inserted into the vein, a ligature tied around the vein and canula, the canula screwed open, and the blood allowed to flow. The rapidity of the flow can be varied as desired by the size to which the instrument is screwed or unscrewed, and the lumen of the artery is never diminished.

It will be noticed that the artery is cuffed instead of the vein; this method I believe to be more correct. The vein is the larger vessel and can therefore be more easily telescoped over the artery. The vein is only exposed, not freed, and the artery is intubated into it.

With this canula I have been able to make the anastomosis in less than four minutes after the artery had been isolated, and have found the entire procedure a simple one. The advantages of the instrument are the following:

1. One canula will fit any vessel.
2. The canula is applied around the vessel, instead of the vessel being drawn through the canula.
3. No ligature of the cuffed vessel is required.
4. The canula itself acts as a hemostatic clamp.
5. The cuffing of the artery is easily accomplished without stripping back the adventitia, and therefore the traumatism to the artery wall reduced to a minimum.
6. The vein need only be exposed, not dissected out and cut.
7. As the canula is unscrewed, the blood will flow, the flow can be regulated at will, and the lumen of the artery is not diminished.

Madison Avenue and Sixty-third Street.

APPENDICOSTOMY IN PERNICIOUS ANEMIA*

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Pernicious anemia is a primary anemia, characterized by a progressive diminution in the number and changes in the form of the red blood corpuscles associated with a decrease in the amount of hemoglobin, which is not so marked as the reduction in red blood cells. The disease usually terminates fatally, whatever the method of treatment, but often there are periods of marked improvement, followed by relapse. It is not within the province of this paper to discuss the etiology, pathology or symptoms of this disease; I shall limit myself instead to the treatment in those cases that are supposedly due to anaerobic bacteria in the intestinal tract. Herter, who is the pioneer in this line of work, asserts that anaerobic bacteria in the intestinal tract play a prominent part in the etiology of pernicious anemia. He has shown that oxygen is found only in the small intestine, and that for this reason these bacteria must live and propagate in the large intestine. He has demonstrated that these bacteria form a toxin, and that by injecting this toxin into the lower animals a blood picture similar to that of pernicious anemia is produced. With this theory as a working basis, Hollis and Ditman have used colonic lavage in two cases, with good results. In both cases arsenic was thoroughly tried, without beneficial effect. The colonic lavage caused the indican and the skatol to disappear rapidly from the urine, and the hemoglobin in two months' time rose from 25 to 80 per cent. and the red blood cells from 1,000,000 to 4,000,000. Several months after discharge both patients were well, and with no decrease in blood count.

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* Read before the Southern Surgical and Gynecological Association, St. Louis, Dec. 15-17, 1908.

Houghton[1] reports a case in which the treatment was more radical. The patient was a man, 69 years old, with symptoms and physical signs of pernicious anemia, hemoglobin 45 per cent. Unfortunately, the reds were not taken. A differential showed a relative lymphocytosis with many normoblasts. The urine was albuminous and contained casts, and the skatol and indican reaction was marked. Arsenic and colonic lavage failed to produce any improvement. Houghton performed a cecostomy, and through the fistula the colon was irrigated night and morning with a saline solution. Houghton informs me, in a personal letter, that the patient, who had improved rapidly, died from the kidney complication twenty months after operation. A count made a short time before death showed the blood almost normal in character, with the exception of a slight anemia.

The case that I desire to report occurred in the service of my colleague, Dr. J. A. Witherspoon, and was under the charge of his associate, Dr. W. C. Dixon.

Patient.—A negro man, 45 years old, was admitted to the hospital the first week in April, 1908. He had marked muscular weakness, shortness of breath, and instability of the pulse, also edema of the ankles. He came to the hospital for relief of diarrhea, associated with gastrointestinal symptoms.

Examination and Treatment.—The mucous membranes were quite pale; there were brownish discolorations on the skin of hands and face; exhaustion was extreme, without marked emaciation. An examination of blood on April 10 showed the red blood cells 1,800,000, the white blood cells 3,000, hemoglobin 30 per cent. The patient was given ascending doses of arsenic, reaching as high as thirty drops three times a day of Fowler's solution. Colonic irrigations of salt solutions were also used. On May 5, 1908, the red blood cells were 2,000,000, white blood cells 5,000, and hemoglobin 50 per cent. On May 23, 1908, red blood cells were 1,710,000, white blood cells 3,500, and hemoglobin 50 per cent. The nucleated red cells were in great numbers, both normoblasts and megaloblasts, associated with a marked poikilocytosis. At this time 95 per ent. of the bacteria in the stools were anaerobic, and no inestinal parasites were found. A twenty-four-hour specimen of the urine showed a trace of albumin, no sugar and a few yaline and granular casts. The ethereal sulphates were present in large quantities in the urine, as well as indican and katol. A test meal showed complete absence of hydrochloric cid, with the presence of lactic.

Operation.—I suggested to Drs. Witherspoon and Dixon that n appendicostomy be performed, and by this means colonic rrigation be done. As the patient had grown progressively orse under the routine treatment for this disease, and as his ondition was extreme, they readily agreed, and with the paient's consent the operation was carried out on May 23. I ade a long incision through the right rectus muscle, in order hat a good view of the abdomen might be obtained. The tisues showed but little tendency to bleed; the rectus muscle as quite red, while the peritoneum and intra-abdominal conents were unusually pale. The liver was slightly enlarged, nd the gall bladder moderately distended without stones. he stomach was markedly contracted, no growth being present. The mesoappendix was ligated and divided; two chromic tgut sutures were placed, one above and one below the apendix, grasping the cecum, peritoneum and fascia. The apendix was then stitched to the lower angle of the skin surce of the wound by one suture, and the incision closed in dinary way. The free end of the appendix, beyond the skin rface, was wrapped in rubber protective tissue and the ound dressed. At the end of thirty-six hours the tip of the pendix was gangrenous and cut off.

Postoperative History.—A small rubber catheter was passed to the intestine through the appendix and tied in position. rough this catheter a quart of salt solution has been passed into intestine twice daily from time of operation to the date of writing. The fluid is usually passed out of the anus in from one to five minutes from time of introduction into the intestine. The patient was delirious for one week following operation, and developed a multiple neuritis, which I believe was due either to the disease or to the large doses of arsenic prior to the operation procedure. Ten days after the operation improvement was noted in the blood, the red blood cells being 2,600,000, hemoglobin 51 per cent. The patient's convalescence has been slow but encouraging. The wrist-drop and foot-drop are now very slight, the appetite and digestion are good, and the weakness and exhaustion have disappeared. Up to October 10 the stomach contents showed complete absence of hydrochloric acid; on that date, however, an examination showed a trace of hydrochloric acid and the disappearance of the lactic acid. On December 10, 1908, examination showed red blood cells 3,860,000, white blood cells 7,200, and hemoglobin 66 per cent. It is interesting to note that before operation 95 per cent. of the bacteria in the stools were anaerobic, the *Bacillus capsulatus aerogenes* preponderating. Ten days afterward 40 per cent. were anaerobic. Thirty days afterward 20 per cent. were anaerobic, and on October 10 the anaerobic bacteria were present only in normal quantities, and have remained so up to the present time. The large amount of ethereal sulphates, indican and skatol found in the urine before the operation—an amount characteristic of pernicious anemia—are now only in normal quantities. A twenty-four-hour specimen showed no albumin or sugar, a few hyaline casts and urea 1.5 per cent.

I must express my thanks to my colleague, Dr. William Litterer, for the careful examinations of the blood, urine, stools and stomach contents, for without these this paper would be of no scientific value; and to Drs. Witherspoon and Dixon I am especially grateful for the very accurate history of the case. It is too early at the present time—seven months after operation—to claim a cure; yet the great improvement in the blood, the return of strength, the disappearance of the anaerobic bacteria from the stools, combined with the reappearance of hydrochloric acid in the stomach, make a clinical picture which is very suggestive of recovery. It seems to me that we are safe at the present time in drawing the following conclusions in regard to pernicious anemia:

1. In all cases stools should be examined in order to determine the presence of a *Bacillus capsulatus aerogenes* infection.
2. If these bacteria are present in great quantities, then high irrigation, combined with arsenic internally, should be used; and if the patient fails to improve, then, it seems to me, the appendix offers the best route for thorough irrigation.

APPENDICITIS AND ACCIDENT INSURANCE *

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A case of peculiar interest, because of the accident question, is that of Dr. M. G. Dadirrian, New York. He has made claim for insurance money on the basis of an attack of appendicitis caused by the accidental swallowing of a lump of solder.

History.—Early in June, 1908, the patient, aged 69, felt a hard lump in his mouth while eating his dinner. The lump was involuntarily swallowed while he was trying to catch it between his teeth. A few days later he developed acute appendicitis. The integrity of the appendix had never been questioned previously. When I saw the patient in consultation with Dr. Charles Hendee Smith and Dr. Thomas H. Cherry,

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[1] Houghton, Harris A.: Apparent Recovery from Progressive rnicious Anemia Following Cecostomy and Colonic Lavage, THE URNAL A. M. A., June 29, 1907, xlviii, 2186.

* A case reported at the meeting of the New York Society of Medical Jurisprudence, Feb. 8, 1909.

June 17, a rapidly spreading general peritonitis was well under way.

Operation.—An operation for removal of the appendix was performed as quickly as we could get the room ready. Purulent fluid, past the protective staphylococcus stage, was free in the peritoneal cavity, and there was a walled abscess area about the cecum. The adherent appendix was perforated at a point of round gangrene, and in the perforation lay a lump of solder, about the size of a grain of popcorn. The solder was of conventional drop form, with one end as sharp as the point of a pin, and the other end blunt. The sharp point was emerging at the perforation, and was clearly enough the direct cause of the attack of appendicitis. The appendix was removed quickly, through a McBurney incision, and a wick drain left in the short unsutured wound. No effort was made to remove pus from the peritoneal cavity except by offering a line of least resistance by means of the small capillary drain.

Result.—The patient made the customary recovery after this sort of operation, so far as infection was concerned, but there was tardy repair of the wound surfaces, which was probably to be accounted for by the age of the patient, and perhaps by the influence of a mild diabetes mellitus, of several years' duration. The diabetes had been under control, and the proportion of sugar was reported to be from 1 to 2 per cent.

In this case we have a question bearing on the matter of accident insurance, which may call for new adjudication of the word "accident." Perforation of the appendix by the lump of solder accidentally swallowed was not materially different from a perforation that might have occurred from the accidental discharge of a pistol carrying the solder as a missile. The ultimate result, from cause to effect, would seem to be one of relative time only.

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TREATMENT OF EPISTAXIS

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By far the greatest number of cases of nose-bleed have their origin in the anterior cartilaginous portion of the septum, in the so-called locus Kiesselbachii. Small hemorrhages are easily controlled by the repeated application of a small pledget of cotton moistened with a mild astringent solution to the bleeding point. In the last few years adrenalin solution—1 to 1,000—has been used for this purpose, also a 2 to 4 per cent. solution of cocain hydrochlorate. The cocain solution is efficient in many cases, but has a number of disadvantages. Heydenreich[1] recommends the application of sodium perborate to arrest hemorrhage after operations in the nasal cavity.

In some cases of severe bleeding it is difficult to locate the bleeding point exactly. In such cases, by means of an ordinary powder insufflator, I inject the sodium perborate powder directly into the nasal cavity. Immediately after the insufflation a grayish-white foam issues from the nose, due to the oxygen produced. This oxygen in its nascent state covers and exerts a certain pressure against the bleeding point and the hemorrhage is arrested.

In a case of serious hemorrhage from the nasal cavity in a woman of 48, with sclerotic arteries and in the menopause, I resorted to the tampon, which I applied in the following way: A strip of aseptic gauze one-half inch wide was moistened with a 2 per cent. solution of boric acid and this strip I covered with powdered perborate of soda and introduced into the nasal cavity. I packed it lightly, into the anterior nares in an upward direction. The hemorrhage ceased immediately; the tampon was removed the next day. Before removing such a tampon it is advisable to moisten it with a mild antiseptic solution by means of an atomizer.

224 West Twenty-fourth Street.

Therapeutics

OPTIMISM AND PESSIMISM

Nothing hinders the advance of scientific therapy more than these two attitudes on the part of physicians toward the treatment of disease. On the one hand stand numbers of practitioners who hasten into print lauding the satisfactory results of first one treatment and then another, generally medicinal, of first one and then another disease. These same optimistic physicians will many times be found the following year lauding an entirely different treatment from that they advised and found so successful the preceding year.

On the other hand there is a large class of clinicians whose names are significant of the best in medical research and whose teaching is listened to with respect from one end of this country to another, but who are so pessimistic as to the treatment, or the management, of disease as to prevent the scientific investigations necessary to develop common sense and rational therapy. These physicians write and teach largely of differential diagnosis, pathologic findings, and of the symptoms of a disease in their totality. They gladly accept, describe and advise any antitoxic or specific treatment that is found valuable in a disease. They also carefully describe and advise physical therapies, climatic changes, and the surgeons describe all the operative interferences to cure disease. But it is exceedingly rare for one of this class of physicians, whose duty it is to teach, to describe or advise the best method of overcoming the many troublesome symptoms that occur in the course of most diseases. Although in their personal practice they overcome difficulties, tide patients over serious conditions, and actually prolong and save life by medicinal treatment as well as by scientific management, they are unwilling, for some unknown reason, to attribute such successful outcome in these cases to the advantages of any drug or set of drugs. They even seem at times to think that it is an acknowledgment of failure, or something derogatory to their prestige, to admit that the proper use of a drug has really caused their general treatment to be a success.

Such lack of scientific therapeutic teaching causes a large number of general practitioners to listen to enthusiastic proprietary detail men and subsequently to use a preparation for a given condition the active ingredient of which the teacher of medicine may have long used, but in a simpler and less expensive manner. The physician using such a preparation and obtaining good results frequently rushes into print and lauds the preparation or combination of drugs as a cure for that condition or disease, when really it is the principle active ingredient of it that did the work, and which perhaps had been used for that purpose for years.

The thing needed, then, in scientific therapeutics is more careful instruction in details by the teachers and bedside clinicians, and, as pointed out by Gottheil, a willingness on the part of the general practitioner to describe his failures as well as his successes. Also the general practitioner who writes of his therapeutic successes should constantly bear in mind, first, the trend of troublesome conditions to recovery; second, that it is not always the last drug, preparation or treatment that benefited the patient, but that the previous treatment really caused the cure; third, that many a new drug or new preparation offered with the enthusiasm of the physician cures a patient by psychologic effect, much as often does a change of physicians or a change of environment.

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[1] Deutsche med. Wchnschr., 1908, No. 3, p. 114.

In this connection a paragraph from an article by W. S. Gottheil, in THE JOURNAL, Nov. 21, 1908, may well be quoted:

"The rôle of image-breaker is always an ungrateful one, and especially so in therapeusis. In the face of the essential problem and crux of medical endeavor, positive claims have an authority and a charm that give them every advantage over merely negative criticism. Yet the iconoclast is as necessary as the builder, and sometimes even more so. A franker and freer discussion, less reticence as to failures, and a more judicial attitude toward successes would save much misconception and much useless labor and suffering. An extra-medical observer, studying the files of our professional journals, would conclude that there are few if any incurable affections, and that the chief difficulty of the modern therapeutist is the selection of one among the many curative measures that are recommended. How far the facts are in accord with this each one of us can judge from personal experience."

Therapeutics means everything that is of importance to the patient. All the scientific investigations in physiology, etiology and pathology are of no value to him unless the knowledge gained therefrom can be therapeutically applied. While anything that borders on the symptomatic treatment of disease should be discouraged, it is only the consultant, the book on practice, and the lecturer, who may ignore the treatment of troublesome symptoms. The physician's visit to a patient is not of the greatest value, and the consultant has not finished his services until the troublesome symptoms of a patient have been thoroughly discussed and methods devised aiming toward their amelioration. Many a loyal patient has been driven from one physician to another, and finally to quackery, by professional scientific neglect of symptoms which to him appear of most importance.

It is a mistake for a physician to declare that he has cured a disease or condition. What he does do is to "manage" the disease and the patient who has the disease and it is the details of this management, hygiene, nursing, diet, physical treatments and, lastly, medicinal necessities that comprises the totality of the therapy of disease.

It is a mistake, and one that is very prevalent, to believe that therapeutics means medicinal treatment only. Therapeutics covers the whole field of management of disease from the cathartic dose of calomel through a necessary laparotomy, to perhaps a convalescence in southern California. The whole range of what shall be done for a patient with a given condition or disease to the final cure, or death, of that patient is therapy.

A disease can not be correctly treated unless the following facts are considered:

1. Can the etiologic factor in a given disease be discovered, and can it be removed? This is the primary treatment.

2. What physiologic processes in this patient are disturbed by this disease? The aim of all treatment should be the attempt to correct such disturbed physiology, and at the same time not to disturb the normal physiologic processes.

3. The pathologic conditions which are the result of the disease should be removed, if possible; ameliorated, if removal is not possible; and never irritated or made worse by any medicinal or physical treatment. Special care should be taken that whatever treatment is deemed advisable for the patient, it should not aggravate or make worse the pathologic condition present.

4. The symptoms and signs of the disease which in their totality determine the diagnosis, and the extent to which the pathology of the disease has progressed, are in their totality of minor and secondary importance in the treatment. On the other hand, individual troublesome symptoms must be removed or ameliorated, else normal physiologic processes which are necessary to recovery can not be performed, and toxemias that otherwise need not have occurred may perhaps be the determining cause of the non-recovery of the patient.

Of all symptoms, that of pain is the most important and the one from which the patient must have relief. It does not seem to make a great deal of difference whether such pain is pathologically excusable or present only on account of psychologic mistake, the nervous irritability and finally depression caused by it must be taken into consideration and must be treated or, better, managed. At least, pain must be prevented at any cost. This does not mean that the physician should hasten to the use of unneeded narcotics, nor that he should ever use a narcotic without regret and without the extra supervision that should always go with such treatment, but it is the skillful, thoughtful, discriminating physician who can determine the best method of eradicating the symptom of pain in each individual patient.

To carry out the medicinal treatment needed properly to manage a given disease the physician should have his drugs classified as to their utility and select the best drug for each particular object, and the best drug should be decided on after a careful consideration of its complete physiologic action. This means not only its ability to combat the condition under consideration, but also through what organs this drug is excreted, where it causes disturbed physiology, if any, and whether or not it will add to the pathology of the disease present.

Such deliberate decision will select the best drug needed for a given condition in a given patient. This is knowledge, and is not groping after the unknown and mysterious which is always the mental attitude of the physician who prescribes pharmaceutical preparations and nostrums either of unknown ingredients, or, at least, of unknown methods of preparation, which may have added solvents or correctives to a solution that should not be administered to the patient. It also naturally follows that elegance in prescription writing and in the method of administering disagreeable drugs should be taken into careful consideration by the practitioner. Frequent consultations with his pharmacist will enable a physician either to write a prescription that embodies the best method of administering a given drug, or such consultation may develop the fact that this drug is prepared and offered in a simple, satisfactory preparation that does not contain biproducts or ingredients that are undesirable. Simple, elegant preparations offered by pharmaceutical firms are excusable, but it is inexcusable to order the mixtures prepared by these firms. A physician should be able to write a prescription to suit the needs of each individual patient.

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 13, 1909

THE FUNCTION OF THE ADRENAL CORTEX

The importance of the discovery of the blood-pressure-raising substance of the adrenal, and the rapid development of the use of this substance in practical medicine, has caused the fact that the production of adrenalin is not the sole function of the adrenals to become much obscured. According to the experimental and analytical evidence, adrenalin is produced only by the medullary portion of the gland, thus leaving the function of the much more abundant cortical tissue to be explained; and, furthermore, we have clinical evidence that adrenalin does not represent the entire product of the adrenal gland, in the fact that we can not ordinarily relieve the manifestations of Addison's disease by administration of either adrenalin or adrenal extract. We have every reason to imagine that the cortical portion of the adrenals may be functionally entirely different from the medulla. In the first place, the histologic structure is quite different, the medulla having large sinus-like blood channels surrounded by cells which are rich in material staining with chromic acid or its salts, while the cells of the cortex are characterized by their columnar arrangement and their richness in glycogen and lipoids. Embryologically these two portions of the adrenals are even more sharply distinguished, for the medulla is derived from a portion of the sympathetic nervous system and thus traces its origin back to the neural ectoderm, whereas the cortex is derived from the mesodermic epithelium which covers the fore part of the Wolffian body in front of the germinal epithelium. Indeed, in some animals, notably in the elasmobranch fishes, the cortex and the medulla are represented by entirely distinct organs, and the organs which contain the sympathetic nervous elements, representing the medulla of man, are found to yield extracts with the physiologic properties of adrenalin, while the other organ corresponding to the cortical tissue is inert in this respect. In birds, which have a high blood pressure, the medullary elements constitute an exceptionally large proportion of the gland.

In view of the embryologic origin of the cortical elements from a part of the primitive tissue of the urogenital tract, it might be suspected that this particular part of the adrenal is related to the generative organs, and there is much evidence that such is the case. In rabbits the cortex of the adrenal hypertrophies during pregnancy; in frogs seasonal variations in structure occur corresponding to the period of mating; in birds and reptiles the adrenals are in close anatomic relation with the generative glands rather than with the kidneys. Also the histologic structure of the corpus luteum of pregnancy recalls at once the appearance of the adrenal cortex. Pathologic anatomy has given much evidence of this relationship between the adrenal cortex and the generative organs, a subject which has been much considered of late, especially in England, because of the stimulus given by the extensive paper of Bulloch and Sequeira.[1] These authors reported a typical case in which a girl began to menstruate at the age of 10 years, after which there was a rapid development of the generative organs and female characteristics, with marked obesity, and excessive growth of hair on the face as well as on the pubis and axillæ. These changes accompanied the appearance of an abdominal tumor which at autopsy was found to be a tumor of the left adrenal with the structure characteristic of adrenal cortex and of hypernephromas. In the literature they found eleven similar cases, involving chiefly young girls, and all characterized by the association of tumor of adrenal cortex with premature sexual development, excessive growth of hair, and not infrequently pseudohermaphroditism. In addition to these are cases in which precocious development, chiefly in females, has been found accompanied by simple hypertrophy of the adrenals.

If we correlate these observations with the well-known fact that in fetal and infantile life the adrenals are very much larger proportionately than in adults (at the end of the third month of fetal life they are larger than the kidneys, at birth one-third as large, and in the adult but about one-forty-fourth as large), the evidence seems conclusive that the adrenal cortex has to do with development, especially the development of the reproductive organs, and the sexual characteristics. If the size of the adrenal is increased in infancy by either hypertrophy or tumor formation of cortical tissue, this development is stimulated to an excessive degree, and even in adults adrenal tumors may cause excessive growth of hair and change in sexual characteristics, as in the case described recently by Thumim.[2] Tumors of the adrenals not associated with such developmental abnormalities are not rare, but these are usually sarcomas and therefore not new growths of the secretory epithelium. Presumably the influence of the adrenals on growth is not limited to the reproductive organs, for as early as 1806 Friedrich Meckel noticed absence of the sexual organs and adrenals in an acardiac monster, and later observers have noted that defects of development of the cerebrum are commonly associated with aplasia or hypoplasia of the adrenals.

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[1] Tr. Path. Soc. London, 1905, lvi, 189.

[2] Berl. klin. Wchnschr., Jan. 18, 1909, p. 103.

Guthrie[3] has collected reports of cases of precocious physical development, both sexual and somatic, which he finds may assume either an adispose or a muscular type, the former affecting chiefly females and the muscular type occurring only in males. Premature hirsuties occurs in practically all cases of either type, but other evidences of premature sexual maturity are not necessarily present, and in some cases instead of excessive growth of adrenal cortex, tumors have been found in the pineal gland, the testicles, or the ovaries, indicating the interrelation of these four organs.

It is interesting to note the part which these cases of premature development of muscular type have played in mythology and art, in the guise of "infant Samsons" or "infant Hercules." Pliny speaks of a boy who, when he died at the age of 3, had a great voice and was four and one-half feet tall. Craterus also mentions an individual who in the course of seven years was infant, youth, adult, parent and old man, and then died. The gigantic boy of Willingham, Cambridge, born in 1741, weighed fifty-eight pounds at the age of 3. His organs of generation were fully developed, and there was hair on the face and pubes. He died of tuberculosis at the age of 6. Anthony White in 1806 recorded a similar case in a boy aged 3 who was the exact counterpart of the Farnese Hercules, and Guthrie considers it probable that legends of Hercules and Samson were based on individuals with this particular form of giant growth.

THE COLLARGOL INVESTIGATION

The reports of the committee appointed to consider the claims made for collargol by its American agents, which appear elsewhere in this issue,[1] form, we believe, one of the most remarkable contributions ever made to medical literature.

Never before, probably, in the history of medicine has a body of scientific medical men acted in a judicial capacity in a matter of this kind — a matter that would, at first view, seem to be one of apparent insignificance, but which is found on examination to have a most profound significance for the progress of medicine. The amount of labor involved in the investigation, while enormous, has been in the highest degree altruistic, for let the results be what they might, the task was not only a thankless one, but one liable to call forth abuse on those completing it. The fact that men of such standing as those who composed this committee were willing to devote the time and work necessary to the accomplishment of the purpose intended, argues well for the new era in medicine. Five years ago a task of this kind would have been looked on as utopian and visionary, or the problem as one unworthy the serious consideration of scientific men. To-day it is different, for times have changed. The profession has become awakened to the detrimental influences connected with the commercial domination of therapeutics, and is ready and anxious for the truth.

In reading these reports—and every physician should read them—this thought should be kept in mind: The committee was concerned with the advertising matter and not with the value of the drug *per se*. As to the latter, the real value of any drug can only be determined by a sufficient amount of clinical experience, and the best any small group of men can do is critically to examine and report on the results of others. And the evidence in regard to collargol is still so contradictory that a definite judgment as to its final place in therapeutics would be premature. As to the former—that is, the consideration of the advertising matter—its importance will be realized when it is remembered that the vast majority of physicians obtain their first information concerning proprietary remedies from advertising matter, and first impressions are often lasting. In the matter of advertising, deplorable conditions are known to exist. It is somewhat of an excuse for this firm—but it is all the more deplorable from the standpoint of the profession and of the public—that both its claims and its methods of making them are not exceptional nor unusual, but are typical of those that generally obtain.

The reports deal, first and last, with the examination of the evidence on which are based the claims made by the manufacturers, and the question resolves itself into: Does the advertising matter relating to the remedy contain exaggerations, perversions of data or misquotations? The answer to this question by the committee in both reports is unequivocally in the affirmative. Whatever minor differences there may be between the minority and the majority reports, the important and essential fact is the unanimity of the committee in declaring that the advertising matter in question misrepresents the views of the authors quoted. It is misleading, both through exaggeration and through misquotation; it makes a number of assertions for which evidence is lacking; and both by addition and omission it modifies or perverts the opinion of some of the authors cited.

Discriminating physicians are no longer misled by the so-called original article type of testimonials, i. e., those written for financial or other considerations, and which are fulsomely laudatory of the preparation. The literature advertising collargol, however, is not of this nature, but is drawn from scientific sources. The fact, therefore, that the authors, whose work has been misleadingly quoted, are men of standing whose opinions carry weight with the medical profession, makes such perversions of opinions the more reprehensible.

There are few abuses more serious than the misuse for commercial purposes of the work of men high in the medical and pharmacologic worlds. Scientific work of the highest character, if it deals even remotely with a drug to which some firm holds the property right, is likely to be made to do duty as an advertisement. By the skillful separation of sentences or paragraphs from their context, and by the use of introductory phrases which lead the reader to assign to the quotations a meaning altogether different from that intended by the author, it is possible to construct good advertising "copy" from any scientific report. Busy physicians, even though alive to past abuses, and intelligent above the average, have been misled by these perversions of the reports of scientific men and the practice has reached alarming proportions.

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[3] Brit. Med. Jour., Sept. 21, 1907, p. 747.

[1] Collargol: Reports of the Committee Appointed to Consider he Claims Made Regarding Its Effects. Page 862. See also comments in Pharmacology Department, this issue.

It has been the complaint of manufacturers that their products are not the subject of scientific investigation—and with reason. But when scientific men know that the results of their work will be used as a basis for advertisements, that their statements will be distorted and meanings that were never intended will be read into their sentences, is it any wonder that, careful to keep their professional honor unsmirched, they prefer to leave proprietary remedies alone?

We repeat, the work of this committee, irrespective of its findings, argues well for the awakening of the medical profession to one of the most insidious and vicious abuses connected with proprietorship in medicines. It is sincerely to be hoped that the result of this investigation may lead reputable pharmaceutical manufacturers generally to exercise a stricter censorship of their advertising matter.

THE DIAGNOSTIC AND THERAPEUTIC VALUE OF LUMBAR PUNCTURE

It is a good plan to take stock occasionally of procedures which have gained a permanent foothold in the medical armamentarium, partly because the new members constantly added to our ranks may not know the history of them, and partly because familiarity with a procedure tends to make us forget its dangers and drawbacks, which, however, are apt to be overestimated rather than underrated in the beginning. It is now eighteen years since lumbar puncture was introduced by Quincke, and in that time it has gradually progressed from the status of a procedure of occasional value to that of one in daily use.

The originator of lumbar puncture probably did not foresee the different lines along which its application would develop. He may have believed that ordinary chemical and microscopic examination of the fluid withdrawn would mark the limits of its usefulness. Cytodiagnosis in the modern sense, which has added considerably to the diagnostic value of lumbar puncture, was not developed until much later, and spinal anesthesia was practically unknown in 1891. E. Bramwell[1] has recently reviewed the subject in an interesting manner. He does not emphasize the possible dangers of the procedure very strongly, though he urges great caution in performing it in cases of intracranial tumor with increased pressure. The fact that its use in anesthesia has occasionally been followed by myelitis, at times resulting fatally, is not mentioned.

There is no doubt that the value of lumbar puncture under certain conditions is very great, providing that its limitations are recognized, and providing that, like any other single diagnostic procedure, it is interpreted in the light of all the clinical findings. The pressure under which the fluid exudes may give valuable indications of increased intracranial pressure, and the naked eye appearance may be of great value when spinal hemorrhage or meningeal hemorrhage is suspected. The chemical and cryoscopic examinations seem to be of distinctly less value than the bacteriologic and cytologic tests.

In the administration of meningitis serum lumbar puncture has become a *sine qua non,* and not merely a diagnostic and general therapeutic measure in this disease. The value of the cell count is also demonstrated, the lymphocytosis of tuberculous meningitis and of spinal syphilis or tabes, and the pure leucocytosis of non-tuberculous meningitis being often of decided value. The value of the spinal fluid for serologic tests, like the Wassermann reaction for syphilis, is beginning to be appreciated as a result of the work of Noguchi and others. The procedure has certainly come to stay. From the diagnostic standpoint it may be of great value in distinguishing meningitis from hysteria and focal cerebral lesions, in detecting spinal or even cerebral meningeal hemorrhage, in differentiating neurasthenia from the early stages of general paresis, and in allowing the early recognition and treatment of spinal syphilis

THE BITING OF MAN BY RAT FLEAS IN RELATION TO PLAGUE

Recent investigations in India and elsewhere have demonstrated beyond doubt that fleas play an important rôle in the transmission of plague from rats to man, and they have especially implicated the common rat flea of India (*Pulex pallidus*), although the *Ceratophyllus fasciatus* has also been shown to be capable of conveying the infection. The importance of the flea as an agent in the dissemination of plague has rendered necessary a more thorough study of these insects.

Since 1907 the U. S. Public Health and Marine-Hospital Service[1] has collected and identified fleas from different ports, particularly in connection with antiplague measures. These studies have demonstrated that the *Pulex pallidus* is commonly found in our country, and that it has a wide distribution. Fox has shown that the *Ceratophyllus fasciatus* and *Pulex pallidus* are the fleas most commonly found on rats in San Francisco, their relative proportions at some seasons being approximately three of the former to one of the latter.[2]

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[1] Clinical Studies, vol. vii, pt. 2, 1909.

[1] Annual Report U. S. P. H. and M.-H. S., 1909.

[2] Public Health Reports, Sept. 25, 1908.

Considerable diversity of opinion has prevailed as to whether rat fleas will bite man—an important question in view of the rôle assigned to these insects in the spread of plague. The British plague commission observed that *Pulex pallidus* would feed on a man's hand, and in a series of five experiments they were able to keep this species of flea alive for nearly four weeks on a diet of human blood.[3] Similar experiments have recently been reported by McCoy and Mitzhain, working in the laboratory of the Public Health and Marine-Hospital Service in San Francisco.[4] These observers collected four different species of fleas from rats and ground squirrels, and confined each flea in a separate test-tube. The fleas were then applied to the hand or forearm of a healthy man from time to time. In this manner it was found that the two common species of fleas found on rats in San Francisco, *Ceratophyllus fasciatus* and *Pulex pallidus,* will bite man, the *Ceratophyllus fasciatus* having been kept alive for thirty-five days on a diet of human blood.

Further experiments showed that *Ctenopsyllus musculi* would feed on man as would also the squirrel fleas, *Hoplopsyllus anomalus* and *Ceratophyllus acutus.* In one experiment the common ground-squirrel fleas of California fed readily on man and were kept alive in this manner for twenty-eight days. These studies are important, as they prove that rat and squirrel fleas will bite man.

It has already been shown that fleas transmit plague from rats to man, but the exact method of transmission is still unknown. Such studies should be continued, as they throw additional light on the epidemiology of plague.

PUBLICATIONS ON EXPERIMENTAL MEDICINE OF NEW YORK STATE SOCIETY

Year after year the efforts are renewed by those once-dead sentimentalists, the antivivisectionists, to secure he passage of some measure which shall place all forms of experimentation on animals under special restrictions, on the assumption that the already existing legislation against cruelty to animals fails to meet actual or possible wrong doings by the experimenters. As in the case of all people who have fanatically surrendered themselves to an obsessing idea, it is hardly to be hoped that any argument, however cogent, based on whatever array of facts, however overwhelming, will tend to shake their dhesion to the idea which has become to them a fetish. There are, however, many followers at a distance accepting unquestioned the threadbare stock arguments of he professional fanatics, who might perchance realize he truth if it were once placed before them. Again here are others to whom these specious arguments and pleas are being submitted for the first time, and to whom, being in ignorance of the facts, they might appear to bear the stamp of reason. And yet again, and before all, there are those who, having once known the actual facts, in part at least, have forgotten the data on which their knowledge is based. To all these a recapitulation by competent authorities, each in his own line, of specific facts in which actual and practical benefits, not only to the human race, but to the domesticated animal world, have resulted directly and unequivocally from animal experimentation, should prove of the utmost value. It is an admirable and practical work, therefore, that is now being performed by the Committee on Experimental Medicine of the Medical Society[1] of the State of New York, in issuing a series of articles bearing on the legitimacy and necessity of animal experimentation and demonstrating the perniciousness, as well as the utter lack of justification, for any form of special legislation in restriction of such experimentation. Among the papers that have recently come under our notice are "Animal Experimentation and Diabetes," by Dr. Graham Lusk; "Ethics of Animal Experimentation," by Dr. John Dewey; "Animal Experimentation as Viewed by the Superintendent of a Hospital," by Rev. G. F. Clover; "The Service of Animal Experimentation to the Knowledge and Treatment of Nervous Diseases," by Dr. Charles Dana; "The Relation of Animal Experimentation to the Live Stock Industry," by Dr. V. A. Moore; "Animal Experimentation and Nutrition," by Prof. L. B. Mendel; and "Why Are Special Laws to Restrict Animal Experimentation Unwise?" by Dr. John G. Curtis. These articles are full of the right kind of information, tersely enunciated in the right manner.

THE REPORT OF THE HOMES COMMISSION AND THE ATTEMPT TO SUPPRESS IT

One of the most interesting and valuable of government documents issued for many years is the "Report of the President's Homes Commission" which has recently appeared. It is a 400-page book, filled from cover to cover with data and suggestions of much more than ordinary interest. Those parts dealing with sanitation and with the drug habit will appeal to physicians as particularly opportune and to the point, and the public generally will have its eyes opened to the viciousness of self-drugging and the frauds in patent medicines and quackery. Its educative value is so great, and the general scope of its inquiry so excellent, that when the daily papers recently asserted that an effort was being made in the United States Senate to prohibit the transmission of the document by the United States mails, it was difficult to accept the statement seriously. There seems no doubt, however, that pressure is being brought to bear in an endeavor to limit the circulation of this valuable and instructive book. According to the papers, objection is made to that part of the commission's report which deals with social betterment. This chapter, it is claimed, is "too broad in dealing with the social evil." As a large portion of the part referred to is made up of quotations from various high-class magazines, among them the *Ladies' Home Journal* and *Collier's Weekly,* the accusation would seem to be in the nature of a joke. The question at once arises, why this objection to frankness and ingenuousness on a subject of vital importance? There seem to be two possible answers: First, the document is the result of a commission appointed specially by President Roosevelt, and the Senate—or many members of it—has an antipathy toward anything Rooseveltian. Second, that part of the report which deals with fakes and fakers, chiefly of the medical type, calls attention to the incalculable value of the "fraud order" system of the postoffice department in putting out of business the various get-rich-quick concerns that infest the country. With the part played by the postoffice secret service agents—regarding land schemes—still fresh in our minds, it is not difficult to imagine that some members of the upper house are likely to estimate the value of the work of the postoffice department from a personal rather than from a civic standpoint. One result of this unfortunate attack will be the whetting of the appetites of that portion of the public to whom anything of a supposedly salacious nature appeals. In fact, as the newspapers stated at the time, "the document rooms of the House and Senate were completely stripped of the home commission reports during the day." It is to be hoped that the report of the President's Homes Commission may not be denied transmission in the mails, but, on the contrary, that it may have the wide circulation which, from its very evident usefulness, it deserves.

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[3] Jour. of Hyg., 1907, vii. No. 3, p. 473.
[4] Public Health Reports, Feb. 19, 1909.

[1] 17 West Forty-third St., New York City.

WORK OF THE AMERICAN CIVIC ASSOCIATION

The American Civic Association is carrying on an educational, suggestive and cooperative campaign in several directions for the esthetic and sanitary welfare of the community. In the former regard it is taking much needed measures to prevent the destruction of those wonderful natural beauties, the falls of Niagara, at present threatened by a greedy commercialism that sees no limits to the supremacy of what it terms utility over the esthetic sense, forgetful of the fact that the esthetic sense itself is an important utilitarian factor in the moral and mental welfare of the human race. Another abomination against which it has set itself is the fungating excrescence of unsightly billboards disfiguring the country. In cities, at any rate, these hoardings—as has been recently pointed out in relation to board fences by Dr. W. H. Atkinson,[1]—have a sanitary aspect. The third object, and the one most directly in line with public hygiene, is the advocacy of public comfort stations in our large cities. In this respect the United States is far behind all European cities. If the American Civic Association can aid in the more general adoption of these important necessities for the public health it will certainly accomplish a praiseworthy work.

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[1] Washington Med. Ann., January, 1909.

The Fossil Man of Chappelle-aux-Saints.—The *Semaine Médicale* of Paris, Dec. 23, 1908, contains a description of the recently discovered fossil skeleton in a cave near Corrèze. It represents a type below any previously discovered, resembling more the anthropoid apes than the human type.

Medical News

CONNECTICUT

Bequest to College.—By the will of the late Dr. Gurdon W. Russell, Hartford, of the class of 1834, Trinity College, his alma mater receives a bequest of $5,000 for the natural history department and its laboratory.

Change in Medical Course.—With the beginning of the new year the course in the Yale Medical School is to be changed. For admission to the school there is required the equivalent of two years of work of college grade, including preparatory work in general chemistry, biology and physics. The general plan of the new curriculum is that before beginning the clinical studies of the last two years, the student must have completed the required course in anatomy, physiology, organic and analytical chemistry, histology, embryology, bacteriology, pathology and laboratory courses in pharmacology.

GEORGIA

State Sanatorium for Tuberculosis.—The first meeting of the board of trustees of the State Tuberculosis Sanatorium was held February 11. Dr. Thomas R. Whitley, Douglasville, was elected president, and Dr. Marcus F. Carson, Griffin, secretary. The following committees were named: Plans, Drs. P. S. Clark, Darien, and Charles H. Richardson, Montezuma; rules, Dr. Marcus F. Carson; and bids and regulations, Drs. E. Everett Daniels, Moultrie; Charles F. McLain, Calhoun; Jeff Davis, Toccoa, and William P. Crawford, Lincolnton.

Society Meetings.—At the annual meeting of the First District Medical Society, held in Statesboro January 27, Dr. John K. Train, Savannah, was elected president; Dr. Alfonso J. Mooney, Statesboro, vice-president, and Dr. John F. S. Sigman, Savannah, secretary. It was decided to hold the next session in Savannah in June.——At the annual meeting of Worth County Medical Society, held in Sylvester January 20, Dr. W. C. Tipton was elected president; Dr. W. K. Stewart, vice-president; Dr. Guy G. Lunsford, Sylvester, secretary, and Dr. Valter P. Stevens, Poulan, delegate to the Medical Association of Georgia.——Sumter County Medical Society, at its annual meeting, elected Dr. Robert E. Cato, president; Dr. J. Richmond Statham, vice-president; Dr. Douglas B. Mayes, secretary, and Dr. F. B. Gregory, delegate to the Medical Association of Georgia.

ILLINOIS

Prohibits Distribution of Medicine Samples.—The Hoopeston city council recently passed an ordinance prohibiting the throwing or distribution of "patent-medicine" samples on doorsteps, sidewalks, streets, and alleys of the city. Samples may be left at any residence if handed to an adult.

Staff Organizes.—The physicians' staff of St. Anthony's Hospital, Rockford, met for organization February 26, and elected the following officers: President, Dr. W. Grant Hatch; vice-president, Dr. Emil Lofgren, and secretary-treasurer, Dr. George P. Gill.

INDIANA

Hospital News.—Representative men of the state are making a strong endeavor to raise a fund of $300,000 for the establishment of the Children's Hospital of Indiana. Drs. Francis O. Dorsey and Edward F. Hodges are vice-presidents of the association, and Drs. John J. Kyle, Louis Burckhardt, H. R. Allen, Oscar N. Torian, Jewett V. Reed, Edward F. Hodges, and Francis O. Dorsey, all of Indianapolis, are the medical members of the incorporators.——The new De Kalb County Infirmary, built at a cost of $28,000, was opened January 25.

Vital Statistics for January.—The State Board of Health reports that tonsillitis was the most prevalent disease in January as in December; that pneumonia, sixth in area of prevalence, advanced to second place in January, and that bronchitis, influenza, scarlet fever, and measles were unusually prevalent. There were reported 145 cases of smallpox in 24 counties with no deaths; 170 cases of diphtheria in 45 counties with 24 deaths; about 500 cases of scarlet fever with 9 deaths; 352 deaths from tuberculosis; 367 from pneumonia; 115 from accident; 32 from suicide, and 11 from homicide. During the month 2,744 deaths were reported, equivalent to an annual rate of 11.8 per 1,000.

MARYLAND

Addition to Hospital.—Three large wards are to be added to the United States Naval Hospital, Annapolis, at an expense of $83,000. One ward will be a general ward and two will be isolated wards.

Library to Be Dedicated.—The new library building of the Medical and Chirurgical Faculty of Maryland will be dedicated during its meeting in Baltimore May 13-15. Dr. William Osler, to whose suggestion the building is due, is to be the orator of the occasion.

Medical Society Meeting.—At the annual meeting of the George's Creek Medical Society, held in Frostburg, February 25, the following officers were elected: President, Dr. Timothy Griffith, Frostburg; vice-presidents, Drs. James O. Bullock, Lonaconing, and James H. Carpenter, Midland; secretary, Dr. James C. Holdsworth, Eckhart, and treasurer, Dr. W. Oliver McLane, Frostburg.

Personal.—Dr. Clemens von Pirquet, the new pediatrist of Johns Hopkins Hospital, Baltimore, was the guest of honor at the annual dinner given by the trustees of the hospital to the medical board, March 2.——At the meeting of the Johns Hopkins Hospital Club March 8, the program included a paper on "Frère Jacques" by Dr. Howard A. Kelly, and one on "Aretaeus the Cappadocian," by Dr. Eugene F. Cordell.

Defends Its Members.—The council of the Medical and Chirurgical Faculty of Maryland has decided to undertake the defense of Dr. William S. Love, Baltimore, a member who has been sued for alleged malpractice. About five years ago the society adopted the plan of defending its members in such cases without further charge than the membership fee. Several suits have been instituted and some have gone to trial, but in every instance a successful defense has been made. This is one of the advantages offered to the profession by the state society and is duly appreciated by the profession.

Work of the State Board of Medical Examiners.—The president of the State Board of Medical Examiners, Dr. Herbert Harlan, Baltimore, reports the following work of his board in the prosecution of charlatans: In July E. Frederick Morris pleaded guilty and was fined $50 and costs. In August Joseph Politzky was indicted and subsequently, on conviction, given sixty days in jail. In September, Mary Allen, colored, was convicted and fined $25 and costs. Morris Schlein was convicted and fined $20 and costs, and Aristide Giampietro was fined $50 and costs. William G. Thomason was held for court, but being unable to obtain bail, was kept in jail until his trial, when he was paroled. Robert H. Darrah, —— Wilmore, and John Anderson, the last two colored, have been indicted, and their cases are pending in the criminal court. H. W. Swartz, a cancer specialist from Oxford, Pa., was indicted, but will probably get off on a demurrer.

NEW HAMPSHIRE

Acquitted.—Dr. Herbert A. White, North Hampton, charged with murder in the second degree on account of the death of Mary A. Lane by alleged criminal operation, was acquitted February 2 after trial in the superior court at Exeter.

New Constitution.—A conference of the secretaries of county medical societies was held at Concord February 9, under the presidency of Dr. D. Edward Sullivan, secretary of the New Hampshire State Medical Society, to consider the new constitution of the society.

To Reorganize Medical Board.—A bill has been presented to he legislature, which has for its object the reorganization of he State Board of Medical Examiners. At present the board consists of nine members, three each from the regular homeopathic and eclectic schools. The new bill contemplates a board of five members made up without distinction as to school of medicine.

Society Election.—At the fortieth annual meeting of the Manchester Medical Association, held February 18, Dr. William H. A. Lyons was elected president; Dr. Walter T. Crosby, vice-president, and Dr. George C. Wilkins, secretary-treasurer. Drs. Henry A. Christian, dean of Harvard Medical School, and Timothy Leary, instructor in pathology in Tufts Medical School, were guests of honor at the banquet. Dr. Christian delivered an address on "Modern Methods of Investigation in Medicine as Illustrated by Recent Work on Nephritis," and Dr. Leary discussed "Newer Therapeutic Measures of Laboratory Origin."

Hospital Bulletin.—A new quarterly has appeared in Manchester, entitled the "Bulletin of the Beacon Hill Hospital Staff." The reason of being of this publication is said to be the necessity for a channel through which each member of the staff of Beacon Hill Hospital might concentrate his thought in one or more direct lines, and by so doing each would receive benefit from the other's work, and the spirit to always be alert thereby entertained. It is to be compiled from writings of the members of the staff who will also furnish and make reports of interesting cases. The first issue contains three articles by one member of the staff and one each by three other members.

NEW JERSEY

Money for Hospital.—Mercer Hospital, Trenton, was made the beneficiary of the annual charity ball and received $1,800 from this source.

Expelled by Society.—Dr. Albert J. Daly, Bayonne, is said to have been expelled from the Bayonne Medical Society because of his alleged violation of a rule forbidding the making of contracts with fraternal societies for medical aid for their members. Dr. Daly is said to have admitted that he broke the rule and declared that other members of the society had done likewise, and that it was not fair to make him the scapegoat.

Personal.—Drs. Charles L. Ill, Newark, and August A. Strasser, Arlington, have resigned from the medical staff of the German Hospital, Newark.——Dr. William H. McKenzie, Newark, has been appointed physician of Essex county.——Dr. Horace N. Parker, Trenton, is ill with diphtheria at Skillmans.——Dr. G. Howard McFadden, Hackensack, has been appointed physician of Bergen county.——Dr. John C. Loper has accepted temporarily the position of health officer of Bridgeton.——The Gloucester County Physicians' Protective Association has elected Dr. Duncan Campbell, Woodbury, president; Dr. William Brewer, Woodbury, vice-president, and Dr. Harry A. Stout, Wenonah, secretary.

NEW YORK

Henry Bausch Dead.—Henry Bausch of the Bausch & Lomb Optical Co., Rochester, died March 2, in Augusta, Ga., where he had gone for his health.

County Tuberculosis Hospital.—The supervisors of Ontario county voted February 24 to erect a tuberculosis hospital for the county at a cost of $15,000.

Amalgamation.—At a special meeting of the Rochester Academy of Medicine, February 24, questions were considered relative to the amalgamation of the Rochester Pathologic Society with the academy.

Sale of Cocain Restricted.—According to the annual report of the State Board of Pharmacy, the law recently passed regulating the sale of cocain is very effective. Complaint is made in the report that actions for the adulteration of drugs fail because of local prejudices in favor of the defendants.

Friends Pay Fine.—Dr. Snyder, Niagara Falls, who was said to have been fined $25 recently for practicing his profession in Niagara Falls, Ont., has written a letter to the press in which he states that several of his Canadian friends have subscribed the amount of his fine and returned it to him. He furthermore says that he will use this sum, together with fees derived from practice in Ontario until June, for the endowment of a bed in the Niagara Falls General Hospital to bear his name.

Personal.—Dr. Walter C. Klotz, assistant physician at the Stony Wold Sanatorium of Tuberculosis, has been appointed superintendent and medical director of the Vermont State Sanatorium, Pittsford, vice Dr. Henry D. Chadwick, resigned. ——Dr. James A. Lyon has resigned as physician at the Loomis Sanatorium, Liberty, and has been appointed official state examiner of candidates for admission to the Massachusetts State Sanatorium, Rutland, with an office at the Massachusetts General Hospital, Boston.

Free Dispensary Opened.—The managers of the St. Lawrence State Hospital, Ogdensburg, announce that there has been established at the institution a free dispensary where indigent persons, suffering from incipient mental or nervous affections, may consult the physicians of the hospital and receive advice. The dispensary will be open on Saturdays from 10 a. m. to 3 p. m. The hospital will not attempt the treatment of such cases, but they will be referred back to the family physician, and a letter will be sent to him summarizing the neurologic and mental findings, and advising as to the management of the case and its medical and hygienic treatment.

To Decrease Death Rate.—To diminish the loss of life in the state is the purpose of a recent communication and blanks sent out by the State Department of Health. The blank forms are a yellow card for the individual reports of tuberculosis by the physician; the statement of procedures and precautions to be taken on the premises of a tuberculosis patient, by the attending physician or health officer; the blank requisite for supplies; and the circular of information to be transmitted by the health officer to the physician or the patient. The most important blank "Statement Concerning Procedures and Precautions to be Taken on the Premises of the Tuberculosis Patient by the Attending Physicians or by Local Health Officers," provides for a careful detailed report by the physician as to the housing and domestic conditions of the family, and incidentally the correction of these conditions as far as possible with the aid of the machinery at the disposal of the Department of Health, which includes advice by the physician or health officer, disinfection of the premises, instructive literature, and in a number of cases attendance of a visiting nurse, and through the cooperation of the department of charities the providing of free milk and eggs for those unable to buy these necessaries.

New York City

Physicians Buy Building.—About 100 physicians who have had their offices in the Sydenham, Madison Avenue and Fifty-eighth Street, have formed a corporation and bought the property for $600,000.

Medical Inspectors Appointed.—The city board of health appointed 33 medical inspectors February 24, and of these, 15 were assigned to the Borough of Brooklyn. Early in the year 108 medical inspectors were dropped because of a lack of funds.

Measles Should Not Be Dropped.—The Kings County Medical Society and the Homeopathic Medical Society adopted resolutions, February 18, criticizing the dropping of measles from the list of contagious diseases to be investigated and disinfected.

Scarlet Fever on Receiving Ship.—There are said to have been 11 cases of scarlet fever among men on board the receiving ship *Hancock*, at the Brooklyn Navy Yard, and the patients have been removed to the Naval Hospital. Strict quarantine is being preserved.

To Improve City Hospital.—Plans have been filed for remodeling the octagonal cupola of the Metropolitan Hospital, Blackwell's Island, into four operating rooms. The alterations are to cost $12,000. The dining room and kitchen are also to be enlarged at a cost of $7,500.

Hospital for the Homeless.—An overnight hospital has been instituted by the Commissioner of Charities at the new municipal lodging house in East Twenty-fifth Street. Medical examination of the inmates showed that out of 355 men, women and children who slept at the lodging house, 12 per cent. had infectious diseases.

For Charity.—The will of the late Emma D. Cummins, which has just been admitted to probate, bequeathes to the Pathological Laboratory of St. Luke's Hospital $25,000; and to the Post-Graduate Hospital, the New York Eye and Ear Infirmary, Home for Old Men and Aged Couples, and Home for the Destitute Blind, each $10,000.

Personal.—Dr. A. L. Wolbarst has been appointed consulting genitourinary surgeon to the Central Islip State Hospital for the Insane.——Dr. Marvin R. Palmer has been appointed chief surgeon of the police department, vice Dr. John J. Quigley, deceased.——Dr. Mary M. Crawford has been made house surgeon of the Williamsburg Hospital.

Clearing House for Hospitals Proposed.—To aid individuals who are obliged to go to hospitals in the city, the board of managers of St. Luke's Hospital, and the president of the institution, are asking the cooperation of other hospitals in the establishment of a central office, to which persons needing attention may apply and be directed to the institutions best suited to their individual needs.

Mental Department in Vanderbilt Clinic.—A department has been opened at the Vanderbilt Clinic, to which cases of incipient insanity and borderland conditions may be sent for examination and advice. This department is open Tuesdays and Fridays from 2 to 4 p. m., and physicians referring patients to this clinic will be furnished, when desired, with diagnosis and suggestions for treatment.

New Auto Ambulances.—An automobile ambulance service has been installed at the Flower Hospital, which is conducted in connection with the New York Homeopathic Medical College. This increase in the service has been made on account of the abandonment of the ambulance service by Roosevelt Hospital. The trustees of the hospital have appropriated $50,000 for new wards to provide for the greater number of patients brought in by the improved ambulance service.

McCosh Memorial Fund Grows.—The executive committee for the McCosh Memorial Fund has sent out a report stating that up to February 12, there had been received in money and checks $93,362.60, and in pledges payable at future dates, $6,795; making a total of $100,157.60. The report also asks for further contributions and states that all sums, no matter how small, will be appreciated. The fact that the site chosen for the new Presbyterian Hospital is that selected by Dr. McCosh, increases the scope and opportunity of this memorial.

The Health of the City.—The vital statistics of New York City for 1908 show that there has been a decrease of 20 per cent. in the number of marriages. How much of this is due to the financial depression and how much to the new marriage license law can not be determined, but it is believed that the law had much to do with preventing undesirable marriages. The death rate for 1907 was 18.48, and that for 1908 was 16.52. The campaign of education carried on by the health department is thought to have been a factor in this reduction. There were fewer deaths in the tenements during the summer months, indicating that the fight for the lives of infants is making steady progress. There was an increase of 4,140 births.

NORTH CAROLINA

Mineral Waters to Be Analyzed and Taxed.—The legislature has passed an act providing that all mineral water on sale in the state shall be subject to analysis by the chemist of the State Board of Health, and that a graduated tax be put on all mineral springs in the state that are maintained as an adjunct of, or in connection with, any park or hotel and advertised for the treatment or cure of disease.

McCormack and Wertenbaker Speak Before Legislature.—By special invitation of the General Assembly of North Carolina, addresses were delivered before the legislature, in the house of representatives at Raleigh, February 4, by Dr. J. N. McCormack, Bowling Green, Ky., on "Why and How Good Health Should Be Made More Contagious than Disease," and by Surgeon Charles P. Wertenbaker, P. H. and M.-H. Service, on "Tuberculosis." On the following day appreciative resolutions were passed by the legislature and ordered to be transmitted to Drs. McCormack and Wertenbaker.

Medical Practice Act.—The addition to the medical practice act, passed at the recent session of the legislature, provides for the issuance of a limited license to practitioners unable to pass the usual examination, such license allowing the holder to practice only in specified areas of the state. This addition to the act is evoking much unfavorable comment among physicians, who regard it as a retrograde movement in medical legislation. The statute creating the board of medical examiners was originally enacted in 1859, and was considered for many years a model for many other states, although no penalty clause existed until 1885, when practice without license was made a misdemeanor punishable by fine and imprisonment. This law has been fairly well enforced, even in the remoter districts of the state, and the much-needed sentiment regarding its enforcement has been growing stronger. It is feared by the advocates of a higher standard that the passage of this addition to the act will foist on the profession a large number of incompetents who will apply for license in the limited districts, and after securing license, will locate wherever they please and practice without serious hindrance. If, on the other hand, the board should decline to issue limited licenses, it will immediately become a target for petty court proceedings, instituted by almost any one who desires a limited license, and in addition will put the board in the attitude of refusing to comply with the implied direction of the legislature. Furthermore, some physicians question whether or not it is constitutional to limit the practice of a physician to any restricted territory after license has been granted.

OHIO

Lectures on Tuberculosis.—The finance committee of the senate has appropriated $10,000 for the purpose of employing two lecturers on "tuberculosis" to travel throughout the state, each to receive a salary of $2,000 a year and expenses.

Personal.—Drs. Thomas M. Wright, Warren Coleman, and Wilbur R. Thompson have been confirmed as members of the board of health of Troy.——Dr. David W. Shellabarger, Pottsdam, is reported to be ill with pneumonia.——Dr. Abraham L. Sherick, Ashland, returned from Europe February 27.

Society Meetings.—At the thirteenth annual meeting of the Union Medical Association (Sixth Councilor District Medical), held in Massillon, February 9, the following officers were elected: President, Dr. Simon P. Wise, Millersburg; secretary, Dr. John H. Seiler, Akron (re-elected); and treasurer, Dr.

Harry P. Pomerene. Canton.——At a recent meeting of the Stark County Medical Society, Dr. Jacob F. Marchand was elected president; Dr. George F. Zinninger, secretary-treasurer, and Dr. Arthur J. Hill. corresponding secretary, all of Canton. ——Members of the Jackson County Medical Society have formed two classes to pursue the course of postgraduate study suggested by the American Medical Association.

PENNSYLVANIA

Antivivisection Loses.—After the consideration of the antivivisection bill, which absolutely prohibits vivisection, the senate committee on health and sanitation has announced that an adverse report will be made.

Railway Surgeons Elect.—At the annual meeting of the Pittsburg and Lake Erie Railway Surgeons' Association, held in Pittsburg February 18, Dr. John D. Milligan, Pittsburg, was re-elected president; Dr. J. S. Lauthan, Beaver Falls, vice-president, and Dr. Edward M. Island, secretary-treasurer.

State Law on Spitting.—Senator Sproul has introduced a bill which imposes a fine on persons who expectorate in public places, such as the street, railway trains and public conveyances. A fine of from $5 to $50 is the penalty attached for violation of the law, and constables are permitted to arrest violators without warrant.

Personal.—Dr. Raleigh R. Huggins has resigned as gynecologist to St. Francis' Hospital, Pittsburg.——Dr. Joseph R. Swartzlander has been elected burgess of Doylestown.——Dr. Charles A. Rahter, Harrisburg, who has been seriously ill with pneumonia, is reported to be improving.——Dr. Harry J. Donaldson, Williamsport, has been added to the staff of consulting physicians of the Cottage State Hospital, Blossburg.——Dr. Walter W. Palmer, Erie. was operated on in New York City for mastoiditis, February 10.

Donation to Jewish Sanatorium.—The latest donation to the new Philadelphia Sanatorium for Consumptive Jews at Eagleville, Montgomery county, is the gift of the entire site on which the institution is being erected. The land will cost $7,000, and is the gift of the Independent Order of Brith Shalom. Besides this gift, the organizers have raised $5,000 in cash and have secured the pledges of many persons to erect shacks in which the consumptives may live. The sanatorium is to be located on a seventy-acre farm in a very fertile valley and will be ready for occupancy May 1.

Vital Statistics.—During December, 16,185 births and 9,045 deaths were reported in the state. Chief among death causes were pneumonia, 1,127; violence, 835; tuberculosis, 767; nephritis, 493; diseases of early infancy, 469; cancer, 352; diarrhea and enteritis, 272; diphtheria, 254; typhoid fever, 182; scarlet fever, 117; influenza, 91; whooping cough, 72, and measles, 55. During January there were 10,755 cases of communicable diseases reported, including 2,382 cases of measles, 1,791 of scarlet fever, 1,265 of diphtheria, 1,225 of chickenpox, 1,131 of tuberculosis, 1,040 of pneumonia, 921 of typhoid fever, 525 of whooping cough, and 233 of mumps.

New Medical Societies.—The Pathological Society of Pittsburg was organized February 22, with an initial membership of sixteen, and the following officers: President, Joseph H. Barach; vice-president, Dr. Ernest W. Willetts, and secretary, Dr. Shaul George.——A Physicians' Club has been organized at New Wilmington, which will eventually be affiliated with the Lawrence County Medical Association. Dr. Herbert E. Barr is president; Dr. William A. Clark, Jr., secretary, and William L. Smith, treasurer of the organization.——The Woman's Medical Society of Pittsburg was organized February 1, with the following officers: President, Dr. Adaline M. Watson; vice-president, Dr. Luba M. Goldsmith; recording secretary, Dr. Bertha Dornbush; corresponding secretary, Dr. Elizabeth L. Martin, and treasurer, Dr. Katherine Cook.

Compromise on Medical Bill.—As a result of the consideration of the new medical bill before the senate committee on health and sanitation, March 2, a compromise was effected by the different schools of medicine. Under the terms of the compromise an amendment was agreed on, whereby the board of medical examiners, to be appointed by the governor, shall consist of three regulars, three homeopaths and two eclectics. The osteopaths will not be represented, but the state will officially recognize them by licensing osteopaths who are graduates of regular schools or colleges of osteopathy, who have practiced two years, and who have passed the examination of the state board. After 1912 all persons desiring to practice osteopathy must be graduates of an osteopathic college, and to obtain a physicians' certificate, must pass the state examination. All persons who are now practicing osteopathy may continue to do so, but can not procure physicians' certificates unless they are graduates of regular osteopathic colleges and have passed the state examination.

Philadelphia

Dinner to Dr. Mills.—The friends of Dr. Charles K. Mills throughout the country give a testimonial dinner in his honor at the Bellevue-Stratford, March 13, and present him with a loving cup. The affair is in charge of a committee composed of Drs. William W. Keen, Wharton Sinkler, James H. Lloyd, William G. Spiller, Francis X. Dercum, chairman, and David Reisman, secretary.

Personal.—Dr. Joseph P. Tunis sailed for Europe March 4. ——Dr. S. Lewis Ziegler has recovered from his severe attack of facial erysipelas and has sailed for Europe.——Dr. Alfred Gordon has been elected a member of the Société Médico-Psychologique of Paris.——Dr. R. Davis Webb is said to have been committed to the State Hospital, Norristown.——Dr. G. Morley Marshall is taking a hunting tour in Africa.

Water Sterilizers for Schools.—Urged by the health authorities to adopt some means to prevent the spread of typhoid fever and kindred diseases among the pupils of the public schools, the Board of Education, some time ago, equipped seven grammar schools and one high school with water sterilizing plants. The results have been so gratifying in reducing the percentage of diseases in these schools that it is now planned to give wider scope to the experiment. Similar plants will be installed in all public school buildings now in course of construction or to be erected, and the authorities are looking forward to the period when every school building will furnish its pupils with pure drinking water.

Officers Elected.—At the annual meeting of the Section of Ophthalmology of the College of Physicians, Dr. William Zentmayer was elected chairman and Dr. Thomas B. Holloway, clerk.——The Philadelphia Neurological Society has elected the following officers: President, Dr. Theodore H. Weisenburg; vice-presidents, Drs. H. H. Donaldson and George E. Price; secretary, Dr. Alfred R. Allen; treasurer. Dr. John H. W. Rhein; and council, Drs. James W. McConnell, William G. Spiller and Augustus A. Eshner.——The Philadelphia Academy of Surgery has elected the following officers: President, Dr. William J. Taylor; vice-presidents, Drs. Robert G. LeConte, G. Wilym G. Davis; secretary, Dr. Charles F. Mitchell; treasurer, Dr. James P. Hutchinson; and recorder, Dr. John H. Jopson.——At the regular meeting of the Northwestern Medical Society the following officers were elected: President, Dr. Clarence P. Franklin; vice-president, Dr. James T. Schell; secretary, Dr. Harry Hudson; treasurer, Dr. Ellis E. W. Given; and censors, Drs. Nathan G. Ward, William McKeage and Samuel M. Wilson.

VIRGINIA

New Medical Association.—The Isle of Wight Medical Association was organized January 4, with the following officers: President, Dr. John S. Marshall, Smithfield; vice-president, Dr. Gavin Rawls, Carrsville. and secretary-treasurer, Dr. R. Lee Seward, Isle of Wight.

Railway Surgeons Appointed.—Dr. William K. Vance. Bristol, chief surgeon of the Virginia and Southwestern Railway, has made the following staff appointments: Dr. Thomas F. Staley, Bristol, oculist; and local surgeons, Drs. William R. Rogers, Bristol; Lewis E. Mock, Mountain City, Tenn.; Joseph S. Donnelly, Shouns, Cross Roads, Tenn.; David R. Stout, Butler, Tenn.; Eugene E. Hunter, Elizabethton, Tenn.; Henry F. Alexander, Elizabethton, Tenn.; Edward S. King, Bluff City, Tenn.; C. G. Martin, Mendota, Va.; C. T. Barker, Gate City, Va.; Lucian B. Horton, Gate City, Va.; Joseph P. Trent, Clinchport, Va.; James W. Kelly, Big Stone Gap, Va.; William G. Painter, Big Stone Gap, Va.; Morand L. Stallard, Appalachia, Va.; Nicholas I. Ardan, Keokee, Va., and Emmett H. Pomeroy, Black Mountain, Va.

WASHINGTON

Society Meeting.—At the annual meeting of Chehalis County Medical Society, held in Aberdeen, Dr. George E. Chamberlain, Aberdeen, was re-elected president; Dr. Adelbert J. McIntyre, Hoquiam, was elected vice-president, and Dr. Clayton E. Bartlett, Aberdeen, secretary-treasurer.

Opposes the Use of Liquors.—Seventy-five of the 220 members of the King County Medical Society. on February 15, voted for the amendment prohibiting the expenditure of the society's funds in the purchase of alcohol, malt or fermented beverages to be consumed at the stated social functions of the society.

Antituberculosis Society Organized.—The King County Association for the Prevention and Relief of Tuberculosis was organized at Seattle January 26. Among the organizers were Drs. E. R. Kelly, Elmer E. Heg, Clarence A. Smith, James E. Crichton, Stuart V. R. Hooker, Ivar Jansen, William A. Shannon, Park W. Willis and Kenelm Winslow.

Expelled from Society.—Dr. J. Ellery Fales, health officer of Walla Walla, is said to have been expelled from Walla Walla Valley Medical Association, February 23, on the ground that he had acted in an unseemly manner, privately, officially and professionally. Dr. Fales claims that more than fifteen of the practitioners of Walla Walla have not taken the state examination, and that among these are the foremost ones that have charged him with incompetency. As health officer of the city, Dr. Fales has sent out orders that all physicians shall obey carefully the state laws on vital statistics and health regulation.

WISCONSIN

Tuberculosis Exhibit.—The State Tuberculosis Exhibit at the International Tuberculosis Congress, together with reproductions of other important exhibits, prepared by the department of bacteriology of the state university and the Wisconsin Antituberculosis Association, is being exhibited in the cities of the state, remaining from three to five days in each locality.

Change in Management of Sanatorium.—As the result of a difference of opinion between the State Board of Control and the management of the State Tuberculosis Sanatorium, Wales, Dr. Paull, superintendent, has resigned, and Dr. M. K. Greene, first assistant at the State Hospital for the Insane, Mendota, has been placed in temporary charge of the institution. Dr. J. W. Coon, formerly of Milwaukee, who was offered the position of superintendent, is said to have accepted February 28.

WEST VIRGINIA

Site Not Satisfactory.—The site for the State Sanatorium for Tuberculosis offered by Levi P. Morton at Red Sulphur Springs is not satisfactory to the West Virginia Tuberculosis Commission on account of its inaccessibility, the scarcity of sunlight and the bad condition of the buildings already on the ground.

Society Meetings.—At the annual meeting of the Brooke County Medical Society, held in Wellsburg, Dr. John P. Johnston, Wellsburg, was elected president; Dr. Joseph B. Palmer, Wellsburg, vice-president, and Dr. William T. Booher, Bethany, secretary.——Kanawha County Medical Society, at its annual meeting held in Charleston, elected the following officers: Dr. George C. Schoolfield, president, and Dr. Charles O'Grady, vice-president; and re-elected Dr. Peter A. Haley, secretary, and Dr. Edgar B. Fridenwald, treasurer, all of Charleston.——Cabell County Medical Society, at its annual meeting held in Huntington, elected the following officers: President, Dr. Edward S. Buffington; vice-president, Dr. Joseph E. Rader; secretary, Dr. James R. Jones; treasurer, Dr. Isaac R. Le Sage, and censors, Drs. Karl C. Pritchard and George W. Tooley, all of Huntington.——At the annual meeting of Harrison County Medical Society, held in Clarksburg, the following officers were elected: President, Dr. Jesse S. Maloy, Shinston; vice-president, Dr. Charles W. Halterman; treasurer, Dr. Benjamin F. Shuttleworth; censor, Dr. David P. Morgan; and delegates to the state association, Drs. E. Newton Flowers, Harvey V. Varner, and David P. Morgan, all of Clarksburg.——Marion County Medical Society has elected the following officers: President, Dr. Henry R. Johnson; vice-president, Dr. James A. Graham; secretary, Dr. James W. McDonald; treasurer, Dr. William H. Sands, all of Fairmont; censors, Drs. Edward W. Howard, Fairmont, James A. Riedy and Claude L. Holland, Fairmont, and delegates to the state association, Drs. James J. Durrett and William C. Jamison, Fairmont.——The Little Kanawha and Ohio Valley Medical Society, at its meeting in Parkersburg, re-elected the following officers: President, Dr. Thomas A. Harris, Parkersburg; vice-presidents, Drs. E. T. Castro, Parkersburg, Archibald Bee, Cairo, and J. Young; secretary, Dr. C. J. Scott; assistant secretary, Dr. Rolla Camden; treasurer, Dr. C. W. Hudson, and councilors for Wood county, Drs. Benjamin O. Robinson, Thomas J. Maguire and Will S. Keever, Parkersburg; for Wirt county, Dr. Alexander J. Mitchell, Burning Springs, and for Jackson county, Dr. Jacob E. Barrows, Ravenswood.

GENERAL NEWS AND COMMENT

Reward for Typhoid Cure.—The Mexican Academy of Medicine has offered a reward of 50,000 pesos (nearly $25,000) for the cause of and to ascertain a cure for the disease. Of this, 20,000 pesos are to be awarded to the person discovering the specific for the disease, 20,000 to the individual discovering the serum which will kill the typhoid germ in the blood, and 10,000 will be distributed among the persons who have most efficiently helped in the solution of the problem.

The Prevention of Blindness.—No one nowadays doubts that a large percentage of blindness in children is the result of neglect to put into effect well-recognized prophylactic treatment. For this reason the necessity is generally acknowledged for routine prophylactic treatment by Credé's or by some similar method. This is emphasized in a pamphlet, "Children Who Need Not Have Been Blind," published by the special Committee on Prevention of Blindness of the New York Association for the Blind. The gonococcus is no respecter of persons, and is often found where least expected, so that a prophylactic measure that under no circumstances does harm, and does good in all cases where indicated, should become a routine practice. The educational and missionary work done by the committee is in the highest degree commendable, and, appealing as it does to the public at large, and especially to midwives, who do so much of the obstetric work in the poorer districts of large cities, should prove an effective factor in lessening the dreadful scourge of preventable blindness in infants.

CANADA

Congress of Physiotherapeutics.—A number of the physicians of Montreal will participate in the second Congress of Physiotherapeutists to convene in Paris, April 13. Dr. Michel D. Brochu, Quebec, is honorary president of the Canadian Committee; Dr. Charles N. de Blois, Three Rivers, acting president; Dr. Henri Lasnier, Montreal, general secretary.

Gifts for McGill.—A friend of McGill University, Montreal, has promised to donate $100,000 to that institution, as soon as the balance of $500,000 is raised. Another friend has made an unconditional donation of $25,000 to the university. McGill needs $2,000,000; but the corporation has decided to let this stand for the present, and to endeavor to get subscriptions for the $400,000 required to ensure the delivery of the $100,000 promised.

Personal.—Lieut.-Col. Herbert S. Birkett, M.D., Montreal, was elected president of the Association of the Canadian Army Medical Corps at its recent annual meeting in Ottawa. ——Dr. Thomas W. Jeffs has resigned his position as medical health officer of South Vancouver, B. C.——Dr. Charles W. Duval, who for the past two years has been pathologist to the Montreal General Hospital and lecturer in pathology in McGill University, has been appointed professor of pathology in Tulane University, New Orleans.

Marine Hospital in British Columbia Poorly Provided.—Recently an order was sent from Ottawa refusing admission to seamen from coasting steamers to the Marine Hospital in British Columbia, and it has caused a great deal of dissatisfaction, owing to the fact that the hospital in the past has been largely used for these seamen. Last year there were less than 100 patients in the hospital, and very few of these were sent in from the deep-sea steamers, for which purpose the marine hospital primarily exists, and who pay the bulk of the sick mariners' fund. The hospital is said to be poorly equipped, and it is claimed that the physicians will not allow serious cases to be handled there. It is supplied with but twenty beds. There is an operating room, but no surgical instruments are provided. Recently an inspector from the Department of the Interior at Ottawa, under whose administration Canada's marine hospital service is conducted, visited this hospital and the order for curtailment followed.

Reciprocity in Western Canada.—There was held recently in the Medical Library of Winnipeg a meeting of the physicians of that city and surrounding country to discuss the proposed measure of reciprocity among the provinces in western Canada, namely, Manitoba, Saskatchewan, Alberta and British Columbia. Dr. Robert G. Brett, Banff, Alberta, was the principal speaker of the evening, and advocated the establishment of a central western examining board for the above-mentioned provinces, stating that his province of Alberta was strongly in favor of the scheme. This would mean one examination and one license for the four provinces. Although the measure for Dominion Registration advocated some years ago by Dr. Roddick is still on the statute books of Canada, it has never become law, owing to the fact that it has been opposed by Ontario and Quebec. It is proposed to call a meeting of the medical men of the west at the time of the meeting of the Canadian Medical Association at Winnipeg in August. Meanwhile delegates will visit in the different provinces and get the individual opinions of the members of the profession on the question.

New Medical Act for British Columbia.—A new medical act for the Province of British Columbia is being promoted in the legislature of the province in the interests of the British Columbia Medical Council. The proposition with regard to the licensing of osteopaths is a unique feature of the measure. The clause relating thereto is as follows: "Nothing in this act shall prevent or prohibit any duly qualified osteopath from practicing his profession for reward or gain within the province of British Columbia from and after the passing of this act; provided, that all practitioners of osteopathy within the meaning of this act shall be duly qualified osteopaths of a recognized school or college of osteopathy: and for the purposes of this act, a recognized school or college of osteopathy shall be deemed to be an institution recognized by the American Osteopathic Association; provided, further, that before any such osteopath shall be lawfully entitled to practice osteopathy within British Columbia, such osteopath shall take and successfully pass an examination satisfactory to the council in the following subjects: Anatomy, physiology, chemistry, toxicology, pathology, bacteriology, histology, neurology, physical diagnosis, obstetrics, gynecology, minor surgery, hygiene, medical jurisprudence, principles and practice of osteopathy. The council, for the purpose of such examination of applicants for registration as osteopaths under this act, shall appoint an osteopath, who shall prescribe the examination for such applicants in relation to the principles and practice of osteopathy. Any duly qualified osteopath who shall successfully pass such examination shall be restricted and shall be entitled to be registered under this act, as a member of the college: provided, that such osteopath shall be restricted wholly to the practice of osteopathy."

FOREIGN

Helmholtz Medal Goes to E. Fischer.—At the recent annual meeting of the Prussian Academy of Sciences, at Berlin, the Helmholtz medal was awarded to Emil Fischer, the well-known professor of chemistry at Berlin, who was the first to produce albumin by synthesis. By a curious coincidence the only other beneficiary was another E. Fischer, the professor of anatomy at Feiburg. He was granted about $1,250 for anthropologic research on the cross-breed population of Africa.

The Catastrophe in Southern Italy.—The *Policlinico*, Feb. 14, gives a list of the medical men known to have lost their lives in the earthquake at Messina, fifty-one in all. Only nine left surviving children, including six boys between 3 and 15 and one girl of 17. Our exchange refers in moving terms to the physicians who survived the disaster, but whose losses in family, friends and property make them envy the fate of those buried under the ruins. The *Policlinico* in a previous issue referred to the action of the Rome correspondent of the *Münchener medizinische Wochenschrift* in appealing to the physicians of Germany for aid for the stricken medical men in Sicily, deploring it as an act of weakness to appeal for outside help. At the same time it expresses deep appreciation and gratitude for aid from outside spontaneously rendered. The appeal in our German exchanges for contributions to the international fund, "Pro Italia medical," is signed by a numerous committee, the list of names filling nearly a whole column of solid type, with von Bollinger of Munich as chairman. The amount contributed in Germany to the fund was 3,780 marks ($950), February 16. Dr. Calendoni of Naples was in one of the first medical relief parties at the scene of the disaster, and he summarizes his impressions in a communication in the *Presse Médicale*, February 13. He estimates the number of dead throughout the quake district as about 200,000. Many lives were lost in the flight in the darkness of the night and the thick dust that filled the air when the persons had escaped the shock of the earthquake. Many instances of serious mental disturbance were encountered with entire absence of physical injury. Numbers of the rescued were in a kind of stupor, apathetic, speaking of their losses as if they did not concern them or had happened twenty years ago. He noticed that the pupils were dilated in most of these persons, and some of the facial muscles were contracted. So many persons escaped from upper stories by letting themselves down by sheets tied to the windows, that these floating sheets gave a peculiar aspect to the ruins. In some cases every bone in the body seemed to be fractured, including the skull and vertebræ, but fracture of the femur was most common. Complications began to develop after the first few days, phlegmons, gangrene and tetanus, the latter appearing about the eighth day. The gangrene occurred in parts that had been long under crushing pressure. A number of cases of catalepsy, chorea and epilepsy were observed, and many of the survivors succumbed to acute respiratory affections, the result of exposure to the rain and cold. As late as the fourteenth day twenty-seven persons were saved; many had had nothing to eat during this period. The fifteenth day a little girl of three was rescued safe and sound after her long fast. A few were found alive the nineteenth day, but most of these human larvæ, he says, succumbed soon after their deliverance. One lad of 9 succeeded in making his way out from under the ruins the nineteenth day. The childish mind could not grasp the catastrophe, and the children were in good spirits as a rule. Two little ones were found playing merrily on a bed with some kittens in the midst of ruins that had buried all their family. One boy injured himself severely in digging all day but his face was radiant as he had finally rescued his father. It was a great field for the neurologist, but there was no time and no one had the sang-froid for specialist research then.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 27, 1909.

The Polyclinic

The difficult financial position of the Polyclinic has been mentioned in a previous letter. The annual subscription of $5 has never been sufficient to pay the expenses and left the large sum of $4,500 to be raised by class and laboratory fees and increased subscriptions which had to be solicited again. To help remedy this, 174 subscribers expressed their willingness to subscribe various amounts which would increase the income by $1,500. As the Polyclinic was still faced by a large deficit it was determined to close it, but Sir Jonathan Hutchinson, who may be regarded as its founder, munificently undertook for two years to provide the deficiency. Capt. Hayward Pinch, who has ably filled the position of medical superintendent for nearly ten years, has to the great regret of everyone resigned his post, as he has been appointed director of the radium institute. Some valuable additions have been made to the Hutchinson Museum, and the whole collection is now classified and arranged in such a manner as to permit of speedy and easy reference.

Congress on Tropical Diseases in India

A congress on tropical diseases, opened at Bombay February 22, was attended by representatives of all parts of India and by Professors Ronald Ross of Liverpool and Shiga of Japan and Dr. Musgrave of the Philippines. This is the first congress of the kind and it has created widespread interest. All the Indian administrations deputed delegates and local bodies and individuals provided ample funds. There were five sections which sat for three days, and papers were read covering every branch of tropical disease. The proceedings were opened by the governor, Sir Charles Clake. In a paper on "Malaria," Professor Ross urged the government to set aside from the sanitary budget for the prevention of malaria a sum proportionate to the mortality from the disease. He advocated the destruction of mosquitoes in large towns, quininization in rural areas, and both methods combined during malarial epidemics. In a combined paper, Captain Christophers and Dr. Bentley discussed "The Human Factor in the Causation of Malaria." They found that in a community composed of malaria-stricken subjects in a state of physiologic poverty, infection diminished very slowly, even in the absence of the anopheles. This factor of residual infection might thus convert the whole community into a reservoir of infection, ever ready to involve its neighborhood in an epidemic and capable, on migration, of diffusing malarial infection far and wide.

National Tuberculosis Conference

A National Conference on Tuberculosis has been held in London, the object being to arouse the nation to a sense of its duty in the eradication of a disease which is preventable and yet causes more deaths than all other diseases combined. The conference is of a popular rather than a scientific nature, though papers have been contributed by various medical authorities. Archdeacon Sinclair, who presided at the opening meeting, said that physicians had done their utmost in fighting the disease and the public must now do their share.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 23, 1909.

The Reorganization of Medical Studies

An official decree of January 11 last has reorganized the medical curriculum along the lines I outlined in The Journal, Sept. 19, 1908, page 1023, and Jan. 9, 1909, page 145. The minister of education has now sent to all the institutions involved a circular relative to the application of this decree. The minister recalls the long time spent in deliberation on the details of the reform; the investigations made from the start among all the faculties of medicine; the labors of the commission of 77 members, which includes not only professors of the faculties and medical schools, but members of parliament, men especially qualified by their work; physicians to the hospitals, and representatives of the principal medical associations. The minister says that it is reasonable to hope that a decree which has been prepared with so much care will contribute notably to the betterment of the course of medical study: "fortifying at the same time by assiduous and methodical frequenting of clinics and laboratories the scientific and professional education of the future physician, impressing on him by all possible means and in all forms the habit of observation and experimentation, developing in him at the same time the sense of duty and responsibility—such is the end proposed. The faculties and medical schools will undoubtedly understand how important it is that the application of all the provisions of this decree should be surrounded by the most serious safeguards." Before fixing the date at which the reform shall come into force the minister desires to be informed precisely what measures the faculties intend to take to ensure the new organization in the best conditions possible. He invites them to deliberate on the matter and requests their opinion before the first of May.

The International Sanitary Office

As I mentioned in one of my previous letters, the delegates of the various countries which took part in the international sanitary conference, which assembled at Rome in December, 1907 met again at Paris, in November last, and proceeded to organize the bureau of the international sanitary office (see editorial in The Journal, February 27, page 708). This office has just been installed at 195 Boulevard Saint-Germain. It will centralize all the information concerning the great epidemic maladies, such as cholera, plague and yellow fever. It will indicate to the participating governments the modifications that should be made in international sanitary agreements, in order more effectively to combat these scourges and to prevent their propagation by circumscribing the foci of infection. The office will publish collective studies on the course of epidemics throughout the entire world and will publish the general regulations promulgated by the various sanitary administrations. The first task of the sanitary office will be to occupy itself in arresting the ravages of cholera which continues to flourish in Russia, and to prevent its transmission to other European countries. The office will also investigate what measures are to be taken to meet the danger created by direct railroad communication between Mecca and Syria. This is a situation demanding urgent regulation by appropriate international measures, which the office will have to study and point out to the interested governments.

The Medical Charges in Industrial Accidents

Of late abuses have been noted in regard to the medical expenses that employers or insurance companies are called to pay for the professional aid rendered to the victims of industrial accidents. With a view to remedying this abuse, as much as possible, the minister of labor recently appointed a special commission, composed of physicians and surgeons to the hospitals, to seek for an equitable adjustment of the medical charges in the matter of industrial accidents. The minister requested this commission to examine whether for the principal classes of accidents it might be possible to estimate the normal duration of the period of incapacity for work on which to base an estimate of proper medical charges. The commission, after studying and discussing the question, unanimously reported that under existing conditions the data both of information and clinical experience are insufficient to allow of such an estimate.

The Chair of History of Medicine and Surgery

The professors of the medical faculty of Paris at a board meeting nominated Chauffard as first choice and Dupré as second choice for the chair of the history of medicine and surgery, to succeed Prof. Gilbert Ballet, who has been appointed clinical professor of mental pathology and diseases of the brain. The names of these candidates were accordingly presented to the minister of education as the choice of the faculty.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 18, 1909.

Modifications in the Requirements for the Medical Degree

The requirements for the title of doctor of medicine in the Berlin University have been lately considerably simplified to keep pace with modern progress. The dissertation in Latin was long ago dispensed with. The fees for the ordinary examination, the *"Kolloquium,"* have been reduced from 440 to 300 marks ($110 to $75) and in the exceptional cases in which the severer examination, the *"Rigorosum,"* is taken, from 660 to 500 marks ($165 to $125). The public presentation and disputation of a thesis are now abolished, as well as the Latin doctorate oath. The dissertation need no longer be on a strictly medical theme, but any subject bearing an instructive relation to medicine as a science or art may be chosen. In the *Rigorosum* examination pharmacology may be offered instead of physiology. The certificate of attendance at lectures has been also dropped from the requirements at Berlin, as an experiment. This was done at Bonn some time ago. This requirement was quite superfluous and served only to annoy both students and professors, while it failed to secure the attendance of students to the end of the semester. The students often got their comrades to certify to their attendance and left town before the lectures were over.

Call of Professor Pfeiffer to Breslau

As intimated in my previous letter, Pfeiffer, one of the youngest pupils of Koch, and who, as is well known, was the discoverer of the influenza bacillus, has taken the place of Flügge at Breslau.

The Conflict at Cologne

The trouble between the physicians and the insurance societies at Cologne still continues. The *"Krankenkassen"* have been able to secure only fifty-two physicians, and as these are not enough to care for the insured, trouble is anticipated shortly and it is believed that the government will be compelled to take a hand. It is of course impossible to predict in what direction the influence of the authorities will be exerted.

Army Sanitation

British authorities have published a comparison of the morbidity and mortality in the armies of the various nations which, according to the opinion of Dr. Schwiening, staff physician of the German war department, does not correctly represent the facts. According to the British figures the admissions for sickness per 1,000 of the force were for Great Britain and Ireland, 438; for France, 670; for Germany, 610.4; for Austria-Hungary, 1,179.8, and for Russia, 412.2. The British figures, however, are based on admissions to hospital, those of the other nations include also ambulant patients. If these were added, the number for Great Britain would rise to 931.5. It is impracticable for various reasons to compare the British army with other armies, and Dr. Schwiening concludes that the statistics referred to are liable to give false impressions of the real condition as to the health of the various armies.

Twenty-fifth Anniversary of the Discovery of the Cholera Bacillus

In the *Deutsche medizinische Wochenschrift*, February 14, Professor Fischer, the hygienist in Kiel, gives an interesting review of the circumstances and effects of the discovery of the cholera bacillus which was announced in this same journal just twenty-five years before. He recalls that this discovery has been influential in overthrowing the theory of Pettenkofer that the virus of cholera must be matured in the soil, and it has demonstrated the possibility of transmission of cholera by drinking water so that the character of preventive measures against this disease has been changed to correspond with those employed against other infectious diseases. The success of this method has been manifested anew during the recent epidemic in Russia: by the earliest possible diagnosis and isolation of cholera cases, Germany has been kept free from the spread of cholera since the great epidemic at Hamburg in 1892.

Sunday Rest for Pharmacists

In Saxony the Minister of the Interior has directed that pharmacies shall close at 1 p. m. on Sundays and holidays instead of 2 p. m., as hitherto, thus securing an additional hour of rest. The *Verein Berliner Apotheker* has for some time been trying to ensure a period of rest on Sundays by providing for alternate closing of the drug stores in various parts of the city, but the plan has not succeeded on account of the opposition of a large proportion of the proprietors.

Influence of Antitoxin on Diphtheria Mortality

As some epidemiologists do not yet admit the value of antitoxin in lowering the mortality from this disease, new statistics on this subject are still of value. Some recently published in the *Archiv für klinische Chirurgie* show that between 1882 and 1893, 71.2 per cent. of the tracheotomized children died, while from 1903 to 1908 only 35 per cent. died. Of those who were not operated on, 26.3 per cent. died in the former period and only 9.11 per cent. in the latter. That the mortality is greater the later the injection is deferred, is shown by the fact that only 6.98 per cent. died of those in whom the injection was made on the first day of the disease, while of those not receiving the antitoxin until the sixth day, 45 per cent. died.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Feb. 23, 1909.

Report of the Street Ambulance Corps for 1908

The statistical and financial year-book of the Vienna *Rettungsgesellschaft* for 1908 gives some interesting facts and figures in regard to the work done by the ambulance corps. Altogether, 30,762 cases were dealt with, an average of 85 daily. Among these were 6,980 sudden attacks of illness, 9,828 accidents and injuries, 980 suicides, attempted or accomplished, 345 cases of sudden attack of mania, and 12,320 cases of illness requiring the patient's removal from his home to the hospital. In 145 instances so-called flying ambulances were established; that is, ambulances were provided prophylactically, so to speak, whenever it was thought that the presence of a multitude of people (as, for instance, when the pageants and public spectacles in celebration of the emperor's jubilee last year drew immense crowds) might give rise repeatedly to the need for medical assistance. These flying ambulances have proved very satisfactory and have received the approval of the authorities. Apart from the aid thus rendered, the corps deserves credit for its training, given to men and women, in the work of first aid. No less than 1,900 persons, drawn from all classes of the population, were trained last year in 20 "Samaritan classes." The Samaritan expedition to the seat of the Italian[1] earthquake could not well be included in the report, as it took place on the last day of the year. The entire expenditure for the year, including a special donation of $5,000 for an accident station, to be erected soon, amounted to only $52,000, while the income was about $15,000 more, all from private contributions. The *Rettungsgesellschaft*, now in its twenty-seventh year, is a favorite with the people, because neither racial nor religious prejudices are allowed to play any part in its management or administration, which can not be said of all our charitable institutions. It was founded under the shadow of the awful disaster in 1881, when the municipal theater burned down and 300 persons perished for want of organized immediate aid. Since then the excellent organization of the *Rettungsgesellschaft* has served as a model for numerous ambulance corps in Germany, England, France and Italy. In fact, its abolition would now mean a serious calamity for this city. Its medical staff consists of 20 doctors; there are 22 attendants; and the equipment comprises 70 cars, besides 2 automobile cars, specially fitted for emergency cases and the transportation of patients, and the 3 kitchen cars previously mentioned.

The Use of Tobacco in Austria

Within the last ten years the use of tobacco has increased in this country by nearly 75 per cent. The minister of finance is well satisfied with the revenue thus obtained, but the medical aspect of the matter is not so satisfactory. The increase is due chiefly to the improved quality of cigarettes, of which more than 2,500,000,000 were smoked last year; the heavier cigars were also largely used, while the lighter cigars, with a nicotin percentage of 2.5 to 3.5, were rather neglected. The pipe is not very much used here. At the instance of medical authorities, the government has introduced "nicotin-free" cigars—so called, but really only nicotin-poor—the original nicotin content having been artificially reduced to about one-fourth of the original amount. There has been no increasing demand for this kind of cigars and cigarettes. It has been found that the industrial classes consume no more tobacco than do the agricultural classes, though, naturally, in towns there is more of a tendency to smoke to excess. The cigarette accounts for the extension of the habit of smoking to women and to children under 16. It has been estimated that, taking the male population of Austria between the ages of 20 and 60 as a basis of calculation, and making no allowance for the numerous non-smokers of cigarettes, the daily average of cigarettes smoked is about five for each individual. The snuffing of tobacco has become almost unknown here. The entire demand for snuff did not exceed two tons last year for a population of about 27,000,000.

Celebration of the Hundredth Anniversary of Darwin's Birth

The Vienna medical and biologic societies have each recently commemorated the hundredth anniversary of Darwin's birth by impressive exercises. Prof. B. Haatschek, speaking before the *Biologische Gesellschaft*, pointed out how Darwin's theories had enabled others to erect a definite structure of ontology and phylogenesis. The municipality of Vienna paid its tribute to the great man by naming a street in his honor.

Pharmacology

ADVERTISED CLAIMS FOR COLLARGOL

Report of the Council on Pharmacy and Chemistry

The attention of the Council on Pharmacy and Chemistry has been called repeatedly to the extreme and extravagant claims made for collargol, a product which the Council has accepted. The following are examples of such claims and appear in the advertising matter distributed by Schering & Glatz, the American agents for the preparation:

> "COLLARGOLUM
>
> "Is a powerful and harmless systemic antiseptic in the most varied medical and surgical infections. It checks beginning sepses and often effects brilliant recoveries in desperate ones. Recent investigations show that with its direct bactericide energy it exerts a marked electrolytic [*] and leucocytogenetic action, and thus greatly aids the natural protective forces of the body.
>
> "Used topically, by mouth, rectally, intravenously or by inunction, Collargolum forestalls the development of sepsis from accidental or operative wounds or child-birth, arrests beginning medical and surgical infections, and often achieves brilliant recoveries in apparently hopeless cases."

Since these and similar claims were considered extravagant and unwarranted, a motion was adopted to rescind the approval of collargol and to publish the reasons therefor. Later, this action was reconsidered in part, and in place of it, it was moved that the matter be referred to a committee of three—a surgeon, a pharmacologist and an internist—to be composed of men not members of the Council. Dr. J. T. Bottomley, Boston, Dr. C. W. Edmunds, Ann Arbor, and Dr. David L. Edsall, Philadelphia, were appointed and accepted the position.

Schering & Glatz, having been advised of the appointment of this committee, objected and requested that Dr. S. Solis Cohen, Philadelphia, Dr. Reid Hunt, Washington, D. C., and Dr. Roswell Park, Buffalo, N. Y., be added to the committee. This request the Council agreed to and these gentlemen were asked to serve. Drs. Cohen and Hunt accepted the position, while Dr. Roswell Park declined to serve. Accordingly, the committee was constituted as follows: Dr. Edsall, chairman;

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[1] The Journal, Feb. 13, 1909, p. 573.

* When action was first taken Messrs. Schering & Glatz asserted that the Council misquoted one claim and said "We never asserted that Collargolum possessed a marked 'electrolytic' action." When referred to their own pamphlets for verification, they replied that the word "electrolytic" was "a typographical error for electrocatalytic." Later Schering & Glatz said: "Our friends state that in speaking of the actions of Collargolum the word 'electrocatalytic' should be modified to read 'catalytic' . . . "

Dr. Edmunds, Dr. Bottomley, Dr. S. Solis Cohen and Dr. Hunt. It should be noted that while the members of the committee selected by the Council were non-members of the Council, Dr. Edsall was later appointed a member by the board of trustees.

Two reports have been submitted by the committee, a majority report signed by Drs. Bottomley, Edmunds, Edsall and Hunt, and a minority report signed by Dr. Cohen. Both reports agree on the point at issue, viz., that the advertising matter issued by Schering & Glatz is misleading, both through exaggeration and misquotation.

It was moved that both reports be accepted and published, and that the thanks of the Council be extended to the members of the committee. The motion having been adopted, the reports of the committee were sent to Schering & Glatz, who replied, and their reply was submitted to the committee. The committee reported to the Council recommending minor changes in the report. The Council then voted to adopt the report as amended and directed publication. In accordance with this action, the majority and minority reports of the committee are published, appearing on page 862 of this issue.

W. A. Puckner, Secretary.

THE NECESSITY FOR PURE FOOD LAWS

Some Analyses Made by the New Hampshire State Board of Health

To one interested in the subject of adulteration and sophistification of food, drug and liquor products, the twentieth report of the New Hampshire State Board of Health will prove interesting reading. In that portion of the report dealing with food, drug and liquor inspection, chemist C. D. Howard gives the results of the examinations of 856 samples of food, of which no fewer than 319, or 37.2 per cent., failed to conform to the pure food law. As it was the practice only to collect such brands as there was reason to think were sophisticated, the proportion is probably higher than would prevail generally.

"SOFT DRINKS"

Attention is called to the composition of many of the artificially colored concoctions sold as "tonics" and "soft drinks" now on the market. We are told that many of "these preparations consist of nothing more than sweetened carbonated water colored with anilin dye and flavored with compounds prepared solely from chemicals. Bottlers are continuing to label such products in generous-sized type as 'strawberry,' 'raspberry' and 'blood orange,' the only concession made to the food act being the statement in small type on the *cap* of the bottle: 'Artificial color and flavor.' "

The results of the examinations of 19 of these preparations show that benzoate of soda, saccharin, salicylic acid, sulphurous acid and chemical dyes all enter into the composition of "soft drinks."

CATCHUP

While in the manufacture of catchup the New Hampshire law "allows the use of benzoate of soda in quantity not exceeding 0.1 per cent., provided the presence of such is stated," the chemist states that the present sentiment of food inspection officers is "practically unanimous in opposing the use of preservatives in this and other articles of food. . . ." He calls attention to the fact that some of the leading manufacturers have entirely discarded the use of preservatives, and he adds that it is "probable that the only thing that will deter other concerns from eventually adopting the same practice will be either the lack of proper sanitary methods of manufacture or the use of refuse material—or both."

Of 7 brands of catchup examined, all containing either benzoate of soda or salicylic acid, four were colored artificially, one was sweetened with saccharin and the presence of preservatives was not declared on the label in four.

VINEGARS

In discussing vinegars, the report says: "The argument that 'vinegar is vinegar and one kind is as good as another,' is not true, and it is but right that the purchaser, as well as the grocer, should, for his own protection, have some means of knowing the grade and variety of goods with which his order is filled." That this position is tenable is shown by the results of 24 analyses made of cider vinegars in which the chemists were obliged to adjudge the products "spurious," "not genuine," "below standard," "artificially colored," "distilled vinegar sold as cider vinegar," and so on.

FLAVORING EXTRACTS

Probably the greatest degree of sophistication is found in preparations of this class—lemon, vanilla and orange extracts. Of lemon extracts examined, 64 per cent. were not conformable to the law, while of the vanilla and orange extracts the percentages of non-conformity were 44 and 54, respectively.

PRESERVES

A preparation sold as "raspberry preserve" was found on analysis to consist mainly of apple stock and was, therefore, illegally labelled. The same material—apple stock—was found to compose very largely a "raspberry jelly," which was examined, while a "currant jelly" contained "little if any currant."

OTHER ANALYSES

In addition to the numerous analyses of foodstuffs, Chemist Howard gives the results of his investigation of several "patent medicines" and liquors. Among the former is Rupert Wells' fake "cancer cure," Radol. We understand that the New Hampshire Board of Health brought this nostrum and its method of exploitation to the attention of the Postoffice authorities, whose "fraud order" against Rupert Wells was the subject of an article in The Journal, Feb. 20, 1909.

This and similar work that is being done by several of the more progressive state boards of health is the highest kind of public service, not only for the specific information that is thus furnished, but for its educational value.

Ecthol

To the Editor:—Can you give me any information concerning "Ecthol" (Battle & Co.), marketed as an "alterative and antiseptic"? In one instance I have unwillingly prescribed it, with apparently no effect.

W. D. Chapman, M.D., Silvis, Ill.

Answer.—Ecthol, advertised in a style typical of nostrums, is said to contain as its active ingredients *Echinacea angustifolia* (Pale Purple Cone Flower) and *Thuja occidentalis* (Arbor Vitæ). Neither of these drugs is official in the U. S. Pharmacopeia and information concerning their therapeutic value amounts practically to unverified claims that they are useful as alteratives and in certain inflammatory conditions. The viciousness of vaunting an internal remedy for serious septic conditions without ample basis of fact is self-evident. A pamphlet before us, entitled "Ecthol in the Sudan," is a fine example of nostrum advertising, calculated to captivate the unthinking physician with its show of science and to mislead him into believing that the remedy exploited has been endorsed by high authority. It begins with a eulogy of the Wellcome Research Laboratory at Khartum, Sudan, and its second report, and the work of the laboratory is described and praised. In close connection with this praise of legitimate scientific work, we are told that ecthol is used in the Sudan, "and that it is regarded as almost a specific in certain classes of diseases." The reader is left to infer that its use is described in the report, although the advertiser is careful not to say so. Three pictures of patients with smallpox, chickenpox and syphilitic ecthyma, respectively, are reproduced from the report and without apparent break in the article we are told that "it is in precisely such cases that ecthol gives its most striking results." Of course, the Wellcome Research Laboratory report contains no such mention of ecthol. While such attempts to bolster up a preparation by weaving its praises into an account of a strictly scientific report may be "good business," it is in fact *prima facie* evidence of the valuelessness of a remedy apparently unable to stand on its own merits.

Correspondence

Benzoate of Soda in Foods

To the Editor:—The preservative question, more especially regarding the influence on health of sodium benzoate, may be considered from a different point of view than that taken in your recent editorials. You state that the experiments of the referee board extended over a period of four months while those conducted in the Department of Agriculture extended over nearly a year. The facts are that the department subjects each received 35 grams or less of benzoic acid or sodium benzoate during twenty days and in a supplementary study 12.5 grams during ten days; while the subjects of the referee board each received about 125 grams of sodium benzoate during ninety days. Furthermore, the results in the two series are in substantial agreement. I clearly pointed out, before the report of the referee board was announced (*Medical Record*, Jan. 2, 1909, p. 16), the evidence presented in Bulletin 84, Part IV, does not establish any injurious effect of benzoic acid and the benzoates; there was simply an error in the interpretation of the results.

It is fair to believe that a board composed of men of such scientific attainments and unimpeachable reputation has employed the degree of caution in the wording of their decision that the results call for. When, therefore, they state as a general conclusion: "Sodium benzoate in small doses (under 0.5 gram per day) mixed with the food is without deleterious or poisonous action and is not injurious to health" it is difficult to understand why the verdict is not positive and to the point. I believe those capable of appreciating it without bias see in this report the conclusion that benzoates in themselves are harmless.

Those who have opposed the use of sodium benzoate on the score that it is harmful now declare that its use is objectionable because it may cover inferior raw material. This is an evasion of the original point and obviously an after-thought; furthermore, it is not supported by any evidence. All physicians and food experts are agreed that objectionable raw material should not be used in the preparation of food. As to that, however, the very use of this preservative tends to raise the quality rather than lower it, as appears from a consideration of the catsup industry. Here tomato pulp is kept for a variable interval pending the preparation of the final product. Sodium benzoate causes the pulp after one cooking to keep without fermentation or molding. When a preservative is not used frequent cookings are necessary; moreover, masses of mold must be removed by straining. This has the effect of making the final product more concentrated but removes the fresh vegetable flavor and hence impairs the condimental value of the product. It is stated that in this concentrated form the purchaser receives greater value, but as catsup is a condiment, not a food in the calorie sense, the loss of vegetable flavor detracts immeasurably more than the greater concentration adds to its value. Indeed, the whole argument against sodium benzoate produces the impression of an effort to mislead the public rather than to give due regard to the facts.

E. E. Smith, M.D., New York.

Practice of Medicine by the Unfit

To the Editor:—It is a matter of sincere regret that such contributions to the discussion of present-day treatment of disease of the value, intelligence and beneficence of the article entitled "The Practice of Medicine by the Unfit," by the Rev. George A. Gordon will receive but little attention from those lay journals who find the "featuring" of the newest of these propagandæ a matter of interesting news. In a long newspaper account of a Sunday sermon preached recently at a university chapel, the marvelous cures of a "young woman," a "district attorney" and a "wild young man" were given as exhibits of the working powers of a specified cure.

As a matter of fact, the only real thing to marvel at in the whole affair is that newspaper readers should find such literature translated from the advertising to the reading columns of their journals and promulgated from the purlieus of a university by a theologian instead of from the headquarters of a medicine concern by an Indian or a herb doctor. Photographic, documentary and legal evidence long ago convinced even the most skeptical of newspaper readers that such recoveries were of at least daily occurrence among many of our "best" people who publicly patronized, extolled and partook of the many lavishly and legitimately advertised remedies but recently in vogue.

It seems a long cry from a panacea in a bottle to mere "talk" as a means of cure and from newspaper and out-door advertising to the utilization of a famous seat of learning as an agent of publicity, but the proceedings of the Sunday above referred to would appear to have encompassed both these ends for the latter dispensation in a highly finished and gratifying manner.

John P. Davin, New York.

Wells, Darwin and Haeckel and the Doctrine of Evolution

To the Editor:—All thinkers are one in admiring Ernst Haeckel, who has retired after giving to the world important, if not indispensable science.

A meritorious esteem existed between Darwin and Haeckel. Darwin exalted Haeckel's perception of evolutionary principles, while Haeckel praised Darwin's discovery of the principle of natural selection, the law of organic evolution, which science considers the greatest light to lead to biologic truth.

Haeckel exhaustively reviews the history of evolution but omits the name of Wells, and thus commits a great error, for this omission, due to a lack of information, is inexcusable, inasmuch as Haeckel had as good an opportunity as Darwin to learn of Wells' work in biology.

William Charles Wells, of Charleston, S. C., solved the problem and turned over to thinkers and doers the key to unlock, in a more or less routinary way, the door leading to the sublimities of life, that all inquiring minds might see for themselves.

N. B. Jenkins, M.D., New York.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SENSITIZATION AND DIPHTHERIA ANTITOXIN

To the Editor:—From several notices of deaths following the administration of diphtheria antitoxin, I have gathered the impression that, when a person is sensitized, antitoxin is no longer safe. This, if true, is so very important that I want to have a clearer understanding of it. Just what is meant by sensitized? What produces the condition and how long does it last?

N. F. Chiever, Greenfield, N. H.

Answer.—The condition of sensitization is one that has been frequently discussed both in the editorial and news columns of The Journal, but as there seem to be many who are in doubt as to the exact status of the subject we will here recount its chief features.

When an animal receives a single dose of almost any sort of soluble protein by subcutaneous, intravascular or intraperitoneal injection, it becomes after a period of ten days or two weeks susceptible to a second injected dose of the same protein, so that this protein is now extremely toxic for the animal and may cause its death in a few minutes. Not all animals react alike in this respect, guinea-pigs being most readily sensitized and intoxicated, while some of the other common domestic animals do not exhibit the characteristic features at all strikingly or typically. Up to the present time the exact nature of the reaction is entirely unexplained. It seems to concern only protein substances, and the amount of protein necessary to sensitize an animal is usually extremely small—one-twenty-millionth of a gram in the case of egg albumin, and correspondingly small amounts of serum. An animal is said to be sensitized when it has received a single dose of the protein a long enough time previously, at least eight days, so that it will react to a second or intoxicating dose. The condition of sensitization seems to last throughout the life of the sensitized animal, at least in the case of the guinea-pig, and it is transmitted to the offspring of sensitized females.

We do not know to just what extent we can apply the results obtained by animal experimentation on this subject to the human being. It is certain that occasionally a person has been violently intoxicated by an injection of antitoxic serum, the symptoms being identical with those observed in sensitized guinea-pigs, and so we feel justified in assuming that man may become sensitized to horse serum. However, while some of the human cases of acute intoxication with foreign serum have occurred in patients who had been apparently sensitized by á previous injection of antitoxin, yet in not a few the poisonous injection was the only injection of serum the patient had ever received. It has been frequently recorded in these cases that the patient was afflicted previously with asthma, especially with "horse asthma," in which the attacks follow contact with or proximity to horses; while in some cases the patients have had an idiosyncrasy to eggs or to some other protein food, although many of the patients gave no history of any such conditions. These cases suggest that certain persons may become sensitized to foreign proteins by some other means than injection, and possibly they are congenitally susceptible. In any case, one should always seek to ascertain before injecting serum for therapeutic purposes, whether the patient has any such idiosyncrasy as is mentioned above, and if so to avoid the use of serum if possible, or, when unavoidable, to exercise the precautions mentioned below.

As to the sensitization of man to serum by therapeutic injections our information is confusing. Serum has been injected twice into the same person at intervals of eight days and over in many thousands of cases, either without any evidence whatever of any condition of sensitization, or at the most with local reaction or rashes of various degrees of intensity. This fact may be considered as evidence that man is not readily sensitized to foreign serum, or it may be that the rate of absorption of serum injected subcutaneously is so slow that serious intoxication is not likely to follow. In this case we can imagine that serious results only follow when the second dose of antitoxin is inadvertently injected into a blood vessel in a person who has been previously sensitized or who is naturally sensitive to foreign proteins. In view of the enormous number of cases in which patients have received a second dose of antitoxic serum without harm, it would not seem that antitoxin should be withheld on this account in cases in which it is urgently needed, although one should avoid unnecessary prophylactic injections or the use of sera of doubtful utility (antistreptococcus serum, etc.) When serum must be given to a person whom there is reason to believe has been sensitized, the following precautions might be taken. A single small dose, say half a cubic centimeter, should precede the main injection by one or two hours or more—it is probable that such a dose would not often be seriously intoxicating by the subcutaneous route, and after recovering from the effects of the second dose the individual is refractory to a third dose. Also great care should be exercised to prevent injection of serum into the blood vessels, by using a glass syringe and aspirating gently before injection—if the point of the needle is in a vessel blood will enter the syringe and another site should be sought.

WORKS ON DIETETICS AND CHEMISTRY OF FOODS

To the Editor:—Will you kindly inform me through your "Queries and Minor Notes" of some good modern works on dietetics and the chemistry of various foods and their influences on metabolism?

JOSEPH RAYE SHUMAN, Sunnyside, Wash.

ANSWER.—The following are reliable works on this subject:

Von Noorden, K.: "Metabolism and Practical Medicine," W. T. Keener & Co., Chicago, 1907. Net $16.00.

Wiley, H. W.: "Foods and Their Adulteration," P. Blakiston's Son & Co., Philadelphia, 1907. Net $4.00.

Friedenwald and Ruhräh: "Diet in Health and Disease," W. B. Saunders & Co., Philadelphia. 2d Ed. Net $4.00.

Hutchinson, R.: "Food and Dietetics," Wm. Wood & Co., New York. Net $3.00.

Lusk, G.: "Elements of Nutrition," W. B. Saunders & Co., Philadelphia, 1906. Net $2.50.

Thompson: "Practical Dietetics," D. Appleton & Co., New York, Sub. Net $5.00.

Sections on diet in works on therapeutics may also be consulted.

IMMUNIZATION OF CHILD BEFORE BIRTH

To the Editor:—Four or five years ago I was called to attend a negro woman in confinement. Nothing was said about any members of the family having smallpox, but on my arrival I found five of the children in various stages of the disease and the mother with confluent smallpox. After the birth of the baby it was left in the same bed, nursed whenever it wanted to, and was exposed in every conceivable way to the contagion It was not vaccinated, and there was never even a pimple on it. The mother was in the ninth day of eruption, and though her life was despaired of, she made a good recovery. The baby was evidently immunized, through the mother's blood, prior to birth.

D. L. WILKINSON, Montevallo, Ala.

DRUGS WHICH CAUSE SUBNORMAL TEMPERATURE TO RISE

To the Editor:—Do you know of any (ponderable) drugs that cause temperature to rise when subnormal? If so, which?

M. S. A.

ANSWER.—Drugs which increase oxidation may cause a rise of temperature to the normal, but above this point physiologic heat regulations would compensate for the increased heat production unless some cause of fever were present. Atropin in moderate doses raises the temperature. Strychnin, caffein, digitalis, and iodothyrin produce a similar effect.

ACTION OF ACIDS ON CALOMEL, WHEN TAKEN INTERNALLY

To the Editor:—Why are articles containing acids withheld after administration of calomel?

A. M.

ANSWER.—It is generally supposed that the calomel will be changed into corrosive sublimate under the action of acids. This opinion, however, appears not to rest on any good chemical ground, since the tendency to the formation of corrosive sublimate from calomel when under the action of strong acid at the temperature of the body is practically *nil*, with the exception of oxidizing acids, such as nitric, nitrohydrochloric and hypochlorous.

MEAT OF TUBERCULOUS COWS

To the Editor:—In Massachusetts the flesh of cows, condemned on account of tuberculosis, is allowed to be sold after slaughter provided that the tuberculosis is not generalized; it is claimed that such meat will not transmit the disease. The state authorities submit the meat to inspection by the federal authorities and sell what is not rejected after inspection.

W. P. COUES, Boston.

ANSWER.—It is generally admitted, we believe, that there is little danger from the flesh of cattle with slight localized tuberculosis, since the danger which exists would be removed by thorough cooking. While it seems proper that such meat might be sold, it is only fair to the consumer that he should know that the meat is that of an animal that has been condemned for tuberculosis.

DATA WANTED ON ATROPIN AS A HEMOSTATIC

To the Editor:—I am collecting material for a paper on atropin as a hemostatic and would be obliged to any of your readers who would send me notes of their experience with this remedy. I am particularly anxious to receive adverse reports, as well as those favoring the remedy.

WILLIAM F. WAUGH.
1424 East Ravenswood Park, Chicago.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 6, 1909:

Morris, E. R., major, having been found physically disqualified, retired from active service as a lieut.-colonel, Feb. 26, 1909.

Quinton, W. W., capt., having been found physically disqualified, ordered to his home to await retirement.

Thomason, H. D., capt., granted an extension of 10 days to his leave of absence.

Bartlett, C. J., capt., granted leave of absence for 10 days.

Hanson, L. H., lieut., relieved from duty at Fort Sam Houston, Texas, and ordered to Hot Springs, Ark., for duty at the Army and Navy General Hospital.

Mount, J. R., M. R. C., granted leave of absence for one month, with permission to apply for an extension of one month.

Hadra, F., M. R. C., honorably discharged from the service of the United States.

Patterson, E. W., M. R. C., granted leave of absence for one month.

Dade, W. H., M. R. C., sailing for Philippine service deferred to April 5, 1909.

Griswold, W. C., M. R. C., granted leave of absence for 3 months 15 days.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending March 6, 1909:

Richardson, R. R., P. A. surg., detached from the *Albany* and ordered home to wait orders.

Stibbens, F. H., asst.-surg., detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Albany*.

Ohnesorg, K., surg., detached from the *New Hampshire* and ordered to the Naval Medical School Hospital, Washington, D. C.

Rennie, W. H., P. A. surg., detached from the *Kentucky* and ordered to the *Illinois*.

Oman, C. M., P. A. surg., detached from the *Illinois* and ordered to the *New Hampshire*.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended March 3, 1909.

McClintic, Thomas B., P. A. surg., relieved from duty in Philippine Islands and directed to return to the United States.

Korn, W. A., P. A. surg., granted one month's leave of absence from March 18, 1909, with permission to go beyond the seas.

Branham, H. M., acting asst.-surg., granted thirty days' leave of absence from Feb. 23, 1909.

Bullard, John T., acting asst.-surg., granted thirty days' leave of absence from March 1, 1909.

Eakins, O. M., acting asst.-surg., granted three months' leave of absence from Jan. 21, 1909, without pay.

Goldthwaite, Henry, acting asst.-surg., granted five days' leave of absence from March 8, 1909.

Parker, Thomas F., acting asst.-surg., granted six months' leave of absence from April 1, 1909, without pay.

Townsend, F., acting asst.-surg., granted fourteen days' leave of absence from Feb. 23, 1909.

Ward, J. LaBruce, acting asst.-surg., granted five days' leave of absence from March 3, 1909.

PROMOTIONS

Nydegger, James A., P. A. surg., commissioned a surgeon, to rank as such from Feb. 4, 1909.

McKeon, Francis H., asst.-surg., commissioned a P. A. surgeon, to rank as such from Nov. 27, 1908.

Pettyjohn, Joseph, asst.-surg., commissioned a P. A. surgeon, to rank as such from Oct. 20, 1908.

Frost, Wade H., asst.-surg., commissioned a P. A. surgeon, to rank as such from Feb. 3, 1909.

Mullan, Eugene H., asst.-surg., commissioned a P. A. surgeon, to rank as such from Feb. 2, 1909.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 5, 1909:

SMALLPOX—UNITED STATES

California: Los Angeles, Feb. 6-13, 3 cases.

District of Columbia: Washington, Feb. 13-20, 1 case.

Georgia: Cobb county, Jan. 16-Feb. 7, 8 cases; Paulding county, 15 cases.

Illinois: Danville, Feb. 14-21, 1 case; Galesburg, Feb. 13-20, 1 case.

Indiana: Elkhart, Feb. 13-20, 1 case; Evansville, 4 cases.

Kansas: Kansas City, Feb. 13-20, 6 cases; Topeka, 9 cases; Wichita, 1 case.

Kentucky: Covington, Feb. 13-20, 1 case; Lexington, 3 cases; Paducah, Jan. 16-20, 25 cases.

Louisiana: New Orleans, Feb. 13-20, 4 cases.

Michigan: Grand Rapids, Feb. 13-20, 1 case; Saginaw, Jan. 30-Feb. 6, 1 case; Feb. 13-20, 2 cases.

Minnesota: Minneapolis, Jan. 1-31, 22 cases.

Missouri: Kansas City, Feb. 13-20, 1 case; St. Louis, 1 case.

Montana: Butte, Feb. 2-16, 5 cases.

Nebraska: Lincoln, Jan. 1-30, 2 cases.

North Carolina: Wilmington, Mar. 1, 3 cases.

Ohio: Cincinnati, Feb. 12-19, 16 cases; Dayton, Feb. 13-20, 1 case.

Tennessee: Memphis, Jan. 30-Feb. 13, 55 cases; Nashville, Feb. 13-20, 6 cases.

Texas: El Paso, Feb. 9-23, 3 cases; San Antonio, Jan. 24-31, 15 cases.

Washington: Spokane, Feb. 16-13, 1 case, imported.

Wisconsin: La Crosse, Feb. 13-20, 7 cases; Manitowoc, 1 case.

SMALLPOX—FOREIGN

Brazil: Bahia, Jan. 2-16, 43 cases, 2 deaths.

British Honduras: Stann Creek, Feb. 5-11, 1 case, imported.

Canada: Halifax, Feb. 6-13, 22 cases.

Chile: Talcaguano, Jan. 23-30, present.

Egypt: Cairo, Jan. 14-21, 62 cases, 18 deaths.

France: Marseilles, Jan. 1-31, 1 death.

Great Britain: Bristol, Jan. 30-Feb. 6, 7 cases; London, 1 case.

India: Bombay, Jan. 19-26, 10 deaths; Calcutta, Jan. 9-16, 117 cases, epidemic; Madras, Jan. 16-22, 1 death.

Indo-China: Saigon, Jan. 2-9, 2 cases, 1 death.

Italy: General, Jan. 31-Feb. 7, 9 cases; Naples, Jan. 31-Feb. 7, 25 cases, 5 deaths.

Japan: Formosa, Jan. 9-16, 1 case.

Batavia: Java, Jan. 2-9, 4 cases, 1 death.

Manchuria: Dalny, Jan. 16-23, 1 case.

Mexico: Acapulco, Jan. 18-24, 4 deaths; Guadalajara, Feb. 6-11, 2 deaths; Mexico City, Dec. 26-Jan. 2, 24 deaths; Monterey, Feb. 7-14, 1 death.

New Foundland: South Coast, Jan. 13, present.

Norway: Bergen, Jan. 23-30, 2 deaths.

Peru: Lima, Jan. 21, 5 cases, in lazaretto.

Russia: Moscow, Jan 23-30, 19 cases, 10 deaths; Odessa, Jan. 16-23, 3 cases; St. Petersburg, 9 cases, 2 deaths.

Salvador: San Salvador, to Feb. 6, 3 cases; Santa Ana, 40 cases.

Spain: Madrid, Jan. 1-31, 14 deaths; Valencia, Jan. 23-30, 3 cases.

Turkey: Constantinople, Jan. 24-Feb. 7, 4 deaths.

YELLOW FEVER

Brazil: Bahia, Jan. 2-16, 32 cases, 8 deaths; Para, Jan. 16-30, 4 deaths.

Dutch Guiana: Paramaribo, Jan. 1-31, 11 cases, 1 death.

Ecuador: Guayaquil, Jan. 23-30, 2 deaths.

West Indies: Curacao, Jan. 8-15, 1 case.

CHOLERA

India: Bombay, Jan. 19-26, 4 deaths; Calcutta, 15 deaths; Rangoon, 1 death.

Russia: General, Jan. 9-16, 217 cases, 59 deaths; St. Petersburg, Jan. 16-23, 273 cases, 114 deaths.

PLAGUE

Brazil: Bahia, Jan. 2-9, 2 cases, 1 death; Para, Jan. 23-30, 1 case, 1 death.

Chile: Iquique, Jan. 26, 9, in lazaretto.

Ecuador: Guayaquil, Jan. 23-30, 4 deaths.

Egypt: General, Jan. 21-28, 6 cases, 2 deaths; Alexandria, 1 case.

India: Bombay, Jan. 19-26, 16 deaths; Calcutta, Jan. 9-16, 18 deaths; Rangoon, 8 deaths.

Japan: Formosa, Jan. 9-23, 21 cases, 49 deaths.

Mauritius: Nov. 1-30, 43 deaths.

Peru: General, Jan. 23-30, 57 cases, 24 deaths; Callao, 7 cases, 5 deaths; Lima, 4 cases, 3 deaths.

Turkey: Bagdad, Jan. 9-16, 5 cases, 2 deaths.

Association News

Announcement of Arrangements Under Way For Transportation to Atlantic City Session

The Committee on Transportation and Place of Session announces that negotiations are in progress for special rates on all railroads to the Sixtieth Annual Session of the American Medical Association, which is to be held in Atlantic City, New Jersey, June 8 to 11, 1909.

The negotiations include provisions for such special trains or cars as may be necessary from all parts of the country.

Those who contemplate attending the session are therefore requested not to make reservations or promises until the report of the committee is published, which will be in the near future.

M. L. Harris, Chairman,
Committee on Transportation and Place of Session.

NEW MEMBERS

List of new members of the American Medical Association for the month of February, 1909:

ALABAMA

Baldwin, B. J., Montgomery.
Etheredge, B. T., Town Creek.
Goldthwaite, Robt., Montgomery.
Hairston, W. G., Burnt Corn.
Harrell, W. B., Cates.
Huddleston, R. L., Speigners.
Jones, J. H., Camden.
Langley, W. T., Camp Hill.
McMurphy, J. P., Atmore.
Northen, Thos., Ashland.
Sherrill, R. B., Hartselle.
Solomon, E. P., Birmingham.

ARIZONA

Perkey, A. B., Morenci.
Redewill, F. H., Phoenix.
Servin, G. R., Tucson.

ARKANSAS

Altman, G. G., Helena.
Foster, Marion E., Roseville.
Garrison, C. W., Ft. Smith.
McCarroll, H. R., Walnut Ridge.
Robertson, A. B., Calmer.
Robertson, J. A., Hot Springs.
Ruff, Horace E., Pitman.
Rushing, J. L., Chidester.

CALIFORNIA

Edmonds, F. W., Berkeley.
Goldman, S. A., Orland.
Hart, A. C., Sacramento.
Higgins, I. W., Berkeley.
Johnston, J. H., Dutch Flat.
Kothganger, George, San Francisco.
Shannon, J. W., San Diego.
Stafford, D. E., San Francisco.
Wintermute, G. P., Oakland.

COLORADO

Campbell, Jacob, Boulder.
Dale, J. E., Fort Collins.
McKelvey, S. R., Denver.
Milligan, C. F., Vilas.
Morning, J. F., Denver.
Pitts, W. I., Bristol.
Witter, R. V., Fountain.

CONNECTICUT

Coburn, J. M., So. Norwalk.
McNeil, Rollin, New Haven.
Phillips, F. L., Litchfield.
Ruickoldt, F. A., New Haven.

DISTRICT OF COLUMBIA

Fisher, R. A., Washington.
Kaveny, J. J., Washington.
Lewis, S. E., Washington.
Price, M. H., Washington.
Vale, F. P., Washington.

GEORGIA

Little, A. G., Valdosta.
Sample, R. L., Statesboro.

ILLINOIS

Becker, P. F., Chicago.
Bremerman, L. W., Chicago.
Carey, J. F., Braceville.
Crofut, Martha M., Maywood.
Donlon, S. E., Chicago.
Dunzer, Sophie C., Chicago.
Jampolis, Mark, Chicago.
Kenton, J. R., Raymond.
McMillin, H. C., Morton.
Mueller, A. N., Rock Island.
Schmidt, F. E., Chicago.
Peterson, E. F., Varna.

INDIANA

Boyd, H. B., Cambridge City.
Eckhart, G. G., Marion.
Holloway, Emma G., North Manchester.
Hulbush, W. A., Ft. Wayne.
McCown, P. E., Indianapolis.
Bodenbeck, Frank, Arcadia.
Saunders, J. E., Balbec.
Schuck, J. H., Chandler.
Souder, U. G., Auburn.
Walters, L. O., Chrisney.
Wilson, T. W., New Harmony.
Young, F. J., Leesburg.

IOWA

Beam, H. A., Bradgate.
Bice, D. C., Des Moines.
Carhart, W. G., Marion.
Coakley, G. C., Creston.
Cowan, Isabel E., Rodney.
Fordyce, W. E., Oelwein.
Henry, Rex V., Hedrick.
Hess, W. C., Cresco.
James, L. D., Fairfield.
Meents, D. J., West Point.
Murphy, J. J., Cedar Rapids.
Parker, E. S., Ida Grove.
Sells, B. B., Independence.
Somers, Pearl E., Grinnell.
Van Derveer, F. L., Cedar Falls.
Ware, W. F., Moulton.

KANSAS

Haynes, E. E., Lewis.
Heylmun, H. H., Hutchinson.
Jones, W. M., Hutchinson.
Pearson, P. A., Kinsley.
Scott, T. P., Topeka.
Smith, E. O., Marquette.

KENTUCKY

Combs, J. W., Daisy.
Doole, T. P., Louisville.
McKinley, D. H., Winchester.
Pendley, J. W., Paducah.
Shively, O. H., Greensburg.
Spaulding, J. R., Lebanon.
Taylor, J. H., Providence.
Weinberg, S., Louisville.
Young, L. E., Paducah.

LOUISIANA

Cohn, Isadore, New Orleans.
Estopinal, J. A., New Orleans.
Landry, J. E., New Orleans.
Perkins, A. J., Lake Charles.
Sistrunk, W. E., Lake Charles.

MAINE

Tyson, F. C., Bangor.

MARYLAND

Bergland, J. M., Baltimore.
Blake, H. C., Baltimore.
Carroll, A. H., Baltimore.
Fenby, E. B., Baltimore.
Henderson, F. N., Rockville.
Herrmann, F. H., Baltimore.
Lumpkin, J. C., Baltimore.
McDevitt, E. P., Baltimore.
Sterling, E. B., Baltimore.
Wanstall, Alfred, Baltimore.

MASSACHUSETTS

King, N. C., Brockton.
Still, C. W., Roxbury.
Stoodley, H. M., Somerville.

MICHIGAN

Ardiel, L. M., Avoca.
Culver, B. W., Coldwater.
McNaughton, D. D., Argyle.
Millis, E. D., Webberville.
Raynale, G. P., Harbor Beach.
Stewart, F. W., Coldwater.
Turner, S. R., Bronson.
Wood, D. H., Coldwater.
Young, G. F., South Haven.

NINNESOTA

Andrews, R. N., Mankato.
Barclay, Alexander, Cloquet.
Brubaker, E. E., Northfield.
Friesleben, William, Sauk Rapids.
Salter, W. H., Duluth.
Smith, A. E., Minneapolis.

MISSISSIPPI

Wait, H. C., Etta.

MISSOURI

Bassett, S. T., St. Louis.
Glennon, W. P., St. Louis.
Kern, J. H., St. Louis.
Lee, Herbert, St. Joseph.
Lund, H. G., St. Louis.
Schery, C. W., St. Louis.
Woodruff, F. E., St. Louis.

NEBRASKA

Anderson, D. F., Edgar.

NEW HAMPSHIRE

Crossman, E. O., Portsmouth.
Fowler, F. A., Hill.

NEW JERSEY

Clock, R. O., Burlington.
Martine, F. L., Newark.
Miningham, W. D., Newark.
Nay, C. L., Jersey City.
Porteous, E. J., Atlantic City.

NEW YORK

Alexander, L. D., Jr., New York.
Antonius, Emma H. H., Brooklyn.
Barker, P. M., New York.
Beach, R. M., Brooklyn.
Block, Siegfried, Brooklyn.
Brader, W. B., Brooklyn.
Burns, Robt., Syracuse.
Chace, A. E., Tarrytown.
Cole, C. G., Binghamton.
Cone, R. S., Brooklyn.
Cohn, Wm., New York.
Craig, T. L., Davenport.
Demong, C. W., Syracuse.
Devlin, R. J., New York.
Durham, Roger, Brooklyn.
Fries, Wm. A., Brooklyn.
Goss, Alfred, Adams.
Green, E. E., Brooklyn.
Hacker, C. G., Albany.
Hacker, C. W. L., Albany.
Hall, W. P., Frankfort.
Harrar, J. A., New York.
Harrig, P. W., Albany.
Harris, H. G., New York.
Hincher, C. L., Rochester.
Horner, R. N. W. R., Watkins.
Howser, F. P., Otisville.
Hull, E. T., New York.
Hulst, F. A., Brooklyn.
Hussey, A. A., Brooklyn.
Isaacs, H. E., New York.
Jenkins, J. A., Brooklyn.
Kalisher, Joseph, New York.
Kilbourn, J. G., Utica.
Killip, T. A., Rochester.
Kimball, P. W., New York.
Lane, C. E., Poughkeepsie.
Lawler, A. J., Niagara Falls.
MacRae, Thos., New York.
McGuire, E. R., Buffalo.
McMenamen, F. J., Highland Falls.
Meyer, Joseph, Brooklyn.
Mittendorf, A. D., New York.
Murphy, E. J., Brooklyn.
Newell, E. S., Pelham.
Noonan, C. J., Brooklyn.
Ochs, B. F., New York.
Ormiston, Wm., Delhi.
Rae, J. B., New York.
Rappold, J. C., Brooklyn.
Rehberger, C. E., Sonyea.
Robinsohn, David, New York.
Roper, J. C., New York.
Schmitt, A. E., Riverdale-on-Hudson.
Schoen, Adolph, New York.
Simmons, W. S., Jr., Brooklyn.
Spence, D. B., New York.
Spiller, W. H., New York.
Stafford, A. E., Whitesboro.
Sweetland, Frank, Angola.
Thompson, E. B., New York.
Van Campen, Benj., Olean.
Waechter, A. L., New York.
Ward, E. H. P., New York.
Ward, Wilbur, New York.
Warner, C. B., Port Henry.
Weil, Richard, New York.
Wenner, George, New York.
Wilkinson, E. C., New York.

NORTH CAROLINA

Foscue, J. E., Jamestown.
Frazer, Thompson, Asheville.

NORTH DAKOTA

Hattendorf, Jessie, Jamestown.
Lyman, F. V., Thompson.
Sandven, N. O., Park River.

OHIO

Childs, L. W., Cleveland.
Kinnicutt, W. H., Cleveland.
Rieg, P. S., Toledo.
Swinehart, M. E., Lockbourne.
Thompson, J. D., Granville.
Tuechter, J. L., Cincinnati.

OKLAHOMA

Cavett, E. R., Kiel.
Croston, G. C., Sapulpa.
Rammel, W. E., Bartlesville.
Runyan, J. R., Ada.

OREGON

Baker, J. A., Gaston.
Clay, H. E., Salem.
Coghlan, J. N., Portland.

PENNSYLVANIA

Baaleth, G. R., Pittsburg.
Brinham, A. W., Scalp Level.
Brophy, J. A., Philadelphia.
Carruthers, G. H., Philadelphia.
Ferguson, W. N., Philadelphia.
Frankel, J. J., Philadelphia.
Hildrip, J. W., Philadelphia.
Holliday, G. A., Pittsburg.
Johnston, R. C., Springdale.
Leidy, C. F. M., Philadelphia.
McKinley, A. L., Philadelphia.
McLernon, John, Philadelphia.
Miller, D. I., Harrisburg.
Milligan, S. C., Pittsburg.
Parks, C. C., Leechburg.
Repplier, S. J., Philadelphia.
Richards, D. B., Philadelphia.
Schetky, S. Elizabeth A., Philadelphia.
Simpson, J. R., Pittsburg.
Smith, J. D., Freedom.
Stout, E. J., Philadelphia.
Target, J. D., Philadelphia.
Tillman, W. G., Easton.
Walker, J. T., Philadelphia.
Yeager, F. N., Philadelphia.

RHODE ISLAND

Anderson, A. J., Newport.
Archambault, J. B., Woonsocket.

SOUTH CAROLINA

Valley, J. L., Pickens.

TENNESSEE

Abernathy, Shields, Pulaski.
Enochs, W. N., Huntingdon.
Henderson, P. L., Morristown.
Parker, W. B., Smithville.
Pettey, G. E., Memphis.

TEXAS

Alexander, C. E., Pollok.
Brannon, H. O., Ft. Worth.
Delany, G. E., Galveston.
Hartman, Henry, Galveston.
Heard, A. G., Galveston.
Hearn, R. E., Mabank.
Hicks, J. H., Josephine.
Hume, Lea, Eagle Pass.
Kennedy, T. L., Galveston.
King, W. A., San Antonio.
Kieberg, Walter, Galveston.
McFarland, V. E., Eagle Pass.
Oxford, J. W., Austin.
Parker, G. D., Houston.
Pritchett, Ira E., Galveston.
Richmond, J. M., El Paso.
Ross, H. B., Del Rio.
Rumph, E. P., Lawn.
Scott, R. M., Del Rio.
Shipp, W. J., New Salem.
Shropshire, L. L., San Antonio.
Springer, J. G., San Antonio.
Taliaferro, W. F., Beaumont.
Thomson, W. F., Beaumont.
Warfield, Clarence, San Antonio.
Watson, Wm., Uvalde.
Williams, W. T., Beaumont.

UTAH

Merrill, H. G., Provo.

VIRGINIA

Baggarly, C. M., Richmond.
Busey, C. E., Lynchburg.
Meade, J. O., Fugates Hill.
Morrison, James, Lynchburg.
Stone, H. B., Charlottesville.
Walker, L. D., Spout Spring.
West, W. J., Richmond.

WASHINGTON

Black, F. A., Seattle.
Doland, C. M., Spokane.
Kuykendall, G. B., Pomeroy.
Morrison, J. R., Bellingham.
Rinkenberger, F. W., Tacoma.
Taggart, E. J., Bremerton.

WEST VIRGINIA

Davis, G. H., Chester.
Staatz, O. M., Wheeling.
Stahl, E. J., Charleston.
Warder, J. L., Weston.

WISCONSIN

Allen, C. F., Middleton.
Bickford, H. G., Hudson.
Keithley, J. A., Palmyra.
O'Connell, D. C., Menasha.
Pope, F. W., Racine.
Ryan, C. E., Appleton, Wis.
Sorenson, Soren, Racine.
Westgate, F. J. E., Manitowoc.

WYOMING

Croft, E. W., Cowley.

Marriages

Joseph J. Mahady, M.D., to Miss Nellie Nulty, both of Adams, Mass., recently.

Edmund Myers, M.D., Boston, to Miss Stella Hayman of Philadelphia, February 23.

Albert Sumner Bacon, M.D., to Miss Lottie Gilbert Tift, both of Albany, Ga., February 16.

F. J. Freshley, M.D., Plainville, Ind., to Miss Bessie P. May of Newtonville, Ind., February 3.

Lorne A. Campbell, M.D., Clear Lake, Wis., to Miss Letitia A. Lee of Grand Forks, N. D., January 1.

Sadie Monahan, M.D., Wellston, Ohio, and G. W. Whitt of Oklahoma City, at Dayton, Ohio, recently.

Wilmer G. Lockard, M.D., New Castle, Colo., to Miss Harriette Winoms of Albany, Ill., February 10.

Daniel L. McCormick, M.D., Newark, N. J., to Miss Sarah A. Convery, of Trenton, N. J., February 17.

Oliver Chambers, M.D., Rock Springs, Wyo., to Miss Mabel Elizabeth Bosworth of Denver, Dec. 30, 1908.

Brent C. Tarbell, M.D., Naco, Ariz., to Miss Ora E. Force of Kansas City, Mo., at El Paso, Texas, February 23.

V. Joseph Blanchette, M.D., Walkerville, Mich., to Miss Catherine A. Otterbein of Grand Rapids, Mich., February 22.

Deaths

Robert Alexander Murray, M.D. New York University, New York City, 1873; a member of the American Medical Association, American Gynecological Society and New York Academy of Medicine; fellow and ex-president of the New York Obstetrical Society; president of the New York Society of Medical Jurisprudence; formerly adjunct professor of obstetrics in New York University; obstetric surgeon to the Maternity Hospital, Blackwell's Island; surgeon to the Workhouse and Almshouse; consulting gynecologist to the French Hospital; and associate surgeon to the Woman's Hospital; died at his home in New York City, February 27, from pneumonia, aged 57.

Thomas Cameron Walton, M.D. New York University, New York City, 1862; who was appointed to the naval medical corps Oct. 5, 1861; served during the Civil War, and was retired at the age of 62 as medical director, May 31, 1900, after fourteen years and ten months of sea service, and twenty-one years and eleven months of shore and other duty, during which he was twice senior medical officer at the U. S. Naval Academy, Annapolis, and once fleet surgeon of the flying squadron; a member of the American Medical Association and of the French Society of Hygiene; died suddenly from cerebral hemorrhage, at his home in Annapolis, March 2, aged 70.

Leo J. Weinstein, M.D. Miami Medical College, Cincinnati, 1874; of Terre Haute, Ind.; a member of the Indiana State Medical Association, and formerly president of the Vigo County Medical Society; a gynecologist of local repute, founder of the Union Hospital; a member of the city and county councils for two terms; and secretary of the city and county boards of health; died in the Union Hospital, February 17, aged 60. The Vigo County Medical Society, at a special meeting, adopted resolutions paying tribute to his memory and extending sympathy to his bereaved family.

Edmund George Waters, M.D. University of Maryland, Baltimore, 1853; of Baltimore; some-time representative in the legislature from Dorchester county; from 1862-1865 acting assistant surgeon U. S. Army; professor of natural science in the Baltimore City College from 1866 to 1868; one of the founders of the Medical and Surgical Society of Baltimore in 1863; and a founder and president of the Baltimore Medical Association; died February 19, in the Union Protestant Hospital, Baltimore, from nephritis, aged 78.

Samuel Johnson Call, M.D. Cooper Medical College, San Francisco, 1884; surgeon in the U. S. Revenue Cutter Service, serving chiefly in Arctic waters for many years; surgeon of the relief party which rescued the imprisoned whalers at Point Barrow, Alaska, in February, 1898, and voted a gold medal by Congress for this service; died at his home in Hollister, Cal., from nephritis, February 16, aged 51.

Chauncey Harmon Smith, M.D. Jefferson Medical College, Philadelphia, 1871; formerly a member of the American Medical Association and Austin Flint-Cedar Valley Medical Society; local surgeon for the Chicago, Milwaukee and St. Paul Railway; and a prominent practitioner of that section of Iowa; died at the home of his daughter in Mason City, February 25, aged 71.

Isaac R. Swigart, M.D. Cincinnati College of Medicine and Surgery, 1877; formerly of Laramie; secretary and editor of the Wyoming State Medical Society, and a member of the Rocky Mountain Inter-State Medical Society; assistant surgeon for the Colorado Fuel and Iron Company; died at his home in Leslie, Wyo., February 19, from locomotor ataxia, aged 61.

William Wilburn Lunn, M.D. Tulane University, New Orleans, 1884; formerly president of the Fayette County (Texas) Medical Association; chief surgeon of the Lunn Sanitarium, and the Texas Christian Sanitarium, Houston; died in the Lunn Sanitarium, February 24, from septicemia, due to an operation wound, aged 62.

Wilbur Hall Seymour, M.D. Long Island College Hospital, Brooklyn, 1892; assistant in pathology in his alma mater; pathologist to the Bushwick Hospital, and Sheltering Arms Nursery, and assistant pathologist to King's County and Long Island College hospitals; died at his home in Brooklyn, February 28, from pneumonia, aged 40.

James W. Moore, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Medical Society of the State of Pennsylvania; professor of mechanics and experimental philosophy in Lafayette College, Easton, since 1872; died at his home in that city, February 28, from septicemia due to an ulcerated tooth, aged 64.

Henry J. Brooks, M.D. Northwestern University, Chicago, 1874; Long Island Hospital College, Brooklyn, 1874; from 1874 to 1877 assistant physician, and from 1890 to 1893 superintendent of the Illinois Northern Hospital for the Insane, Elgin; died at his home in Dixon, February 25, from cerebral hemorrhage, aged 59.

Frank Jackson MacNett, M.D. Bellevue Hospital Medical College, New York City, 1898; a member of the American Medical Association; a specialist on diseases of the eye, ear, nose and throat, and a special pension examining surgeon, died at his home in Traverse City, Mich., February 28, from pneumonia, aged 37.

John H. W. G. Weedon, M.D. University of Maryland, Balimore, 1864; of Church Hill, Md.; formerly a member of he Medical and Chirurgical Faculty of Maryland and a member of the legislature from Queen Anne county; died in he University Hospital, Baltimore, February 17, from nephriis, aged 74.

Isaac A. Thompson, M.D. Trinity Medical College, Toronto, 883; of Grand Rapids; a member of the Michigan State Medical Society; formerly health officer of Traverse City, and local surgeon for the Grand Rapids and Indiana Raiload; died at St. Mary's Hospital, Grand Rapids, February 25, aged 49.

Charles Lince Coulter, M.D. University of the Victoria Colege, Coburg, Ont., 1869; formerly government inspector of medical supplies for the Dominion of Canada; and chief sureon of the Grand Trunk Railroad; died at his home in Philaelphia, February 22, from pneumonia, aged 69.

Horatio Ripley Bigelow, M.D. George Washington Univerity, Washington, D. C., 1879; formerly of Boston; who held t one time a government appointment at Berlin, and later was United States consul at Rouen, France; died at his home n Washington, February 20, aged 65.

John B. Bass, M.D. Washington University, Baltimore, 1870; member of the American Medical Association and of the board of U. S. pensioning examining surgeons of St. Clair county, Ala.; a Confederate veteran; died at his home in Ashville, February 21, aged 64.

Joseph S. Maxon, M.D. Hahnemann Medical College, Chicago, 1875; Chicago Homeopathic Medical College, 1879; a member of the Wisconsin legislature in 1890 and 1891; coroner of McHenry county, Ill.; died at his home in Harvard, February 28, from influenza, aged 70.

Harry C. Long, M.D. Western Reserve University, Cleveland, 1891; for many years house physician of hotels in Cleveland; and for the last nine years physician at the Hollenden; died in the Flagler Hospital, St. Augustine, Fla., February 23, from nephritis, aged 40.

Ah Sam Lang (license, Kan., 1901); of Leavenworth, Kan.; said to have been a graduate of a medical college in Canton, China, in 1882; died in St. John's Hospital, Leavenworth, February 18, from the effects of poisoning by cannabis indica and gas.

Edwin D. Wiley, M.D. Bennett Medical College, Chicago, 1870; of Des Moines, Iowa; a member of the American Medical Association; died suddenly while making a professional call in South Des Moines, February 28, from heart disease, aged 52.

Daniel E. Barger, M.D. New York University, New York City, 1877; formerly health officer of San Francisco; and later superintendent of the City and County Hospital; a Confederate veteran; died recently and was buried February 18, aged 72.

William J. Ballentine, M.D. Medical College of South Carolina, Charleston, 1857; formerly of Brewerton and Princeton, S. C.; a Confederate veteran; died at the home of his son in Ware Shoals, S. C., February 14, from senile debility, aged 80.

Ambrose Brown, M.D. Ohio Wesleyan University, Cleveland, 1865; for many years a practitioner of Grand Ledge, Mich.; a veteran of the Civil War; died at his home in Lansing, Mich., February 24, from cardiac dropsy, aged 68.

William F. Chenault, M.D. University of Maryland, Baltimore, 1888; a member of the Medical Society of the State of North Carolina; died at his home in Cleveland, N. C., February 24, from cerebral hemorrhage, aged 46.

James F. Grimes (license, Ind., 1897); for fifty-six years a practitioner of northern Indiana; the oldest member of the Physicians' Club of Mishawaka, Ind.; died at the home of his daughter in that place, February 26, aged 85.

Jesse Reynolds, M.D. Castleton (Vt.) Medical College, 1847; formerly a member of the American Medical Association; a trustee of the Normal school board; died at his home in Potsdam, N. Y., February 19, aged 85.

Hubbard Hammond Brigham, M.D. Worcester (Mass.) Medical College, 1855; the oldest practitioner of Fitchburg, Mass.; died at the home of his son in Brigham Park, Fitchburg, February 20, from senile debility, aged 91.

Hebron D. Kelly, M.D. Medical College of the State of South Carolina, Charleston, 1895; a member of the Medical Association of the State of Alabama; died at his home in Bellwood, February 23, aged 38.

Virgil H. Grimsley, M.D. Memphis (Tenn.) Hospital Medical College, 1895; of the Mount Carmel neighborhood, near Covington, Tenn.; died in a hospital in Nashville, February 18, from pneumonia, aged about 35.

Marshall Surenson, M.D. Rush Medical College, Chicago, 1894; of Viroqua, Wis.; a member of the State Medical Society of Wisconsin; died in La Crosse, Dec. 25, 1908, from appendicitis, aged 35.

John Dabney Palmer, M.D. University of Louisville, Ky., 1866; for many years president of the Florida State Board of Pharmacy; died at his home in Monticello, February 21, from pneumonia, aged 68.

Wesley McGuffin, M.D. Western University, London, Ont., 1892; of Battle Creek, Mich.; a member of the Michigan State Medical Society; died in Phoenix, Ariz., March 1, from tuberculosis, aged 42.

William Nisbet, M.D. University of Würzburg, Germany, 1849; a charter member of the Livingston County (N. Y.) Medical Association; died at his home in Avon, February 26, aged 83.

George Frechette, M.D. Laval University, Quebec, 1877; a member of the medical staff of Notre Dame Hospital, Manchester, N. H.; died in that institution February 18, aged 59.

Charles I. Farley, M.D. University of Vermont, Burlington, 1859; assistant surgeon in the army during the Civil War; died at his home in Glens Falls, N. Y., February 22, aged 77.

Cotton C. Bradbury (license, Colo., 1882); for more than fifty years a practitioner; founder of the town of Evans, Colo.; died at his home in Denver, February 17, aged 86.

Carl Nelson Brandt, M.D. College of Physicians and Surgeons, New York City, 1883; of Hot Springs, Va.; died in Tarrytown, N. Y., February 27, aged 46.

James Augustus Pratt, M.D. Barnes Medical College, St. Louis, 1893; died at his home in Brookfield, Mo., Dec. 17, 1908, from cirrhosis of the liver, aged 53.

John A. Schulte, M.D. Washington University, Baltimore, 1875; of East Baltimore; died at the home of his brother in Baltimore, February 20, aged 56.

Henry Miller Downing, M.D. University of Pennsylvania, Philadelphia, 1886; died at his home in Sugartown, Pa., from pneumonia, January 21, aged 47.

Theodore Vanhensen Law, M.D. University of the Victoria College, Coburg, Ont., 1872; died at his home in Dearborn, Mich., February 24, aged 66.

Jessie C. Dickerson, M.D. Cleveland Homeopathic Medical College, 1898; died at her home in Muskogee, Okla., March 2, from tuberculosis, aged 29.

Hugo Schaeffer, M.D. University of Tübingen, Germany, 1865; died suddenly from heart disease at his home in Belleville, Ill., February 22.

David L. Trowbridge (license, Ind., 1905); for forty-two years a practitioner of Indiana; died at his home in Muncie, February 22, aged 75.

William L. MacBeth, M.D. Physio-Eclectic Medical College, Cincinnati, 1878; died at his home in Galesburg, Mich., February 17, aged 67.

William F. G. Wilson, M.D. Apothecaries' Medical College, England, 1866; died at his home in Armathwaite, Tenn., February 14, aged 65.

Stepney Brown Hill, M.D. Leonard School of Medicine, Raleigh, N. C., 1888; died at his home in Lynchburg, Va., February 15, aged 50.

Benjamin F. Northrip (license, Mo., 1890); of Springfield, Mo.; died in Stoutland, Mo., February 15, from pneumonia, aged 54.

Austin S. Bronson, M.D. Detroit College of Medicine, 1869; died at his home in New Hampton, N. H., Dec. 30, 1908, aged 65.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Lodge Practice in England

The *British Medical Journal*, February 13, publishes, in its supplement, an extended report of a conference called by the Council of the Charity Organization Society between representatives of the "friendly societies" and members of the medical profession. Friendly societies in England are similar to the benevolent and fraternal organizations of this country. For many years past one of the chief advantages offered members of such societies has been medical attendance for themselves and members of their family, services being furnished by the "lodge doctor" or "society physician." Multiplication of societies, with resulting rivalry, competition among physicians for such appointments and the necessity of reducing society operating expenses to the lowest possible point have all combined to reduce the compensation paid for medical services by most of these societies to an absurdly small amount, to which, however, the present holders of the positions cling, knowing that if they resign other men stand ready to take their places. The abuses and injustices of the system have been growing and it was in hopes of reaching an equitable solution of the problem that the conference was held. Six members of the British Medical Association nominated by the council, on recommendation of the medicopolitical committee, as well as representatives of divisions of the association from different parts of England were present. Representatives of the English Order of Foresters, Odd Fellows and Hearts of Oak (the latter a fraternal organization having a large membership in England) were among those present from the friendly societies. The principal paper on the subject was by Dr. Thomas Pearse in which he reviewed a protracted experience in lodge practice, saying that after twenty years of discussion the question is still unsettled. He asked the representatives of friendly societies to consider seriously whether the complaints of medical men were justified and whether anything could be done to remedy them. The profession had no quarrel with friendly societies as such. The good work they had done was patent to all; neither did the profession object to friendly societies providing medical attendance for their members in time of sickness. It only demanded that arrangements for such medical attendance should be equitable. Physicians maintained that the methods used were neither fair nor reasonable. Reviewing the facts in the light of a large mass of statistics, he showed that in 1,641 clubs, 76.5 per cent. paid less than five shillings—$1.25—while 23.5 per cent. paid more than this amount per member, annually. For this sum, the physician must attend members who are ill and must also provide necessary drugs and surgical dressing. As to the amount of work done, the annual reports of the Manchester Unity of Odd Fellows, comprising over 600,000 members, engaged in all varieties of occupation, showed that in the five years from 1893 to 1897 there had been an annual average period of sickness per member of 2.344 weeks. Consequently, a lodge of 100 members, about an average number, would experience during each year 234 weeks of sickness, for attendance on which the society physician would receive £25, or about $125. This would be equivalent to attending one man continuously for 234 weeks, or four years and six and a half months for $125. This amounts to about fifty-three cents a week, or on the basis of one call daily to about seven and a half cents a call, including cost of surgical dressing, etc. These figures are particularly interesting in view of the argument frequently made by lodges that the physician receives so much *per capita* from the well member as well as from the sick one and consequently can afford to attend those who are ill at a very low *per capita* rate. Dr. Pearse concludes that such remuneration is utterly unjust to a man who has spent years and means in obtaining the knowledge necessary to a performance of his work and that it is not likely to encourage him to discharge such duties efficiently and earnestly. Dr. Pearse also pointed out that the amount of the payment made by members to the fraternal societies for sick benefits has been very accurately determined, after long and careful actuarial investigation and calculation, while no such attempt has ever been made to determine the proper basis for compensation for physicians, the result being that compensation for medical services is purely guesswork rather than scientific calculation.

Another injustice is that members joining a fraternal organization in early life and when their income is limited to their wages, often becoming well-to-do in later life and abundantly able to pay the usual fees for medical services but that by maintaining their membership they are able to secure medical services at a rate entirely out of proportion to their ability to pay. An illustration of this point which he cites is a case reported in the *Lancet*, of the principal manufacturer of a certain district who paid his employés $3,000 a week in wages, who was wealthy enough to keep a stable of horses for hunting, and who, on his death, left over $50,000, and yet was attended in his last illness by a lodge doctor who received only four shillings a year for his services to this man. Another member attended by the society physician at the same rate left on his death over $400,000. Dr. Pearse held that a wage limit should be instituted in fraternal organizations and that no member earning or receiving an income over a certain amount should be entitled to the services of the lodge physician. He said that the problem was too difficult for one man to solve, that it should be approached in the light of reasonable endeavor and an honest effort made to arrive at a mutually satisfactory agreement. The real interests of the medical profession and of the friendly societies were identical. Unless some radical improvement took place, however, self-respecting physicians would be compelled to refuse to have anything to do with fraternal organizations, which bodies would, in consequence, be restricted in their choice of physicians to incompetent or poorly trained men with a resulting reduction of the value of the services rendered their members. Not only are the present conditions unendurable from a financial point of view but many a man who began his work with enthusiasm has found his professional life embittered by the evils of the contract system which blighted his hopes, blighted his ambitions and destroyed his love of work.

Sir James Barlow, after discussing the large amount of unremunerated charitable work done by physicians and pointing out the injustice of the present situation, said that one of the most striking things that had happened in this generation was the improvement in the status of the working man. It is now admitted that a man who does his work deserves to have a living wage so as to be able to maintain himself and his family decently, to bring them up properly, and to get some little compensation for old age. He appealed to the representatives of the benevolent organizations to consider the work and remuneration of the physician from this point of view. A physician who did his work well deserved a living income so as to be able to bring up his family properly and educate them and also to put aside a little money for old age. He was also entitled to a little time for rest, quiet and leisure, as well as to an opportunity to keep himself abreast of the advance in medicine and surgery so that his patrons, whether they be individual or societies, could have the advantage of it. Could a medical man earn a living wage if he did nothing but club work? Was it possible for him to make a living and have any leisure? After reviewing the constant demands of a physician's life, he asked the representatives of the fraternal societies to consider the condition of the average physician, the number of hours a day which he worked, the amount of time for rest and recreation and leisure which he had and the compensation which he received. All were agreed that a friendly society was a good thing; that the principle of insurance was a good thing, and that it was the only way in which people with limited means could pay for their medical attendance.

The representatives of the friendly societies presented the matter from their point of view, maintaining that the inequity eferred to was not general, but only occasional, and that in he main the treatment accorded physicians was fair. None f the representatives of fraternal societies who spoke preented any figures or data regarding number of cases or uration of illness by which their claims could be subtantiated. Dr. Smith Whittaker, medical secretary of the British Medical Association, discussed previous attempts at olving this problem and said that the difficulty in the past ad been that the medical profession was not sufficiently rganized for any representatives to negotiate an agreement with the same authority which the friendly societies could egotiate. There were grievances on both sides but what the medical men felt most strongly was that a form of contract etween the practitioner and his patients originally, enacted or a particular class and accepted by the physician for easons applicable only to that class, had been greatly exended to people of other classes. The medical profession eld that an agreement with the friendly society was a free ontract and that physicians had a right to say what people hey were willing to attend under such a contract. Physians only desired pay for work that was actually done but hey did desire adequate compensation for work which was properly performed. One speaker had suggested that the practice of medicine should become a state service. The queson arose whether the medical profession was not at present eing depleted by the large number of men of scientific astes who were going into other lines of work. In some istricts this was becoming a very serious question, since phyicians were getting so discontented that men of good standng could not be obtained to supply the demand.

The above is a brief summary of a discussion covering many pages and of much interest as showing the economic and social conditions under which many members of the medical profession in Great Britain live. As previously pointed out in THE JOURNAL[1] this question is one of vital interest to American physicians. There is no reason why the physician should be exploited for the benefit of the middleman, whether that middleman is an individual or an organization. The ultimate outcome of lodge practice, as shown by this discussion, should be carefully considered by physicians in the United States. The physician, like any other professional man, should receive definite pay for definite services, rather than a fixed sum for an indefinite amount of work. American laboring men receive far better wages and live under better conditions than the English workingmen and can well afford to pay a reasonable price for competent medical services for themselves and their families. They should not ask or expect the physician to agree to work for them in violation of the very principles for which the workingman himself has contended for years. Any further development or spread of lodge or society practice in the United States should be vigorously opposed by county societies as well as by individual physicians.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Second Weekly Meeting

DIFFUSE AND FOCAL DISEASES OF THE SPINAL CORD

HEMATORRHACHIS.—(a) Extra-meningeal, (b) intra-meningeal: due to traumatism, infections, convulsions, aneurism of base of brain, fracture of base, after meningitis. Symptomatology.

HEMATOMYELIA.—Etiology: Age, sex, trauma, exposure, convulsions, vascular degeneration, constitutional diseases. Pathology: Position in cord, vessels involved, extent, structures involved. Symptoms: Onset, paralyses, esthesiæ, pains, difference between two sides, course, terminations.

CAISSON DISEASES.—Etiology, pathologic findings, symptoms, treatment.

COMPRESSION MYELITIS.—Etiology: Spinal caries, tumors, aneurism, parasites, trauma. Symptoms: (1) Bone (vertebral) symptoms, deformity, tenderness, pain. (2) Nerve-root symptoms, intensity, pains, anesthesia, muscular atrophy, trophic changes. (3) Cord symptoms: (a) cervical, (b) dorsal, (c) lumbar.

LESIONS OF CAUDA EQUINA AND CONUS MEDULLARIS.—Etiology and diagnosis.

TUMORS OF CORD AND MEMBRANES.—Situation, extra- or intradural, level of cord. Tubercle, gumma, primary benign and malignant tumors, secondary invasion of extraspinal tumors. Symptoms: Radiating pains, segmental atrophy, paralysis, crossed sensory and paretic symptoms, slow progress of case. Differential diagnosis.

SYRINGOMYELIA.—Etiology and pathology: Age, sex, occupation, trauma; extent and site of cavity, structure of new growth. Symptoms: Pain, site and character; muscular atrophy, reflexes, paralyses, esthesiæ, trophic disorders. Diagnosis: Varying types.

ACUTE MYELITIS.—Etiology: Exposure, acute infectious, traumatism, disease of spine, disease of cord. Symptoms: (1) Acute diffuse myelitis; premonitory symptoms, onset, pain, constitutional disturbances, paralyses, esthesiæ, reflexes, sphincters, trophic disorders, course and terminations. (2) Acute transverse myelitis; (a) dorsal region, onset, pains, paralyses, esthesiæ, reflexes, sphincters, electrical changes, trophic changes, course. (b) Cervical region, difference in symptoms from dorsal, vomiting, bradycardia, hiccough, pupillary changes.

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[1] Jour. A. M. A., Dec. 14, 1907, p. 2028.

Book Notices

Experimental Researches on Specific Therapeutics. By Paul Ehrlich, M.D., D.Sc., Director of the königlisches Institut für experimentelle Therapie, Frankfort. The Harben Lectures for 1907 of the Royal Institute of Public Health. Cloth. Pp. 95. Price, $1.00. New York: Paul B. Hoeber, 1909.

Perhaps the highest encomium that can be pronounced on the work of Ehrlich is that he has carried his deductions from the field of theory into that of practical results and seems to have approached very near to establishing principles of therapeutics which shall combat, not symptoms merely, but the cause of the disease and shall do this with the certainty of science rather than of empiricism. The lectures which form the present volume exhibit some of the outlines of this problem. The ideas of immunity based on the theory of "haptines," which are able to connect the invading organisms or their products with the cell products which are capable of neutralizing or destroying them, form the subject of the first lecture. These haptines, as Ehrlich shows, are not only active in attacking the bacteria or toxins themselves, but are also the agents which, by securing the attachment of opsonins and bacteriotropins, make phagocytosis possible. Ehrlich suggests that there are probably a number of specific haptines, the nature of which we do not know. The theory of the action of these bodies is forcibly set forth; and, while assent to such a theory must be given with the proviso that further investigation may considerably modify it, its acceptance at the present time undoubtedly affords a good working hypothesis. The second chapter is devoted to the consideration of a mode of immunity which has not been made so prominent in late discussions as the theory of toxins. This is called by Ehrlich "atrepsy," and he undertakes to explain the failure of certain bacteria as well as tumor cells to grow in the tissues of certain animals by supposing that the receptors by which they must appropriate nutriment have been atrophied so that they can no longer be made use of by the invading germ; hence the bacterium or tumor cell perishes for want of nutriment. In this way various instances of natural and acquired immunity may be explained. Whether this theory can be considered more than a working hypothesis is somewhat doubtful, but it is applied with considerable ingenuity and plausibility and its exposition will doubtless be read with great interest. The third and concluding chapter gives an account of Ehrlich's therapeutic studies on trypanosomiasis. The results of these very interesting and laborious researches have already been made known in other publications, but a review of them gives an encouraging outlook as to the possibilities of experimental therapeutics and the application of chemical synthesis to the construction of specific remedies. The polypharmacy of our fathers receives a late justification in the plan advocated by Ehrlich of attacking the enemy by several weapons at one time in order to secure a speedy victory. His view is that two or more remedies in non-poisonous doses may destroy an invading germ when the doses required of any one remedy would be poisonous for the host as well as the parasite.

The volume is small, neatly bound and contains as a frontispiece a portrait of the author.

Nervous and Mental Disease Monograph Series No. 2. Studies in Paranoia. By Nikolaus Gierlich, Wiesbaden. Contributions to the Study of Paranoia. By M. Friedmann, Mannheim. Translated and Edited by Smith Ely Jelliffe, M.D. Paper. Pp. 78. New York: Journal of Nervous and Mental Disease Publishing Co., 1908.

The classification of mental diseases is both interesting and important to alienists and psychologists; yet even they are liable to be misled by the rigid systematization of cases. To the ordinary physician, however, the questions of etiology and prognosis in the individual case are more important. The conviction that paranoia is a fixed and incurable disorder is to a certain extent productive of unfortunate results. This conviction is likely to be shaken or removed by a perusal of the monographs of Gierlich and Friedmann.

Gierlich concerns himself with certain forms of periodic paranoia and paranoid delusions. He shows that many patients show a tendency to recovery, at least temporarily, with apparently perfectly normal intervals. It was possible to prevent the return of the attacks by suitable measures, or at least the severity of the attacks could be considerably lessened by guarding against weakening of the patient at certain seasons. If these precautionary measures were neglected the attacks returned in their typical form with striking similarity without evidence of progress in the system of delusion. The second and third attacks presented a less violent reaction than the original one. These cases can not be distinguished from those of paranoia at the time of the attack and are merely characterized by the absence of progression and by the mildness of the course. In reference to the question of the genesis of paranoia, whether it takes its origin in the emotions or is a purely intellectual disease, Gierlich takes a middle position. The foundation of delusion formations, in his opinion, consists in disturbances of the mental condition by violent protracted emotion, in combination with an existing weakness of judgment toward these highly accentuated ideas. The further course of the condition will depend essentially on the brain power, which determines whether or not the delusional interpretation will extend later on to ideas not accentuated in the sense considered or will disappear after the subsidence of the emotion.

Friedmann's contribution concerns certain mild forms of paranoia which prove to be more or less curable. The curability depends on causes at present not sufficiently understood, but one important fact has been learned, namely, that an endogenous paranoia is curable when the disease bears the character of a direct reaction to a definite external cause i. e., if the delusion formation shows no tendency to spread. On the other hand, the intellectual peculiarity which made the delusion formation possible may persist, for the patient is always confident of the truth of his delusions. The clinical picture, however, and the conduct of the patient depend on the condition of the affects. The cases discussed by Friedmann necessitate a modification of the definition of Kraepelin, who states that by paranoia is meant a disorder in which there is an insidious development of a permanent unshakable system of delusions, while, at the same time, the patient remains clear and there is no formal disorder of ideation. In the cases cited by Friedmann the development is not insidious, nor are the delusions permanent and unshakable, at least in the sense of remaining active.

Friedmann concludes that there are three forms of endogenous delusion formations: 1. The delusion formation, once started, progresses slowly but irresistibly, and the affect does not again become calmed down (genuine chronic paranoia). 2. The delusions remained confined to the conflict, but the delusions fade again and the affect disappears within a space of a few years. 3. We have nothing more than a clouding of judgment of a simple kind and ideas of reference are few, or entirely wanting, conditions, which for the most part run an episodic course.

The Rectum, Its Diseases and Developmental Defects. By Charles B. Ball, M.Ch., F.R.C.S.I., Hon. F.R.C.S., Regius Professor of Surgery in University of Dublin. Cloth. Pp. 332, with Illustrations. Price, $10.50. New York: Oxford University Press.

The book is based on the Lane Lectures on Diseases of the Rectum delivered in San Francisco in 1902 and on the Erasmus Wilson Lectures on Adenoma and Adenocarcinoma of the Rectum delivered at the Royal College of Surgeons, England, in 1903. Chapter 1, dealing with the anatomy of the rectum and anus, deserves especial mention. The morphology and relations of the rectum and anal canal are given in a manner rare even in large special surgeries. The figures accompanying the text are clear. The chapter devoted to fistula is suggestive, and the classification of fistulas is more correct and self-explanatory than such classifications usually are. The operation performed by Professor Ball—that of suture after the connective tissue wall of the fistula has been thoroughly curetted away—has fallen into disuse in America, notwithstanding that it was devised by Dr. Stephen Smith and its efficacy fully demonstrated.

In the discussion of the pathology of hemorrhoids it might have been suggested that a number of competent investigators believe, after the histologic examination of many cases, that most hemorrhoids are angiomas.

In connection with the treatment of carcinoma one is pleased to see the care with which the preparation of the patient and the field of operation is insisted on. The efficacy of the antiseptics used in the preparation may be doubted, but one can not doubt the value of the mechanical actions of the solutions which are advised.

Ball's operation for removal of the rectum, which had been used in but one case at the time the book was published, seems to be on correct lines. We regret that the author has not given more of his personal experiences with the different methods of radical removal of the rectum for malignant diseases and the advantages and disadvantages of each.

In the chapter on colotomy no mention is made of the Maydl bridge or of Ward's stitch, which certainly have simplified the technic of this operation. Ball has apparently limited himself to the discussion of the operation which appeals most to him. A short but satisfactory paragraph is devoted to the after-treatment of colotomies.

The illustrations are good and the book is printed in large, clear type on good paper.

INFANTILISM FROM CHRONIC INTESTINAL INFECTION. By C. A. Herter, M.D., Professor of Pharmacology and Therapeutics, Columbia University. Cloth. Pp. 118. Price, $0.90. New York: Macmillan Co., 1908.

The fruitful results of the combination of clinical observa- tion, chemical and bacteriologic research make this monograph an epoch-marking if not epoch-making work. The labors of the chemist and the bacteriologist in the study of the feces have long been of great interest from a scientific viewpoint, but gave little indication of leading to important practical results. But in this study of infantilism Dr. Herter has shown how they can be used to solve a problem in clinical medicine which otherwise would have long remained unsolved and which is of the greatest importance in the development of many individuals. The book shows also how much can be accomplished by the careful and persistent study of a few—n this instance five—cases. The patients were children whose rowth was checked by intestinal digestive disorder. Dr. Ierter notes an intolerance of carbohydrates and the study f fecal flora shows that the normal Gram-negative bacilli nd cocci, have been replaced by Gram-positive bacilli, one of vhich, *B. infantilis*, is regarded as having an etiologic rela- ion to the disease. There is a considerable loss of fat by he stool and this, together with the restriction of carbo- ydrates, causes a condition of undernutrition, which accounts or the lack of development of the tissues in general. The ssened absorption of fats has a further ill effect, by with- rawing calcium and magnesium in the form of soaps, so hat, for lack of mineral constituents, the skeleton fails to evelop. The condition is found to be a chronic one in which e bacilli have firmly established themselves by long habitua- on, having first become implanted during a case of acute r subacute gastroenteritis in early infancy. Dr. Herter's udies have led him to conclude that such patients can best treated by regulation of the diet, in which the use of gel- in plays a most beneficent rôle.

The success of this chemico-bacteriologic study emphasizes e importance of thorough investigation of cases of chronic health and malnutrition in childhood. Routine physical amination and prescription of temporary remedies in such ses will do little good, and the physician who contents nself with such customary treatment is taking a short- ghted view of the case. He should realize that the future his patient is in his hands, and depends on a thorough, tient investigation. This book shows that practical re- lts from such an investigation are possible, and that the tablishment of institutes where such investigations can be equately carried on ought to be an achievement of the ar future.

This book is destined to act as a powerful stimulus to nilar work; and even to those physicians who are not so situated as to undertake original work on similar lines, it is fitted to give a conception of the possibilities of such investigation and to open vistas of the future progress of scientific medicine, that may be an efficient antidote to pessimistic and nihilistic views.

RETINITIS PIGMENTOSA: With an Analysis of Seventeen Cases occurring in Deaf Mutes. An Essay Awarded the Alvarenga Prize of the College of Physicians of Philadelphia, July, 1908. By William T. Shoemaker, M.D., Philadelphia. Laboratory Examinations of the Blood and Urine by John M. Swan, M.D., Philadelphia. Cloth. Pp. 106, with illustrations. Price $2. Philadelphia: J. B. Lippincott Co.

Dr. Shoemaker was awarded the Alvarenga prize of the College of Physicians of Philadelphia for this work, a fact which indicates its excellence from a scientific standpoint. The basis of the work was the study of seventeen carefully selected typical cases of retinitis pigmentosa occurring in deaf-mute children. The study begins with the history of the disease and its histology and pathology. Then follows the symptomatology and etiology, analysis and summary of the cases, laboratory findings, treatment, and then Dr. Shoemaker's conclusions, covering in all 106 pages. A bibliography and index are appended. There are three good colored plates of the fundus lesions, drawn by Dr. Mary Buchanan. The book is printed in large type on very good paper, not too highly finished, and therefore easy on the eyes.

SANITARY SCIENCE AND ALLIED SUBJECTS. Selected Bibliography. Arthur W. Smith, M.A. Paper. Price, 50 cents. Boulder, Colo.: A. A. Greenman.

This pamphlet was prepared for the use of classes in sanitary science in the College of Liberal Arts, University of Colorado. It contains 420 titles, covering such subjects as infection, immunity, toxins, antitoxins, opsonic methods, disinfection and disinfectants, water, milk and food supplies, sewage disposal, vital statistics, patent medicines, public health administration and others. It is impossible, of course, that a bibliography covering such a range of subjects within so small a compass should make any attempt at exhaustiveness; but the annotations, which are analytical and to some extent critical, add to its usefulness.

QUAIN'S ANATOMY. Vol. I. Embryology. B. T. H. Bryce. Cloth. Pp. 275, with illustrations. Eleventh Edition. Price, $3.00. New York: Longmans, Green & Co., 1908.

This work has long been a recognized authority in anatomy and the present edition is fully up to previous standards. Much new matter has been added, especially in the way of illustrations. The customary chapters on general embryology and fetal development are followed by chapters on the growth of the various organs and systems. In the section on morphogenesis of the spinal cord and brain, a number of original photographs and drawings have been added which help to illuminate this intricate subject. The sections on the development of the special sense organs are also enlarged. The thanks of students and teachers are especially due to the publishers for the excellent index, a point too often overlooked in scientific text-books. Not the least attractive feature is the fact that this work is published in four small volumes, which are much more convenient to use than a single cumbersome book would be.

WANDLUNGEN DER MEDIZIN UND DES AERZTESTANDES IN DEN LETZTEN 50 JAHREN. Von O. von Bollinger. Paper. Pp. 44. Price, 1 mark. München: J. F. Lehmanns Verlag, 1909.

Von Bollinger, in this address delivered on the occasion of his inauguration as rector of the University of Munich, traces the progress of medicine in all its branches during the last century and especially during the last fifty years. In addition to presenting the advance in science he reviews the changes in the position of the medical profession with special reference to the growth of specialism and of quackery, and to the struggle between the *Krankenkassen* and physicians brought on by the industrial insurance legislation. In such a general review it is of course impossible to go much into details, suffice it to say that the reader is given a fair and correct impression of the problems and conditions which the members of the medical profession in Germany have to face.

Consumption. By C. H. Stanley Davis, M.D., Ph.D., Member of the New Haven County Medical Society. Cloth. Second Edition. Pp. 218. Price, $1.00. New York: E. B. Treat & Co., 1908.

With the avowed object of showing the curability of consumption "from its first beginnings to its last stages" Dr. Davis presents this second edition for popular and professional reading. The positions taken in the various chapters concerning causes, diagnosis, treatment, exercise, etc., are in accord with the generally accepted opinions of the day and the dietary of several sanatoria is set forth in detail. Dr. Davis' optimism regarding the curability of consumption in its later stages is shared by very few practitioners of large experience.

Malarial Fevers. By S. P. James, M.D., D.P.H., Major, Indian Medical Service. Edition 3. Paper. Pp. 94. Calcutta: Superintendent Government Printing, India, 1908.

This is a compendious statement of the nature, diagnosis and treatment of malaria with instructions for the obtaining and treatment of blood films. It gives also directions for identifying the ordinary varieties of mosquito. It is intended especially for assistant surgeons, internes and students, and is particularly adapted to use in India.

Physical Diagnosis and Laboratory Diagnosis. By Henry P. Kohberger, Ph.B., M.D., Associate Professor of Medicine and Director of Clinical Laboratory, University of Pittsburg (Med. Dept.) Flexible leather. Pp. 155. Price, $1. Pittsburgh: Medical Abstract Publishing Co.

Obstetrics in Abstract. By William D. Inglis, A.M., M.D., Professor of Obstetrics in the Starling-Ohio Medical College. Flexible leather. Pp. 171. Price, $1. Pittsburgh: Medical Abstract Publishing Co.

These little books give in a very elementary way the essential facts in physical and laboratory diagnosis and in obstetrics. They may be useful to the recent graduate in helping him to correlate symptoms. They are of convenient "vest pocket" size and are well bound.

Miscellany

Extension of the Frontal Sinus and Ethmoidal Cells Over the Orbit.—Ernst Witt (*Anat. Hefte, Beitr. u. Ref. f. Anat. u. Entwcklgsgesch.*, Abt. 1, 1908, xxxvii, 142) makes a study of the frontal sinus and its adjoining ethmoidal cells in 323 skulls in the dissecting room. Those frontal sinuses and ethmoidal cells which are abnormally large and which extend high up in the frontal bone and over the roof of the orbit are particularly considered. He considers the relations of the frontal sinus and orbital cells (i. e., those ethmoidal cells which extend laterally over the roof of the orbit) as exceedingly variable. This is explained by the mode of development. "The sinus frontalis and cellulæ ethmoidalis arise from anlages, which developmentally are very closely related and which may replace one another." Whichever anlage of the anterior ethmoidal cells first develops a distinct projection into the wall of the nasal cavity becomes the anlage of the frontal sinus. The size of the frontal sinus and orbital cells are likewise very variable in the adult. "In about one-third of the cases the roof of the orbit is more or less undermined by them." Three types of variation are recognized: (1) the roof of the orbit undermined by the sinus frontalis alone; (2) by the sinus frontalis and one cellula orbitalis; (3) by sinus frontalis and two cellulæ orbitales. "Each of these cavities has its individual ostium. The sinus frontalis and cellula orbitalis anterior always open into the middle nasal passage (i. e., middle nasal concha), the cellula orbitalis posterior frequently into the upper. Between the sinus frontalis and the cellula orbitalis anterior a communication sometimes exists." For diagnosis the inspection in the living subject, especially the relations of the arcus superciliares, he considers not trustworthy. "In the opened frontal sinus, on the other hand, the occurrence of a distinct posterior wall indicates the likelihood of the presence of an orbital cell."

Is Cholin Present in the Cerebrospinal Fluid of Epileptics?—S. Kajiura's researches (*Quart. Jour. Exper. Physiol.*, 1908, i, 292) lead him to agree with Halliburton and Mott, whose investigations on the presence of cholin in the cerebrospinal fluid and blood lead them to conclude that cholin is present only in organic diseases of the nervous system, and that this is a fact of diagnostic value in distinguishing diseases in which there is an actual breakdown of nervous material from those which are merely functional. Negative results (by the periodid test) in cases of meningitis are noted. "Inflammation of the meninges does not necessarily cause any noteworthy change in the underlying cerebral matter." Considerable criticism of Donath's micro-polariscopic test for cholin is indulged in, with the conclusion that it is unreliable, since it gives positive results in such cases as cancer of the stomach, nephritis, postbasic meningitis, with normal cerebrospinal fluid or even with distilled water. Kajiura concludes: 1. Rosenheim's periodid test for cholin is both trustworthy and reliable. 2. By this test, cholin is found to be absent from cerebrospinal fluid in cases of genuine epilepsy.

Eighteenth Report on Recent Teratologic Literature.—Dr. William Wright, in the *Journal of Anatomy and Physiology*, October, 1908, compiles and classifies the literature relating to teratologic subjects which has appeared since his last report. Both experimental and general teratology are considered. It is the aim of Dr. Wright to compile these reports approximately once each year and to include all cases of abnormities and malformations which are published from time to time. In this one a short abstract is given of each case reported in the various journals. Several interesting cases of general malformation, of duplication, of fetus in fetu, of defective and rudimentary organs, limbs, head and neck, etc., occur. Many cases of congenital absence of limbs and thoracic and abdominal organs, the transposition of structures and viscera, and congenital defects in the reproductive system are found in the reports. These reports will furnish a brief encyclopedia of teratology. They now cover a period of about twenty-three years.

Recent Researches on the Determination and Heredity of Sex.—Prof. Edmond B. Wilson, after many years' work on the cell, gives in *Science*, Jan. 8, 1909, some of his results and conclusions which have a bearing on the determination of sex. In his opinion, "it may fairly be said that substantial advances in the analysis of the mechanism of sex-production are being made by experimental and cytologic research," since it seems fairly certain that factors which determine sex are no longer purely hypothetical, but are integral units which may be seen with the microscope in the germ cells. The factors which determine sex are to be found in the germ cells of the male. They are what he terms accessory chromosomes and can be easily distinguished microscopically. "In all cases the spermatozoa are formed in pairs, and the chromosomes are so distributed that one member of each pair receives the x-element," i. e., the accessory chromosome. Those spermatozoa which receive the accessory chromosome are female-producing, those which do not receive them are male-producing. The egg seems to play a relatively passive rôle in the determination of sex. It seems to have no preference as to whether it shall be fertilized by a male-producing or a female-producing spermatozoön. Sexual predestination and heredity and the various interpretations of sex heredity on the Mendelian theory are discussed.

The Artificial Production of Decidua and the Importance of the Ovaries on the Formation of Decidua.—It is asserted by L. Loeb (*Zentralbl. f. Physiol.*, 1908, xxii, 498) that a decidua has been produced artificially in rabbits and guinea-pigs. Two to 9 days after ovulation (without previous copulation) the uterus wall was slit open, either transversely or longitudinally. A typical decidua resulted. These results were not obtained where the ovaries were taken out immediately after ovulation. A decidua was also formed in a half of the uterus which was transplanted into the subcutaneous tissue. These experiments are put forth as evidence against the nervous influence of the ovary on decidua formation and as favoring an internal secretion which is carried to the uterus through the blood. The decidua formation in the transplanted piece of the uterus would indicate that the egg does not act specifically, but rather mechanically, upon the mucous membrane of the uterus, and, further, that the uterus has been made ready for this action by an internal secretion of the ovary.

Simple Ulcer of the Stomach in Young People.—E. Parmentier describes a case of simple ulcer of the stomach in a girl of 13, cured by a nine months' course of treatment. In another case the chronic simple ulcer had caused symptoms from time to time since childhood, with occasional melena. The patient was a young woman of 20. The recurrence of symptoms in this patient several times after apparent cure from different courses of treatment shows the uncertainty of the outlook in some cases. In his communication in the *Bull. de la Soc. Méd. des Hôp.*, Dec. 24, 1908, p. 812. he reviews sixteen other cases that have been published of simple ulcer in children under 14, six of them from American literature. In some cases the only symptoms were convulsions and unconsciousness when perforation occurred, followed by death in a few hours. In three cases the children died from progressive inanition. A cure is recorded in some of the cases, but it is more probable that it was merely a relative and temporary cure, as trouble is liable to develop again later.

Arachnoidism.—S. Mazza applies this term to the syndrome produced by the bite of a poisonous spider, and in the *Semana Medica*, January 7, he gives an illustrated description of a case with sloughing of part of the arm a month after the bite. The patient was a man of 42 and when seen twenty-four hours after the bite the general symptoms included hills, vomiting, jaundice and delirium, slow and small pulse, scanty, blood-stained urine and bloody diarrhea with fever. He recovered under injection of salt solution 500 c.c. every welve hours with caffein every three hours for nearly three weeks and camphorated oil every six hours at first. Strychnin was also given at first, and ergot to combat the tendency o hemorrhage, with local treatment of the lesion on the arm and oxygen to combat the dyspnea. On account of the finding of methemoglobin in the blood, as in intoxication from potassium chlorate, he gave an enema of sodium bicarbonate and glycerin. It may have been a mere coincidence but the igns of hemolysis subsided after this enema. In another ase the bite was from an ordinary centipede; exophthalmos, hills and general depression were the main symptoms.

The Ductless Glands (Pituitary Body, Suprarenals and Ovaries) in Epilepsy.—Claude and Schmiergeld (*Compt. rend. Soc. de biol.*, 1908, lxv, 196-199) give the results of an examination of these glands of internal secretion in fifteen ases of epilepsy. In three cases the pituitary body showed localized area of sclerosis. Capillary congestion was present in one. From the distribution of the cellular granules nd the staining reactions of the cells and the increase in the olloid material in the above three cases, a hypersecretion of he pituitary body is suggested. The pituitary body in the ther twelve cases showed histologic evidence of a decrease of unctional activity. In all cases the suprarenals were smaller han normal. In seven cases the histologic picture was distinctly that of hypofunctional activity. In only one case was here evidence of hypersecretion of the gland. With the vary the changes were not so pronounced, and their significance was more difficult to determine. The ovaries were small nd usually poor in Graffian follicles. An examination of the ancreas, liver and kidney revealed nothing.

Vaccination Against Cholera.—A Russian committee including Professor Podwyssotzki has drawn up a circular of istructions for prophylactic vaccination against cholera, and he circular has been officially adopted by the authorities and ublished for general distribution. The following points are mphasized: 1. The statistics to date show that prophylactic vaccination guarantees protection to a certain extent gainst cholera, but the vaccinated must be careful to observe the general hygienic precautions. 2. The vaccination must not be compulsory. 3. Anticholera vaccination is harmless and causes only a brief reaction, such as slight swelling and tenderness of the wound, higher temperature, headache, occasional swelling of the glands and slight digestive disturbances. Severe reaction occurs only exceptionally. 4. Of the two methods in vogue: vaccination with living cultures (Haffkine), or with killed cultures (Kolle), the latter is to be preferred, as the public have more confidence in this technic. 5. During an epidemic of cholera the vaccination must be done with great care, to exclude those already infected, and those liable to be exposed to infection before immunity is realized. On this account, during an epidemic, the excreta should be examined for cholera germs; if found the patient should not be vaccinated. All the vaccinated must be warned that immunity is not realized until the fifth or sixth day, consequently, during this interval they must avoid chances for contagion. 6. The vaccination must be repeated two or three times at intervals of from five to seven days, or not until after the signs of the reaction have vanished. The first dose of from 0.5 to 1 c.c. can be increased to 2 or 3 c.c. on the repetition. Children under 2 years are given 1/10 of this dosage; between 2 and 10 from 1/10 to ½; and between 10 to 15 from ½ to ¾. A pregnant woman should be given only a small dose. Acute febrile diseases and acute gastrointestinal catarrh contraindicate the vaccination. Great caution should be observed in case of debilitated, anemic persons. 7. Physicians should keep a careful record of all vaccinations, noting the name, age, profession and residence, state of health, whether the stools have been examined for cholera, the kind of cholera vaccine used, when prepared, place of injection and dosage each time, date of each vaccination, form and duration of the reaction, and the outcome of the vaccination, whether the patient escapes the cholera or is affected or dies, with dates. The circular is given in full in the *St. Petersburg med. Wochenschrift*, Jan. 30, 1909.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 5-6. Sec., Dr. Ancil Martin.

Arkansas: Three boards, each at Little Rock, April 13. Regular Sec., Dr. F. T. Murphy, Brinkley; Homeopathic Sec., Dr. P. C. Williams, Texarkana; Eclectic Sec., Dr. A. J. Widener, Little Rock.

California: San Francisco, April 6. Sec., Dr. Charles L. Tisdale, Butler Bldg.

Colorado: Denver, April 6. Sec., Dr. S. D. VanMeter, 1723 Tremont St.

District of Columbia: Washington, April 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.

Idaho: Boise, April 6-7. Sec., Dr. W. F. Howard, Pocatello.

Illinois: Northwestern University Bldg., Chicago, April 15-17. Sec., Dr. J. A. Egan, Springfield.

Minnesota: Old Capitol, St. Paul, April 6-9. Sec., Dr. W. S. Fullerton, 214 Am. National Bank Bldg.

Montana: The Capitol, Helena, April 6. Sec., Dr. W. C. Riddell.

North Dakota: Grand Forks, April 6-8. Sec., Dr. H. M. Wheeler.

Oklahoma: Guthrie, April 13. Sec., Dr. Frank P. Davis, Enid.

Rhode Island: State House, Providence, April 1-2. Sec., Dr. Gardner T. Swarts, 315 State House.

Utah: Salt Lake City, April 5-6. Sec., Dr. R. W. Fisher.

West Virginia: Huntington, April 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Council on Medical Education Conference

The fifth annual conference of the Council on Medical Education will be held at the Auditorium Hotel, Chicago, Monday, April 5, 1909, the session to begin at 10 o'clock. Besides the reports of the Chairman and the Secretary, there will be a report from a special committee on "Standard Medical Curriculum." There will also be addresses on "Some Results of the Higher Standards of Preliminary Education" and on "The Character of the State License Examination." Many questions of special interest to members of state examining boards will be discussed. A large attendance is already assured and a most interesting session is expected.

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 8-11.

Assn. of Amer. Med. Colleges, New York, Mar. 15-16.
California, Medical Soc. of State of, San Jose, April 20.
District of Columbia, Medical Assn. of, Washington, April 27.
Florida Medical Association, Pensacola, April 7-9.
Georgia, Medical Association of, Macon, April 21.
Mississippi State Medical Association, Jackson, April 13.
Missouri Valley, Medical Society of, St. Joseph, March 18-19.
South Carolina Medical Association, Summerville, April 21.
Tennessee State Medical Association, Nashville, April 13-15.
Tropical Medicine, American Society of, Washington, April 10.

CHICAGO MEDICAL AND CHICAGO NEUROLOGICAL SOCIETIES

Joint Meeting, held Feb. 10, 1909

Dr. L. Harrison Mettler, President of the Chicago Neurological Society, in the Chair

SYMPOSIUM ON PSYCHOTHERAPY

The Religious Therapeutic Movement

Dr. Isador H. Coriat, Boston, Mass.: Probably no movement in contemporary medicine has attracted more attention and more criticism than the work taken up by the Emmanuel Church in Boston, and called the Emmanuel movement. Why, I do not know, because what the Emmanuel Church has attempted is the establishment of a psychotherapeutic clinic for the treatment of a limited type of functional nervous disorders under rigid medical control. The action of the mind on the body is well known, and recently in Russia, under the leadership of the physiologist, Pavloff, methods of action of mind on the body have been applied to the lower animals. For instance, he will take a dog, whose esophagus has been opened in the neck, and in which a gastric fistula has been made, and give that dog some meat to swallow. Of course, the meat comes out from the esophageal fistula and never reaches the stomach. Immediately there is the secretion of gastric juice. He gives the dog pebbles to swallow, and there is no secretion of gastric juice. To my mind, experiments like that speak more than anything for the action of the mind on certain bodily functions. Medicine, it appears to me, is no longer limited to the dispensing of drugs, to the application of electricity, or to hydrotherapy, or to any of the various methods; medical men have broadened out and are in touch with every human activity. We know from the work of the Massachusetts General Hospital how remarkable have been the results in the so-called social service department, where patients are recommended by physicians in whom there seems to be nothing particularly wrong, yet seem to be out of harmony, dissatisfied with their surroundings. The social worker takes those patients and modifies their surroundings, with the consequence of cure or alleviation of the condition. In 1906, Dr. Worcester and Dr. McComb started what has since become known as the Emmanuel movement; but unfortunately it has spread in every direction. Sometimes, I might say, it has spread into incompetent hands. Of course, they are not responsible for what others are doing; they are only responsible for their own work. Dr. McComb is a psychologist, and Dr. Worcester is a Doctor of Philosophy and Professor of Psychology, well-equipped for the psychologic treatment of certain nervous disorders. Patients are treated individually. There is no class treatment. Small numbers at a time are taken. They are only treated after they pledge themselves to remain for a number of weeks at a time. The work is under absolute medical control. About 50 per cent. of the patients are sent directly by physicians, with notes, and these physicians suggest in these notes that there is nothing organically wrong, and they believe the patient or patients will be proper subjects for psychic treatment. The other 50 per cent. of the patients are examined on certain clinic days, and only those patients are accepted who are proper subjects for psychic treatment. Organic cases are never accepted, or cases in which an organic complication predominates over the functional condition. Of all patients who apply to the Emmanuel clinic, about 75 per cent. are rejected. The other 25 per cent. are accepted. Drs. Worcester and McComb work with only a small group at a time; the others are put on the waiting list. If a patient should come without notifying his or her physician, and, at the same time is under the treatment of a physician, that patient is not accepted. The patient is sent back to the physician with the request that a written note be forthcoming.

The criticisms of the movement are these: (1) The danger of the spread of the movement into incompetent hands. As medical men we must recognize that incompetent men, incompetent clergymen, may start this work after reading two or three books, without a long psychologic preparation. There they will fail; they will bring justified criticism of the medical profession down on their heads. (2) The criticism has been that these ministers are practicing medicine. Let us see if they are: For a long time they have limited their cases to those which show a well-recognized moral, ethical or spiritual defect, whether or not that was the symptom underlying the functional disorder. I presume that the clergyman is well adapted to treat that type of case. The patient does not expect spiritual consolation or ethical lectures from his physician, but does expect them from his clergyman, and therein lies the therapeutic value of any such method as that. Clergymen should take only patients in whom the moral, ethical or spiritual elements predominate, and then only under rigid medical control. In the clinic in Boston not only is the patient given a thorough medical examination from the beginning, but, if accepted, that patient is kept under constant medical control and reappears from time to time for re-examination. On account of the storm of criticism that has arisen in Boston, a new method of medical control has been instituted which will soon go into effect. A committee composed of four physicians of Boston formulated several rules which have been published in the various medical journals. The examination of patients at the church clinic has been abolished under these new rules. If a patient comes without a note from a physician, he is given an alphabetical list of physicians attached to the various hospitals. The patient is sent to an internist who makes an examination and states whether or not the patient is fit for the psychotherapeutic treatment of the Emmanuel Church. If a specialist is necessary, the internist calls in a specialist. Even before these rules were instituted the movement was safeguarded by rigid medical control, and under these new rules the control is still more rigid. No patient is accepted unless he pledges himself to remain under treatment for at least six weeks, and if at the end of that time longer treatment is necessary he is expected to remain longer. The methods used are in line with well-recognized methods of psychotherapeutics. The results with alcoholics have been very gratifying. Many of the poorer alcoholics not only are given psychotherapeutic treatment, but the social service worker inquires into the surroundings, the home conditions, and if the individual lives in a district of the city where the temptation to drink is the greatest, arrangements are made to move him to more cheerful surroundings. If there are any dangers in this clinic, they are thoroughly safeguarded by the training of the clergymen who have undertaken the work and by the thorough medical control over such work. The criticism that the clergyman is taking up the physician's work does not appear to me to be valid, because these clergymen are doing a type of work for which they are eminently fitted as clergymen and as psychologists, a type of work which we as physicians could not take up, because we have not had that particular form of training.

Psychotherapy from the Psychologist's Point of View

Prof. James R. Angell, University of Michigan: I have been amazed to see how widely the view still obtains that some sorts of mental processes do not have corresponding brain processes. When we talk about therapeutic methods of treating diseases through the mind, it does not mean that we are not producing any change in the nervous system; it simply means that we are producing changes in the nervous system by initiating changes in what we call the mind; and, as a matter of fact, when we come to conclusions and see what we have done, we have said something, done something, or brought something to pass which affects the sense-organs of the person with whom we are dealing, and that process inevitably affects the brain. In such cases we are dealing with nothing which excludes the action of the brain or nervous processes. Mental processes have corresponding brain processes and if we are not able to point them out at any particular time it is in consequence of our ignorance and not because the facts are lacking to substantiate it. So far as I know, psychologists connected with universities are, for the most part, fundamentally opposed to anything which might be called mysticism in reference to this movement. I think a good deal of the antagonism we have had so far toward certain phases of this psychotherapeutic movement has been based on the fact that an element of mysticism has been injected into it. I take it that three distinct kinds of practice are represented in this movement: First, I should recognize that which is being carried on by physicians, neurologists and medical men; second, I should recognize that which is being carried on by ministers or laymen in conjunction with physicians and under their guidance; third, I should distinguish that practice which is being carried on by persons who absolutely reject all reference to medical guidance, and I include in that class the Christian Scientists and the mind cures of various sorts in one form or another.

From the beginning of time every physician has made more or less use of psychotherapeutic methods, in that they have brought and are bringing to the sickroom a hopeful personality, cheerfulness, and an attitude of encouragement to the patient. I have nothing but the deepest respect and the deepest confidence in the outcome of the use of psychotherapeutic methods by medical men. It is from medical men we must expect real advancement and information of what has been and can be done in this direction. Our attitude toward the ministers or laymen who are working under medical control is essentially this: There is a large group of individuals who, to all intents and purposes, are mentally abnormal, who need help, and who, in the first place, are not ikely to go to a physician to get that help, because their troubles are perhaps moral rather than physical. If they hould consult a physician, they are not likely to get from he average physician what they really need, and I can not but believe that ministers who are well trained for their duties have a wide range of usefulness in this particular direction; and I think it is problematical whether the medical practitioner can really fill the bill, and whether he will wish to try to, or whether he ought to try to.

Into the training of the average medical man there should be introduced a larger measure of psychologic work than has heretofore been the custom. The better medical colleges ecognize this and are providing for instruction in psychologic cientific work as part of the regular curriculum. At present, owever, the average psychologic department does not offer o the medical school exactly what it ought to have, and it will require some adjustment in almost all institutions. The verage practitioner has obtained his knowledge of psychotherapy either by personal experience or by working in the ffice of a neurologist, and the acquirement of this knowledge has been rather accidental than an essential and radical part f medical training.

Medical Uses of Hypnotism

Dr. Hugh T Patrick: An individual who is easily hypnotizable is one who is instinctively obedient and credulous, nd who believes without criticism, without analysis, and without ny particular process of reasoning, what is told him. It is well-known that the percentage of hypnotizable individuals in the German army is great, because these soldiers are so thoroughly trained in obedience that it becomes instinctive. On the other hand, certain individuals are inherently refractory to hypnotism. Many of these individuals come and request to be hypnotized, and believe that they can be cured by hypnotism. They are largely the type, of individuals who read about cases in newspapers and magazines; they are patients who attempt some sort of self-analysis of their own symptoms, and of their own condition. They reason in their own particular way about the nature of their maladies; they have distinct and sometimes very fixed notions. They have the exaggerated ego, accompanied with a peculiar sort of mental hypersensitiveness and fixity in their own opinions. These people instinctively, but not purposely, keep awake to see how it feels to be hypnotized. They are the refractory individuals, in whom it is needless to make the attempt. In everyday practice hypnotism can be used, first, in diagnosis, and second, in treatment. Sometimes hypnotism is of more use in diagnosis than in treatment. It is useful sometimes in the diagnosis of various seizures or attacks, in nervous explosions of one kind or another, and one of these is the fit or convulsion. Occasionally, it is impossible to distinguish from the symptoms which we perceive whether a given patient is suffering from hysteria or from epilepsy. Occasionally hypnotism may clear it up. For example, not long ago a man was brought to me whose wife gave an account of his having had an epileptic seizure, and immediately following it an epileptic furor. After the fit he passed into a condition of great excitement, with destructibility, in which he smashed open a door, tore down the curtains, chased his wife through the house, got a gun and chased his brother-in-law down the yard, out into the road for some distance, and threatened to shoot him. During the physical examination there were two little things that occurred that made me doubt the correctness of the diagnosis I was then forming in my mind, and after further examination there was a question in my mind whether this had not been an hysterical attack. I put the man to sleep, and he related to me in detail all that had occurred during this seizure, the circumstances of which he had been ignorant of. He did not remember anything whatever until a considerable time after the subsidence of the furor part of his attack. During hypnosis he related every detail of what he did, and why he yelled and screamed and acted as he did.

Hypnosis helps in the diagnosis between hysteria and epilepsy, or between the hysterical and epileptic state. Hypnotism is an aid in the differential diagnosis between functional disease and organic disease. Hiccough may be a rebellious symptom of grave organic disease. It occurs as a very troublesome, rebellious and continuous symptom of hysteria, and sometimes hypnosis will settle the diagnosis at once. Hypnotism also helps in the diagnosis in those cases in which there is a combination of organic disease and functional disease, or organic disease and hysteria, in which suggestion during hypnosis will remove or alter certain symptoms, so as to enable the practitioner to distinguish that part of the symptomatology due to organic disease from that due to functional trouble.

When we come to therapeutics, in my opinion the cases in which suggestion during hypnosis is the basis of the treatment are very infrequent. I could enumerate many clinics where hypnotism has been used to a great extent for a more or less limited period. I could also tell from my own experience of a good many more or less prominent medical men who have used it to a greater or less extent and have gradually or nearly abandoned it. In organic diseases hypnotism has an exceedingly limited use, but it now and then has a very distinct and very great use. Hypnotism is of little or no avail in cases of melancholia, paranoia, dementia præcox, etc. It may be of use nowadays in that group of cases which comes under the head of psychasthenia—phobias, imperative ideas, etc. In some of these hypnotism is of great use.

Psychotherapy from the Physician's Point of View

Dr. Sydney Kuh: Our influence on a patient's mind begins with the moment that the sufferer enters the office. The appearance of the room, of the medical apparatus that it contains, and the physician's personality, are the first factors which often determine whether or not the confidence of the patient so essential for success, can be obtained. The physician's method of dealing with his patient is of paramount importance. The neurotic individual is usually a keen observer. He watches with the greatest interest the examination of the physician, notes whether this or that organ has been overlooked, and whether the investigation is made in a careful and painstaking or in a slovenly manner. Next to the physician's personality, I should value the influence of the first examination most highly. It must indicate to the patient that his physician takes a genuine interest in his case. The best results in psychotherapy are undoubtedly obtained when the patient is transplanted into new surroundings; for most of the serious and tedious cases such a step is absolutely necessary. Even the nurse should not as a rule, accompany the patient from his home to the sanitarium. Here begins a process of re-education, which in every instance must be adapted to the individual, and for which no hard and fast rules can be laid down. An intelligent nurse, one who supports the physician understandingly in his efforts, who strengthens the patient's confidence, who diverts his mind from his troubles and pains and aches into more pleasant channels, is a *sine qua non* of success. For patients who are anemic, emaciated, poorly nourished, and for those who suffer from anorexia, hypochondriasis and the various phobias, a rest cure is often the best thing. Others may do better if sent to the country or to the mountains, where they receive new impressions and where an occupation may be found which keeps them busy, without making great demands in the way of intellectual labor. Again, others will progress most rapidly toward recovery in an institution adapted for the so-called work cure, a place where carefully regulated manual labor is prescribed according to the needs of the case. The therapeutic agent under discussion is most useful in such functional neuroses as hysteria, neurasthenia and psychasthenia. But its usefulness is not limited to such troubles. All of us make use of psychotherapy constantly, often utterly unconsciously, as a palliative in all manner of organic disease. To instill hope into the breast of the despairing, to arouse the individual who has given up the struggle, to fight anew, are things that are well worth doing, even in organic and incurable diseases. That we have not recognized the importance of psychotherapy has driven a host of sufferers into the hands of laymen, who were willing and more or less capable to make use of a method, perfectly legitimate in itself, but on which the medical profession frowned. In place of abusing those who are ready to do what we ourselves should have done long ago, let us make use of the powerful weapon at our command, and the cause for complaint will disappear. Let us wake up!

Discussion on Psychotherapy

Dr. Archibald Church: If the so-called Emmanuel movement can be controlled under medical direction and can be limited to the moral torpitudes and the religious disturbances which seem to be proper subjects for activity, and to the class of patients who are accepted in the Emmanuel church movement, there should be no quarrel with it; but in view of the fact that the church has been losing its dignity, its importance, its influence, and that the clergy has been shrinking in its own estimation; that theological schools have been experiencing difficulty in securing candidates for admission and students to enter the priesthood; that the churches on Michigan Avenue are practically in financial straits; that the attendance is dwindling constantly, it is not unlikely that the churches may find themselves with a Frankenstein which will give them a merry chase before it can be overtaken, and which may result to the great detriment of the dignity of the church as a whole—I mean all denominations. If this movement can influence individuals morally, or if it can cure neurasthenics and hysterics, well and good; but the difficulty is that as soon as the fashion loses its caste, or changes, these people are going to seek some other avenue for relief, some other mystical sort of aid, and the church will find itself in a position of great discomfort, with loss of its dignity and prestige.

Dr. Oscar A. King: I do not think it is at all desirable that we, as a profession, should go into partnership with clergymen in the practice of medicine. Every practitioner of medicine has views on psychology. Every one, long before the name was invented, had a practical psychology. The housebreaker and the policemen have a practical psychology that serves their purpose; and the physician has a psychology that serves his purpose. The physician is the man to make diagnoses, and not laymen. I do not believe we will ever get any benefit by associating with people who are wholly unqualified to practice medicine, who are untrained and unfit for this work, and I hope Chicago will not join Boston in this movement.

Dr. Julius Grinker: The class of people who go to Emmanuel movement clinics do not care to seek the aid of physicians. When people read of this movement and of the work that is being done, of the mysticism that goes with it, they feel an impulse to go there. I question whether the motives of some of the men undertaking this work are purely unselfish.

Dr. D. Hecht: I am glad that the Emmanuel movement is being safeguarded on all sides in Boston; but great danger lies in the fact that it may extend beyond the confines of Boston and perhaps get into less scrupulous hands, with less safeguarding. Phrenologically speaking, the bump of credulity has little or nothing to do with intellect. I have not been able to correlate the two. I have known judges or attorneys, very erudite men, go off on a tangent with the most irresponsible; yet they must be given credit for their intellectual attainments.

Dr. L. A. Derdiger: I would advise physicians to attend the meetings of these cults, get acquainted with the people, analyze what they are doing, and discuss the subjects with them. If this is done, many of them will come to the physician and say: "You have reasoned with me, you have pointed out that I have been misled, or that I have been mistaken as to this method of cure.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held Feb. 10, 1909

The President, Dr. Frederick P. Henry, in the Chair

Oral Prophylaxis from the Viewpoint of Abdominal Surgery

Dr. Stephen E. Tracy: Infections of the mouth may play an important part in the production of disease in the gastrointestinal tract and in other parts of the body, and may predispose the patient to many diseases. Clinicians, as a rule, do not pay sufficient attention to the condition of the teeth and the cleanliness of the mouth. Patients about to be subjected to operation should have the teeth, the interstices and the gum margins painted with a solution of one of the nonirritating salts of silver and then sprayed with pure hydrogen dioxid under pressure. The same surfaces should then be painted with tincture of iodin and again sprayed with pure hydrogen dioxid, followed with atomization with a pleasant, alkaline, antiseptic mouth wash. The nares and pharynx should be sprayed with a solution of hydrogen dioxid and water half an hour before the anesthetic is administered. By following this technic certain postoperative complications are avoided and convalescence is hastened.

Orthodontia As Related to Other Bodily Relations

Dr. S. Merrill Weeks: Teeth in abnormal relations prevent proper cleansing and therefore are not hygienic. They are a predisposing factor in alimentary disorders. Irregularly disposed teeth, because of their largely diminished facility for mastication, favor the habit of bolting the food, causing the food to be taken into the stomach in too large portions and unsalivated, thereby having a detrimental influence on digestion. Some nose and throat disorders are so closely associated with a certain class of irregularities as to give the orthodontist and the rhinologist a common interest both in etiology and treatment.

Value of the X-Ray in Diagnosis of Abnormalities of the Teeth

Dr. Matthew H. Cryer and Dr. R. H. Ivy: Many cases are encountered of pain referred to the region of the teeth in which diagnosis would be impossible without the use of the *x*-ray. The commonest cause of neuralgia in which the *x*-rays are of value is that of an impacted tooth. An impacted lower third molar, for example, may cause neuralgia by pressing against the roots of the second molar, causing resorption of the dentine until the pulp is exposed and the consequent irritation sets up neuralgia; or, the roots of the impacted tooth may press backward on the adjacent inferior dental nerve. Again, the irritation set up may cause a condensation of the surrounding cancellated bone with pressure on the inferior dental nerve and its minute branches which ramify throughout the bone. Impacted teeth frequently set up cellulitis of the surrounding region, extending up to the temporomandibular joint and causing false ankylosis. Other abnormalities in which the *x*-rays are of value are malformation or malposition of roots of erupted teeth, inflammatory conditions of the bone, which may or may not be caused by diseased teeth, local thickenings of bone, new growths, supernumerary teeth encysted within the jaw, malformation of the jaw bones, and pressure of deciduous teeth on unerupted permanent teeth which in turn press on the nerve. "Pulp stones" are sometimes shown by the *x*-ray. So satisfactory has been the use of the *x*-ray in these and other dental conditions its use can not be advocated too strongly. One patient, from whom a skiagraph was taken, suffered severe pain for years in the posterior part of the upper jaw. There was shown an unerupted third molar tooth with its root projecting above the floor of the maxillary sinus, showing that it interfered with the nerve supply of the upper teeth. An unusual condition is that of a third molar beneath and in front of the second molar, pressing against the roots of the first molar. In one patient who had exophthalmic goiter in addition to trifacial neuralgia the neuralgia was ascribed to brain tumor. The *x*-ray showed an impacted lower third molar and a thickened condition of the bone just below the roots of the second molar.

Medicolegal

Injury to Passenger Not Physically Sound

The Second Appellate Division of the Supreme Court of New York says that the plaintiff in the case of Miehlke vs. Nassau Electric Railroad Co. was a married woman, and it appeared from the evidence that she had been under treatment for some time for uterine troubles, and the defendant insisted that the evidence failed to show that the subsequent injuries, which centered in her right side in the vicinity of the right ovary, which was afterwards removed, were the sole cause of this necessary removal. But a passenger is not bound to be physically sound. A woman is not bound to be free from all complications in order to recover for injuries which she actually sustains. While the defendant could not be held liable for the condition in which the plaintiff was at the time of the accident, it was liable for any injury which it negligently inflicted on her, even though that injury would have been less disastrous if she had been in perfect condition at the time of the accident.

Power of City to Order Destruction of Old Building Infected with Smallpox Germs

The Supreme Court of Illinois had, in the case of Sings and others vs. City of Joliet, the question of the power of the city to pass an ordinance to condemn as a nuisance a single old wooden building and to authorize and direct the destruction of the same and its contents. The ordinance stated that, whereas, the building in question for some time had been, and still was, occupied by a large number of persons, all of whom were more or less exposed to, infected by, and suffering with the dread contagious and infectious disease known as smallpox; was thoroughly impregnated with the germs of that disease, and was, by reason of its old age, state of deterioration, and otherwise, in such condition that it could not be successfully disinfected so as to wholly destroy such germs, in consequence of which it was extremely dangerous and detrimental to the health of the citizens and residents of the city, and the necessity existed for prompt action to prevent the spread of such contagious disease, therefore the building was declared to be a public nuisance and condemned to destruction as such, after the removal by the health commissioner of the city of all occupants to the pest house, or some other place temporarily to be used as a place of isolation.

The court does not accede to the contention that the city was without lawful authority to pass the ordinance and to do the acts charged under the provision of the state constitution that no person shall be deprived of property without due process of law. It points out that by statute the city council shall have power "to declare what shall be a nuisance and to abate the same;" also, to do all acts and make all regulations necessary or expedient for the promotion of health or the suppression of disease.

Nor does the court accept the argument that the city was without power to pass an ordinance which had application only to the property involved in this suit; that the power given to declare a nuisance must be exercised by an ordinance general in its character, operating uniformly on all persons and on all property of the same character within the city. It says that while the precise steps necessary to be taken by the city in declaring a thing to be a nuisance have never been pointed out by this court, it is of opinion that the city, in the exercise of its police power, if the emergency existed, as it appeared to have existed from the recitals of the ordinance, had the power to declare the existence of the nuisance by the ordinance which it passed, provided the location and condition of the building were such that the method ordained was the only one which could in reason be used that would be effective in preventing the spread of the disease. Many cases can readily be imagined in which the city must proceed in a manner exceedingly summary both to declare and to abate a nuisance, and in such case the passage of an ordinance such as that here involved would seem to be a declaration sufficiently formal.

If the conditions recited in the ordinance existed, and if the building was so located as that persons in the city could not by the city authorities in the exercise of reasonable precaution, be excluded from the building or prevented from approaching so near thereunto as to be in danger of contagion therefrom, it would appear that the building was, in fact, a nuisance and that it might lawfully be abated.

Neither were the owners of the property necessarily entitled, before it was actually destroyed, to have a day in court, where the question whether the property was, in fact, a nuisance might be adjudicated before the building was destroyed. If in every emergency the owner of the property, the destruction of which is deemed necessary, must be given a hearing, the exercise of the police power would in many instances be so delayed that serious injury to public health and other public interests would result.

But the law in Illinois gives no binding or final effect to the decision of the city council on the question of fact of whether the building was a nuisance. On the contrary, this question remains an open one, which may be adjudicated.

To declare and abate a nuisance is within the scope of the power conferred on the city, and if the council, in the exercise of that power, destroys or expressly authorizes the destruction of property which, in fact, is not a nuisance, the municipality must be held liable for damages sustained by the owner. The city was not justified in destroying this property unless the statement of alleged facts contained in the ordinance was true, and then only if the property was so located and in such condition that the danger to public health therefrom could not be obviated by the use of some reasonable measures less drastic than the absolute destruction of the property.

No Hearing Need Be Granted Before Food is Seized and Destroyed

The Supreme Court of the United States had, in North American Cold Storage Co. vs. City of Chicago, a case involving principles of considerable general importance to boards of health and health officers. This was a suit to enjoin the city, its commissioner of health, chief food inspector and other officers from summarily seizing and destroying, under a city ordinance, food in cold storage as unfit for human consumption. But the court says it is of opinion that provision for a hearing before seizure and condemnation and destruction of food which is unwholesome and unfit for use is not necessary. The right to so seize is based on the right and duty of the state to protect and guard, as far as possible, the lives and health of its inhabitants, and that it is proper to provide that food which is unfit for human consumption should be summarily seized and destroyed to prevent the danger which would arise from eating it. The right to so seize and destroy is, of course, based on the fact that the food is not fit to be eaten. Food that is in such a condition, if kept for sale or in danger of being sold, is in itself a nuisance, and a nuisance of the most dangerous kind, involving, as it does, the health, if not the lives, of persons who may eat it.

A determination on the part of the seizing officers that food is in an unfit condition to be eaten is not a decision which concludes the owner. The ex parte (one-sided) finding of the health officers as to the fact is not in any way binding on those who own or claim the right to sell the food.

If a party can not get his hearing in advance of the seizure and destruction, he has the right to have it afterward, which right may be claimed on the trial in an action brought for the destruction of his property; and in that action those who destroyed it can only successfully defend if the jury shall find the fact of unwholesomeness, as claimed by them.

It was contended that there was no emergency in this case requiring speedy action for the destruction of the poultry in question in order to protect the public health from danger resulting from consumption of such poultry. It was said that the food was in cold storage, and that it would continue in the same condition it then was for three months, if properly stored, and that therefore the defendants had ample time in which to give notice to the complainant or the owner and have a hearing of the question as to the condition of the poultry; and, as the ordinance provided for no hearing, it was void. But the court thinks this was not required.

The power of the legislature to enact laws in relation to the public health being conceded, as it must be, it is to a great extent within legislative discretion as to whether any hearing need be given before the destruction of unwholesome food which is unfit for human consumption. If a hearing were to be always necessary, even under the circumstances of this case, the question at once arises as to what is to be done with the food in the meantime. Is it to remain with the cold storage company, and, if so, under what security that it will not be removed? To be sure that it will not be removed during the time necessary for the hearing, which might frequently be indefinitely prolonged, some guard would probably have to be placed over the subject matter of investigation, which would involve expense, and might not even then prove effectual. What is the emergency which would render a hearing unnecessary? The court thinks when the question is one regarding the destruction of food which is not fit for human use the emergency must be one which would fairly appeal to the reasonable discretion of the legislature as to the necessity for a prior hearing, and in that case its decision would not be a subject for review by the courts. As the owner of the food or its custodian is amply protected against the party seizing the food, who must, in a subsequent action against him, show as a fact that it was within the statute, the court thinks that due process of law is not denied the owner or custodian by the destruction of the food alleged to be unwholesome and unfit for human food without a preliminary hearing.

Even if it be a fact that some value may remain for certain purposes in food that is unfit for human consumption, the right to destroy it is not, on that acount, taken away. The small value that might remain in said food is a mere incident, and furnishes no defense to its destruction when it is plainly kept to be sold at some time as food.

Neither City, Board of Health, Nor Officers Liable for Reasonable Mistake Made in Quarantining

The Court of Errors and Appeals of New Jersey says that the case of Valentine vs. City of Englewood and others was brought to recover damages for alleged false imprisonment and for libel. The defendants pleaded in justification that there were 30 cases of scarlet fever in the city, and that the board of health had reasonable and probable cause to believe that the plaintiff's daughter was ill of the disease, and thereupon caused the plaintiff to be notified that they had declared his house quarantined, etc. But the plaintiff denied that the board of health had reasonable and probable cause to believe that his daughter was suffering from scarlet fever, and tendered issue thereon.

Taking up first the question of the liability of the city, the court holds that there was none, because a municipal corporation is not liable for the acts of a board of health created by public statute for the public benefit, even though its members are appointed by the municipal authorities. Moreover, the court holds that the members of a board of health, acting in performance of a public duty under a public statute to prevent the spread of an infectious or contagious disease, are not personally liable in a civil action for damages arising out of their acts in establishing a quarantine, even where the disease does not actually exist, provided they act in good faith. The exemption of officers from liability extends only to matters in which they have jurisdiction under the statutes, and it may be said that the board of health has no jurisdiction unless a cause of disease actually exists. But this view is too narrow. It is enough if the matter is colorably, though not really, within their jurisdiction.

Section 15 of the New Jersey board of health act, which forbids suits against the board, its officers or agents, unless on proof that the board acted without reasonable and probable cause to believe that the alleged cause of disease was in fact prejudicial and hazardous to the public health, does not infringe the constitutional provisions protecting private property and individual liberty. That section in effect gives an action against the board on proof of the facts therein set forth, but in such suits the question of reasonable and probable cause is for the court.

In giving this action, the legislature had the right to determine what facts should be necessary to sustain it. They imposed no novel or unreasonable condition. The provision requiring that the plaintiff should show that the board of health acted without reasonable or probable cause is in line with the existing common law in cases of this character. By common law an officer was justified, in certain cases, in making an arrest, where he had reasonable and probable cause for belief in the guilt of the person detained; and, in actions for libel, a communication, fairly made by a person in the discharge of some public or private duty, whether legal or moral, is privileged, in the absence of proof of malice. The principle underlying those cases was applicable to this one. By the New Jersey act of March 24, 1903, it is made a crime for any person, having reason to believe that he is affected with scarlet fever, to appear in any public place, and for any person knowingly to subject another, without the latter's knowledge, to exposure to the infection of any such disease. The court does not mean to say that this statute reached the present case; but it can hardly be libelous for the board of health, in good faith, to give notice of the existence of scarlet fever, when it is a crime for one who has reason to believe that he is affected with the disease to appear in public; and it must be within the power of the legislature to give the right of restraint, amounting to imprisonment, to public officers who have reasonable and probable cause to believe that the crime denounced by the act of 1903 has been, or is likely to be committed.

The question remained whether a case was made out under this statute against any of the defendants. As to the board of health, it was clear that it acted on the advice of its own physician, supported by the report made to it of the opinion of four other local physicians. The court thinks that it was not bound to accept the opinion of a physician called by the plaintiff and a specialist called from New York, but was justified in relying on the advice of its own officer.

The case as to the physician himself was somewhat different. But in the court's judgment the case failed to establish a want of reasonable and probable cause against him. He seemed to have been a reputable physician, acting according to his best light, in a case which four of his fellow physicians, to whom the symptoms were described, pronounced to be scarlet fever. Whether it was or not, he had reasonable and probable cause to think it so. The evidence of what the specialist mentioned said to him, or what the plaintiff's physician said as to the antecedent family history of the patient, would not change this result, and its exclusion was not injurious error. The inspector seemed to have acted only in carrying out the order of the board whose servant he was, and came within the words of the statute exempting officers or agents of the board from suit.

Privilege Once Waived Can Not be Recalled

The Supreme Court of Indiana says, in Pittsburgh, Cincinnati, Chicago and St. Louis Railway Co. vs. O'Conner, a personal injury case brought by the latter party, that there were two trials. On the first trial the surgeon of the railway company, who attended the plaintiff at the hospital to which he had been taken when injured, was called and examined as a witness by the plaintiff, and testified relative to what he learned at the time he was called to see him at the hospital, and concerning his intoxication at that time. On the second trial the railway company called and examined the surgeon as a witness. During his examination, the railway company offered to prove by him, in response to a question propounded to him, that he was called to see the plaintiff at the hospital shortly after his injury, and that he was at that time in a profound state of intoxication. Counsel for the plaintiff objected to the introduction of such evidence on the ground that the surgeon was at the hospital for the purpose of acting in his professional capacity for the plaintiff, and therefore, on the plaintiff's objection, it was a question of privilege with him whether he should permit him to testify or not. This objection was sustained by the trial court, and the evidence excluded. The Supreme Court holds that this was error.

Section 520 of Burns' Annotated Statutes of Indiana of 1908 provides that "the following persons shall not be competent witnesses: . . . Fourth.—Physicians, as to matter communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases." It has been held by this court that the statute confers a privilege, which the patient, for whose benefit this provision is made, may claim or waive. It gives no right to the physician to refuse to testify and creates no absolute incompetency.

This privilege may be waived by the patient or his legal representatives by examining the physician as a witness concerning said privileged communication. When the privilege has once been waived by the patient in this manner, it can not be recalled, and the information is no longer privileged.

Evidence of the intoxication of the plaintiff at the time of the injury complained of was admissible on the question of contributory negligence, and as affecting the weight of his testimony; he having testified in his own behalf concerning said injury.

Not Proper Physical Culture Literature

The United States Circuit Court of Appeals, Third Circuit, says, on the appeal of MacFadden vs. United States, where it affirms a conviction of violating the postal law, that the defendant was convicted on sufficient evidence, after a correct and adequate charge, which was practically all that the court needed to know or say. The story on which the conviction was based, if not the magazine in which it appeared, of which the defendant was the editor in chief and responsible head, was suggestively lewd and bad; none the less so because of the alleged reforming and corrective purpose overlaying it, which was speciously advanced. It plainly, and in the court's judgment intentionally, catered to a prurient taste, which it was the thinly disguised object of the author to incite; and associated, as it was, in the periodical where it appeared with certain articles on physical culture to which no objection perhaps could be made—although no such clean bill could be given to many things, articles as well as advertisements, which were there found—it was capable of doing incalculable harm; all the more so because it was intended to circulate among and attract the young, to whom the magazine was particularly addressed. The court is clear that the publication—story, if not magazine—was of the obscene, lewd and lascivious character which it was the object of Congress by the legislation in question to suppress. The standard was not the publications to which the court was referred, which were said to be just as bad, but pass muster with some. The test was the tendency to deprave and corrupt the minds of those who were open to such influence, into whose hands the publication might come, of the existence of which corrupting tendency the court has no doubt here.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

February 27

1 *The Cancer Question. J. E. Summers, Omaha.
2 *U. S. Marine Hospital Sanatorium for Tuberculosis at Fort Stanton. P. M. Carrington, Fort Stanton, New Mexico.
3 Case of Thoracic Aneurism. A. D. Eisenberg, Brooklyn.
4 *Treatment of Malignant Growths by Injections of Mercury, Arsenic and Iron. W. L. Harris, Providence, R. I.
5 Submucous Resection of the Nasal Septum. I. W. Voorhees, New York.
6 *Is the Human Body Supplied with an Autoprotective Mechanism? (Concluded.) C. E. deM. Sajous, Philadelphia.
7 Routine Urinary Examinations. H. R. Harrower, Chicago.
8 Substitutes for Enucleation of the Eye. D. F. Harbridge, Philadelphia.

1. Abstracted in The Journal, Jan. 30, 1909, p. 415.

2. **U. S. Marine Hospital for Tuberculosis.**—In an illustrated article Carrington gives an introductory historical and descriptive sketch of the U. S. Marine Hospital Sanatorium for tuberculosis at Fort Stanton, N. M. He describes the character of cases admitted, housing, prevention of infection, daily routine, rest and exercise, amusements, statistics, industrial features, mortality, and treatment, which last resolves itself into plenty of open air, as complete and satisfying a diet as possible, and rest and graduated exercise with general supervision of the patient's daily life and conduct. No medical treatment offering any noticeable betterment of the results has been found. The physicians there have been unable to secure any results with deep muscular injections of mercury succinimide even remotely approaching those reported by Wright, of the Navy.

4. **Malignant Growths.**—For two and a half years Harris has made it a practice to give every patient he operated on for suspicious or malignant growths a course of injections of iron arsenic and mercury. Breast cases have done particularly well, and the patients have generally recuperated speedily. The treatment should extend over two or three years, and the earlier it is begun the better. For sixty days after operation he injects daily ½ gr. (0.03 gm.) of a soluble iron salt, and 1/24 gr. (0.002) of arsenous acid. Every ten days he gives subcutaneously 2½ gr. (0.16 gm.) mercury salicylate subcutaneously, until 10 grains have been administered. Then ½ or 1 gr. (0.03-.06 gm.) every fifteen or twenty days for the first year. The second year he gives a series of 1 grain doses until 10 grains have been taken, and then ½ grain every month. Lately he has used the succinimide of

mercury subcutaneously in 1/5 grain (0.012 gm.) doses. Iron and arsenic injections are given from time to time, and are found very invigorating.

6. **Autoprotective Mechanism.**—Sajous adduces evidence, physiologic and zoologic, which leads him to the following conclusions:

1. Man, in keeping with many animals lower in the phylogenetic scale, is supplied with an autoprotective mechanism.

2. This mechanism includes: (a) the immunizing center, an organ of special sense annexed to the heat center, both centers being located in the pituitary body; (b) the thyreoparathyroid glands; (c) the adrenals, and (d) special nerves which connect the immunizing center (through the heat center) with these two sets of organs.

3. The immunizing center, which governs the autoprotective mechanism, is the developed "osphradium" or "test organ" described by zoologists in molluscs and certain ancestral vertebrates.

4. While the osphradium of primitive animals tests their respiratory fluid, sea water, its prototype, the immunizing center of higher animals, including man, tests the blood, also a respiratory fluid and a qualitative homologue of sea water.

5. When the functional activity of the immunizing center is increased through the presence in the blood of some toxin, i. e., wastes, toxins or endotoxins, mineral and vegetable poisons, certain venoms, drugs, etc., capable of exciting this center, it stimulates correspondingly the heat center and thus awakens the immunizing process.

6. Fever indicates that the autoprotective mechanism is active. The rise of temperature is due to the increased production of thyreoparathyroid and adrenal secretions and the resultant increment of metabolic activity. The immunizing process is a consequence of this hypermetabolism, all the immunizing agents, plasmatic and cellular, being produced in greater quantities.

7. Absence of fever in a toxemia of any kind is due to inability of the immunizing center to react under the influence of the toxic, owing to deficient sensitiveness (inherited or acquired) of this center, or to the fact that the toxic is itself a paralyzant or anesthetic of its sensory elements.

8. Excess of fever (above 105.5 F.) is due to excessive excitation of the immunizing center and a corresponding overproduction of defensive bodies. This condition exposes the red corpuscles and the endothelial cells to proteolytic destruction (hemolysis and autolysis) along with the pathogenic substances or bacteria.

Medical Record, New York

February 27

9 Claims of Water as a Therapeutic Agent. S. Baruch, New York.
10 Coagulability of the Blood in Pulmonary Tuberculosis. M. Solis-Cohen, Philadelphia, Pa.
11 *Treatment of Patients with Hemiplegia from Cerebral Apoplexy. W. M. Leszynsky, New York.
12 Tuberculosis of the Breast. E. St. Jacques, Montreal, Can.
13 Achylia Gastrica versus Insufficientia Pylori. M. I. Knapp, New York.

11. **Cerebral Apoplexy.**—Leszynsky says that cerebral apoplexy is often the first intimation of an unsuspected chronic nephritis associated with arteriosclerosis. Syphilis is another cause, especially in persons under 35. Other causes are embolic softening, meningeal hemorrhage, tumor formation involving the motor tract, and unilateral lesion in the other cervical region of the spinal cord or cranial traumatism. Hemorrhage may occur anywhere in the brain, but is more common from the lenticulo striate arteries in which miliary aneurisms are apt to develop. Hemorrhage from arterial thrombosis is, in the author's experience, quite as frequent as that due to hemorrhage. Most of the symptoms described in text-books as preliminary to cerebral hemorrhage, are in reality the accompaniment of endarteritis. The exciting causes are excessive emotion, a cold bath, temporary obstruction to the returned circulation from the brain through violent coughing, sneezing, straining at stool, etc. When apoplexy occurs suddenly without loss of consciousness, paralysis is evident. But during coma the diagnosis is frequently difficult. While the patient remains unconscious the prognosis for life is doubtful and death usually occurs if coma continues more than twenty-four hours. Treatment is based on as little disturbance as possible, the patient being in bed with head and chest raised. To relieve stertor turn the body on the paralyzed side and draw the tongue forward. A positive diagnosis should precede treatment. Venesection is indicated with high blood pressure, but not with a small weak frequent pulse and pale face. It is preferable to operate on the non-paralyzed side. An exact differentiation between apoplexy from hemorrhage and from thrombosis or embolism being often impossible, venesection should not be practiced in doubtful cases. Tincture of aconite, two or three drops every half hour, will also lower arterial pressure, but more slowly, or a ligature about the extremities close to the trunk may prove useful. The physician should always satisfy himself by personal observation whether the patient is able to swallow, and not take it on trust from anyone else. Even if the individual can swallow, food should not be forced. If necessary rectal feeding may be resorted to. The author discusses the treatment at considerable length.

Boston Medical and Surgical Journal

February 25

14 Cancer of the Uterus. E. B. Young and J. T. Williams, Boston.
15 *Anterior Metatarsalgia: Its Causes and Its Relief. N. Allison, St. Louis.
16 Nerve Strain in School Children. L. W. Flanders, Dover, N. H.
17 Ethyl Chlorid in General Anesthesia. A. M. Dodge, Boston.

15. **Anterior Metatarsalgia.**—Allison describes the nature and causation of this condition, and says that it is often associated with a high degree of neurasthenia. He recommends a treatment consisting of support and developmental exercises, and describes an appliance which is light, durable, gives firm support where it is needed, and remains constantly in the right spot.

Lancet-Clinic, Cincinnati, Ohio

February 27

18 Cerebral Rheumatism. H. H. Hoppe, Cincinnati.
19 A New Field of Practice in Spirit and Drug Neurosis. T. D. Crothers, Hartford, Conn.
20 Blindness Caused by Ophthalmia Neonatorum. W. S. Keller, Cincinnati.

Medical Fortnightly, St. Louis

February 25

21 Diabetes Mellitus. J. V. Shoemaker, Philadelphia.
22 Treatment of Acute Otitis Media. L. D. Brose, Evansville, Ind.
23 True Basis for Reconstructed Medical Science. J. Clements, Wichita, Kan.

Northwestern Lancet, Minneapolis

February

24 *Accidents and Complications in Goiter Operations. C. H. Mayo, Rochester.
25 Anatomic Treatment of Fracture of the Neck of the Femur After the Method of Maxwell and Ruth. A. Shimonek, St. Paul.
26 What Can Our Association Accomplish in Business, Educational, Moral and Social Matters? R. G. Warne, Mitchell, S. D.
27 Lateral Curvature of the Spine: Early and Late Cases. A. J. Gillette, St. Paul.
28 A Test for Albumin in the Urine. H. L. Ulrich, Minneapolis.
29 Beck's Bismuth Paste Treatment, with Report of Nine Cases. E. C. Robitshek, Minneapolis.
30 Xeroderma. G. P. Crume, Minneapolis.
31 Morbid Anatomy of the Heart. H. A. Tomlinson, St. Peter, Minn.

24. **Accidents and Complications in Goiter Operations.**—Mayo finds that hemorrhage, with its immediate and secondary consequences, is a serious accident. When secondary, it is usually from muscle inclusion in ligating the inferior thyroid artery. There were 4 deaths in 575 operations for diffuse or encapsulated adenomata, 2 occurring from pneumonia. Seven out of 19 deaths in 410 cases of hyperthyroidism occurred in the first 46 operations for this disease. In this condition the complications of degenerative conditions lead to hyperthyroidism after operation. Preparation, graduated operation, and better technic have reduced this mortality to 4 or 5 per cent. Preservation of the posterior gland capsule tends to preserve the recurrent laryngeal nerves, also the parathyroid bodies. The greatest danger of parathyroid injury is in secondary operations for goiter. Other serious conditions requiring operation which occur with marked Graves' disease may call for preparation or graduated operation as a preliminary procedure.

Virginia Medical Semi-Monthly, Richmond

February 12

32 Recent Advances in Physiology. T. Hough, Charlottesville.
33 The Bronchoscope in the Diagnosis and Treatment of Disease. R. H. Johnston, Baltimore.
34 *Points in Morbid Psychology. F. Peterson, New York.
35 Intestinal Diseases Due to Metazoan Parasites. W. G. Hopkins, Richmond.
36 Fetus Removed from the Abdominal Cavity After Three Years' Standing. E. R. Hart, Suffolk.
37 Suturing in Trachelorrhaphy. J. W. Henson, Richmond.
38 Stricture of the Female Urethra. C. W. Astrop, Surry.
39 Treatment of Incipient Tuberculosis. W. H. Bramblitt, Pulaski.

34. Abstracted in The Journal, Nov. 7, 1908, p. 1625.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

February

40 Evolution in the History and Treatment of Uterine Fibroids. A. Vanderveer, Albany, N. Y.
41 Plea for the More Frequent Performance of Cesarean Section. L. M. Allen, Baltimore.
42 *Best Methods of Promptly Terminating the First Stage of Labor, with Special Reference to Vaginal Cesarean Section. H. D. Fry, Washington, D. C.
43 *An Analysis of Eighty Consecutive Cases of Extrauterine Pregnancy. R. T. Frank, New York City.
44 Prophylactic Treatment of the Physical Results of Surgical Diseases. C. M. Rakestraw, Savannah, Ga.
45 Causes of Death of the Viable Fetus Before Labor. F. A. Dorman, New York.
46 Fetal Mortality During Labor: Its Causes and Prevention. S. Marx, New York.
47 Unusual Results Following Cholecystotomy. E. W. Hedges, Plainfield, N. J.
48 Abdominal Surgery in the Aged. J. G. Sherrill; Louisville, Ky.
49 *Abdominal Surgery Without Detached Pads or Sponges. (Concluded.) H. S. Crossen, St. Louis.
50 Infantile Mortality in Early Life. A. Brothers, New York.
51 Relation of Cyclical Vomiting in Children to Appendicitis. C. G. Cumston, Boston, Mass.

42. **Termination of First Stage of Labor.**—Fry declares that when dangerous complications threaten or have developed, the safety of the mother demands prompt evacuation of the uterus. In multiparæ, or in primparæ after obliteration of the cervix, manual dilatation accomplishes the result satisfactorily; but on the other hand, with a rigid or intact cervix to deal with, *accouchement forcé* is a serious undertaking. Besides the risk of infection and deep lacerations of the mother's soft parts, her life would be jeopardized by failure to secure prompt delivery in the face of some complication, such as eclampsia or accidental hemorrhage. When prompt or rapid evacuation of the uterus is indicated in the interests of mother or infant, one can now choose between manual dilatation, multiple incisions of the cervix, the Bossi or some instrument dilator, and vaginal Cesarean section. In dilatation, two things must be borne in mind: (1) The obliteration of the cervical canal; (2) the dilatation of the external os. The method employed to complete artificially the first stage of labor must be selected in accordance with one or the other of these conditions. As a rule, manual dilatation and multiple cervical incisions are applicable only after obliteration of the canal; while instrumental dilatation and vaginal Cesarean section are required when the cervix is intact.

43. **Extrauterine Pregnancy.**—Frank analyzes 80 consecutive cases of extrauterine pregnancy at the Mount Sinai Hospital, the first thirty of which were reported by Brickner in 1905. In the entire series only 12 women had never been previously pregnant, and of these 6 had been married less than one year. Ten had had no pregnancy for more than 4 years preceding their present illness (12.5 per cent.), while 6 (7.5 per cent.) acquired their ectopic gestation during the first six months of marriage. In one case, the tubal pregnancy followed three months after normal labor, in two cases within four months of early abortion. One patient of the series was simultaneously pregnant in the tube and in the uterus. The menstrual history, pain, temperature, pulse, local signs and blood changes are discussed in detail. All but three of the patients were operated on, and in these three there were typical hematoceles. In the series there were ruptures, 42 (right 21, left 21); abortions, 20 (right 12, left 8); hematoceles, 11; unruptured 4; intraligamentous rupture, 1; abdominal, 1; and ectopic with extrauterine pregnancy, 1. Immediate operation was done in 24 cases, 31.2 per cent.; deferred operation in 53 cases, 69.8 per cent. In the three patients with hematocele, treated without operation, the tumor was firmly encapsulated when first seen; in each case it was of moderate size, and caused no symptoms. These three patients eventually regained their health, but the period of confinement to bed was longer than if they had been operated on. There were three deaths in the entire series, a mortality of 2.75 per cent. From his study of this series of cases, Frank reaches the following conclusions:

1. Before all else, the diagnosis must be assured. Patients who give a history suspicious of ectopic pregnancy—spotting, cramp-like pains, fainting, collapse, with or without some of the less certain signs, such as amenorrhea, the accessory symptoms of pregnancy (morning vomiting, increase in size of the breasts, etc.) and in whom the uterus does not show the shape and size corresponding to their supposed period of gravidity, or who have a mass near the uterus, should be consigned to a hospital, or should be kept under the closest observation at their homes.

2. Such patients should never be subjected to forcible examinations, nor should they be curetted, until every possibility of ectopic pregnancy has been definitely excluded.

3. If after two or three days of observation the condition has not definitely improved, and no marked tendency to hematocele formation has developed, laparotomy is indicated. Should severe attacks of pain, fainting or collapse ensue during the period of waiting, operate at once. When a hematocele is still small or ill defined, laparotomy will shorten the period of convalescence. In well-defined hematoceles, vaginal section for evacuation and drainage suffices.

4. If a patient when first seen is in a precarious condition, it is safer to err on the side of early operation than to wait.

5. When a patient is seen in extreme collapse, immediate rapid laparotomy, with subsequent measures to combat both the hemorrhage and the shock, is indicated.

That inexperienced diagnosticians are deceived and fail to distinguish between transitory primary shock and really grave hemorrhage is doubtless true, but Frank would prefer to interfere unnecessarily early rather than too late.

49. Abstracted in The Journal, Dec. 17, 1908, p. 1355.

Journal of the Arkansas Medical Society, Little Rock

January

52 *Diagnosis of Pelvic Disease and Treatment of Inflammatory and Suppurative Conditions. J. Price, Philadelphia.
53 Pathologic Tonsil and Its Surgical Treatment. M. Duckworth, Pine Bluff.
54 *Appendicostomy in Amebic Dysentery. O. Gray, Little Rock.

52 and 54. Abstracted in The Journal, July 18, 1908, pp. 249, 250.

Buffalo Medical Journal

February

55 *Prolonged and Tedious Labors and Forceps Deliveries Compared as Causes of Epilepsy, Idiocy and Cerebral Diplegias. J. W. Putnam, Buffalo.
56 Diet in Typhoid. L. H. Levy, Syracuse, N. Y.
57 Some Essentials of Preventive Medicine. I. M. Slingerland, Fayettsville, N. Y.

55. **Labor and Epilepsy, Etc.**—Putnam reviews the literature with reference to the relation of various mental conditions to prolonged and tedious forceps deliveries. The obstetrician has a more important function than merely bringing a live child into the world. He should so perfect himself in the science of obstetrics that the preventable deformity, idiocies, and epilepsies should be reduced. There are in the United States over 95,000 idiots and more than 123,000 epileptics. Many of these are so afflicted from preventable accidents of birth; in fact, the author claims to have shown by the writings of eminent men in Europe and the United States, that idiocy, epilepsy and cerebral palsies of childhood are due to one of three causes, asphyxia, injuries to the head from forceps, and injuries from prolonged compression.

American Journal of Physiology, Boston

January

58 *The Inhibitory Effect of Magnesium on Some of the Toxic Effects of Eserin. D. R. Joseph, New York.
59 *Prolonged Existence of Adrenalin in the Blood. D. E. Jackson, Bloomington, Ind.
60 *Rôle of Inorganic Phosphorus in the Nutrition of Animals. E. B. Hart, E. V. McCollum and J. G. Fuller, Madison, Wis.
61 *Cause of the Hyperglycæmia Produced by Asphyxia. J. J. R. Macleod, Cleveland, Ohio.
62 *Absorption, Excretion and Destruction of Strophanthin. R. A. Hatcher, New York.
63 Elimination of Total Nitrogen, Urea and Ammonia Following the Administration of Glycocoll, Asparagin and Glycylglycin-Anhydrid. P. A. Levene and P. A. Kober, New York.

58. **Inhibitory Effect of Magnesium.**—Joseph's experiments show that magnesium salts abolish the tremor caused by eserin, and are of some value as antidotes in eserin poisoning, but have no influence whatever on eserin meiosis.

59. **Persistence of Adrenalin in the Blood.**—Jackson shows that adrenalin does not persist in the blood after its visible effects in the rise of blood pressure have disappeared, but that the rise of pressure produced in a second dog by the transfusion of blood from a dog injected with adrenalin, when the blood is drawn after the effects of the adrenalin have disappeared, is of a different character from that produced by adrenalin, and depends on some other cause than the presence of adrenalin in the blood. In the dog the adrenalin disappears from the blood in about one minute's time.

60. **Inorganic Phosphorus in Nutrition.**—Hart, McCollum and Fuller found, by keeping pigs on a ration containing very

little phosphorus, that the organism, when starving for phosphorus, abstracts calcium and phosphorus from the bony skeleton in the proportions found in tri-calcium phosphate, and evidently possesses the power to recombine these elements in the organic forms of phosphorus needed in the nervous system and other parts of the economy. Up to a certain weight, the animals receiving an insufficient supply of phosphorus throve and gained in weight, as well as did animals receiving an abundance of the element. When this weight was reached, loss of weight began, followed by collapse. If the insufficient supply of phosphorus in the diet were supplemented by added phosphorus no bad results occurred, and this deficit could be supplied as well by the inorganic phosphates like calcium phosphate, as by organic phosphates, such as phytin. The phosphorus in the organs of animals on the low phosphorus ration was maintained at a constant proportion, comparable to that of normally fed pigs, but the percentage of ash in the skeleton of such pigs was reduced to nearly one-half that of pigs receiving a normal ration or a phosphorus-poor ration supplemented by an inorganic phosphate.

61. **Experimental Glycosuria.**—Macleod shows that the glycosuria produced by asphyxia and by curare is due to the influence of carbon dioxid, and probably also of acids, in stimulating the liver cells to an increased formation of sugar from the liver glycogen. If the liver be excluded from the circulation the glycosuria disappears and the hyperglycemia is converted into hypoglycemia. The acids which may act on the liver cells probably owe their origin to the deficiency of oxygen in the blood. Curare produces most marked hyperglycemia, which is only partially prevented by careful artificial respiration and oxygen inhalations. The glycosuria produced by asphyxia does not pass off for some time after the cause of the asphyxia has been removed.

62. **Absorption of Strophanthin.**—Hatcher reaches the following conclusions: The absorption of strophanthin is very rapid when more than six times the fatal dose by vein is placed in the ligatured small intestine of the dog. The rapidity of absorption is dependent on the total amount injected into the alimentary canal to a far greater degree than on the total surface of intestine concerned in absorption. It is probable that the smaller the dose of strophanthin that is given by the mouth, the more nearly does excretion keep pace with absorption. This usually prevents toxic symptoms, unless an amount more than equal to five times the fatal dose by vein is given. If an amount equal to ten times the fatal dose by vein is administered, toxic symptoms result. If vomiting and diarrhea are prevented in such a case in the dog (morphin, ligature), death results as a rule. The absorption of strophanthin in man appears to follow a rule similar to that in the dog. Strophanthin is excreted rapidly into the intestine of the rat after being injected subcutaneously. It is excreted more slowly by the rat's kidney. While strophanthin may be destroyed to a limited extent in the alimentary canal, the rate of destruction in the stomach and small intestine of the dog is insufficient to account for the failure of these organs to absorb a toxic dose when moderately large amounts have been injected. Strophanthin can be extracted from the contents of the stomach and small intestine of the dog, and from the whole of the alimentary canal and the tissues of the rat, and the amount be determined by the physiologic test on cats. This test permits of the estimation of amounts of strophanthin which can not be determined by chemical means (one-tenth of a milligram), probably accurate to within about 10 per cent. The oral administration of strophanthin (and of strophanthus) in therapeutics is irrational in the present state of our knowledge concerning absorption and excretion in the alimentary canal, and destruction within the animal organism.

Cleveland Medical Journal

January

64 The Erie Street Medical College Sixty Years Ago. D. H. Beckwith, Cleveland.
65 Ethics of Specialism. R. E. Skeel, Cleveland.
66 Some Diseases of the Jaws, with Illustrative Cases. C. A. Hamann, Cleveland.
67 Peritonitis. C. Graefe, Sandusky, Ohio.

Southern Medical Journal, Nashville, Tenn.

January

68 *Early Diagnosis of Tuberculosis, with Special Reference to the Ocular Reaction of Wolff-Eisner-Calmette. A. E. Thayer, Jacksonville, Fla.
69 *Open-Air Treatment of Surgical Tuberculosis. De F. Willard, Philadelphia.
70 *Tuberculous Arthritis of the Hip Joint. S. H. Weeks, Portland, Me.
71 *Treatment of Tuberculous Hip Disease by Weight-Bearing and Fixation by the Lorenz Short Hip Spica. H. A. Wilson, Philadelphia.
72 *Vaccine Therapy in Hip Joint Tuberculosis. E. H. Ochsner, Chicago.
73 *Retroperitoneal Tuberculous Glands and Their Relation to Spinal Symptoms. C. F. Painter, Boston.

68. **Ocular Tuberculin Reaction.**—Thayer reviews the literature and concludes that in view of the non-specific character of the eye reaction and its possible dangers, it should not be used; and the skin reaction, if employed, should be considered as only one of the symptoms, to be given no exaggerated weight in making the diagnosis, and not to be trusted to the exclusion of other physical data.

69 and 73. Abstracted in The Journal, Oct. 17, 1908, p. 1363.

70. Abstracted in The Journal, Oct. 31, 1908, p. 1537.

71 and 72. Abstracted in The Journal, Nov. 7, 1908, p. 1625.

Journal of Ophthalmology and Oto-Laryngology, Chicago

January

74 Pre-Retinal Hemorrhage. C. S. G. Nagel, San Francisco.
75 New Instrument of Use in Surgery of the Nose and Throat. E. Pynchon, Chicago.
76 New Instrument for Paracentesis of Tympanic Membrane. V. A. Chapman, Muskegon, Mich.

Journal of the Kansas Medical Society, Kansas City

January

77 Insanity as the World Sees It. C. C. Goddard, Leavenworth, Kan.
78 Should the State Maintain Sanatoria for Tuberculous Patients? J. A. Milligan, Garnett, Kan.
79 *The Goat—Now Laugh. J. E. Minney, Topeka.
80 Treatment of Pneumonia. B. E. McShane, Alton, Kan.
81 Gumma of External Nose; Serous Cyst of the Iris. J. S. Weaver, Kansas City, Mo.
82 Stale Food Products. D. D. Haggard, Phillipsburg, Kan.
83 Hernia. S. Murdock, Sabetha, Kan.

79. **Goat's Milk.**—Minney discusses the use of goat's milk, and arrives at the following conclusions:

1. The goat is freer from disease than the cow, and particularly from tuberculosis, and hence goat's milk is more sanitary than that of the cow.
2. The milk is more nearly like human milk, in the minuteness of its fat globules, and the same in casein.
3. It is more easily digested than cow's milk, and hence is better for infants and invalids.
4. Goat's milk is economical and in reach of the poor, and there are few families that could not afford to keep one or two milk goats, thus solving the infant-food problem and helping to prevent the spread of tuberculosis.

Laryngoscope, St. Louis

January

84 *Relation of Faculty of Hearing to Faculty of Speech. G. Hudson-Makuen, Philadelphia.
85 Functional Paralysis of the Acoustic Nerve. F. G. Stubbs, Chicago.
86 Five Cases of Thrombosis of Lateral Sinus, with Recovery, Bearing on the Diagnosis and Prognosis of This Affection. H. Friedenwald, Baltimore.
87 Postgraduate Instruction in Otolaryngology. G. E. Shambaugh, Chicago.
88 Further Study of Laryngeal Neoplasms in America. J. L. Davis, Philadelphia.
89 Paralysis of Left Vocal Cord Caused by Peritracheal Tumor. W. E. Chenery, Boston.
90 Fatal Operative Case Showing Developmental Absence of Outer Sphenoidal Wall and in Its Place a Large Vein Communicating Directly with the Cavernous Sinus. Autopsy. E. O. Emerson, Boston.
91 Ozena, No Terra Incognita. J. Holinger, Chicago.
92 Hyperkeratosis Linguæ . R. H. Craig, Montreal, Canada.

84. Abstracted in Society Proceedings, The Journal, Oct. 24, 1908, p. 1456; also published in the *Pennsylvania Medical Journal*, January, 1909.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

January

93 *Hallucinations of the Insane. C. W. Burr, Philadelphia.
94 Toxic Sanity in a Case of Mastoiditis. F. P. Calhoun, Atlanta, Ga.

95 Phases of Tuberculosis Important to the Public. C. T. St. Clair, Tazewell, Va.
96 Treatment of Cancer. H. B. Stone, Charlottesville, Va.
97 Herula and Its Treatment. M. Willis, Richmond, Va.
98 Herpes Gestationis: Report of a Case. C. J. Andrews, Norfolk, Va.
99 Extrauterine Pregnancy. S. Lile, Lynchburg, Va.
100 Extrauterine Pregnancy—The Deferred Operation. E. T. Hargrave, Norfolk, Va.

93. **Hallucinations of the Insane.**—Burr enumerates the various forms of hallucination encountered in the insane and briefly describes each. He states that the question sometimes arises: Is a person alleged to be insane and with hallucinations really ill or malingering? There is no short and easy way to determine the matter. If a man says that he hears voices or sees spirits, it is impossible to disprove his statements, but clinically we know that there are always other symptoms associated with hallucinations in the insane, and the diagnosis of fraud or illness must depend on the presence or absence of these symptoms. In other words, the question to be answered is: Do the patient's conduct, manner and behavior correspond with those of persons suffering from hallucinations?

Military Surgeon, Richmond

January

101 Military Sanitary Problems in the Philippine Islands. L. M. Maus, U. S. Army.
102 Battleship Neurasthenia. S. G. Evans, U. S. Army.
103 Hygienic Maxims for the Soldier in Camp and Field. J. K. Weaver, National Guard, Pa.
104 Medical Versus Surgical Treatment of Amebic Dysentery. J. M. Holt, Brooklyn, N. Y.
105 Dry Earth Closets for Field Use. G. F. Campbell, U. S. Army.

American Medicine, Burlington, Vt.

January

106 Latent Malignant Disease of the Stomach. H. Stern, New York.
107 Abuse of Medical Charity and a Remedy. M. O. Magid, New York.
108 *When Shall We Operate for Intra-Abdominal Hemorrhage Due to Tubal Pregnancy. M. Rabinovitz, New York.
109 Is Food Containing Sulphites Injurious to Health? E. E. Smith, New York.
110 Question of a Relationship Between "Syphilitic" Llamas, of the Department of Puno, Peru, and Pre-Columbian Syphilis in Man. A. S. Ashmead, New York.
111 Unusual Seat of Angioneurotic Edema. A. Gordon, Philadelphia.
112 Diagnosis and Treatment of Toxemias of Pregnancy. W. H. Kahrs, New York.

108. **Operation for Intra-abdominal Hemorrhage in Tubal Pregnancy.**—Rabinovitz discusses this subject and insists that n all cases of internal hemorrhage due to ruptured tubal regnancy or abortion, operation should be done immediately, uickly and thoroughly.

Washington Medical Annals

January

13 Journalistic Suggestions for Medical Writers. L. Eliot, Washington.
14 Eczema in Children. T. N. McLaughlin, Washington.
15 Gallstones: Analysis of Sixty-one Cases. D. S. Lamb, Washington.
16 Tuberculous Obstruction of the Bowel. J. R. Wellington, Washington.
17 Staphylococcus Cystitis with Report of a Case Due to *Staphylococcus Pyogenes Albus* Associated with *Staphylococcus Citreus.* W. M. Barton and R. A. Hamilton, Washington.
18 *Evils of High Board Fences in Relation to Clean Back Yards. W. H. Atkinson, Washington.

118. **Board Fences and Back Yards.**—Atkinson, in writing bout the board fences which enclose the back yards of so any houses in Washington, condemns them on esthetic, anitary and bacteriologic grounds. He would do away with ack-yard fences altogether, but if protection is needed it hould be of iron or wire. These do not decay, with foul odor nd slimy moss. Iron rust is not unhealthy; properly contructed, an iron fence is strong and durable, hides no criminal, vers up no filth, shuts out but a thread of sunshine, leaves n abundance of space for free circulation of air, and prevents ldies of dead and foul air. All these properties stimulate e growth of a vigorous and healthy vegetation. Atkinson erefore appeals to the commissioners and their building spectors that all fences shall be of iron or wire, with iron sts and concrete base; all back steps of the same material; alks of concrete; and that all out-houses and sheds be built of iron sheeting, brick, stone, terra cotta or concrete, and that each shed or out-house be detached.

American Journal of Public Hygiene, Boston

November

119 *National Department of Public Health. R. H. Lewis, Raleigh, N. C.
120 Improvement of the Municipal Sanitary Inspection Service. H. Mitchell, Asbury Park, N. J.
121 The Rural Health Officer. C. A. Hodgetts, Toronto, Ont.

119. Abstracted in THE JOURNAL, Sept. 12, 1908, p. 940.

New Orleans Medical and Surgical Journal

January

122 *Malarial Blindness: With Report of Six Cases. T. S. Davis, Blooming Grove, Tex.
123 Low Tracheotomy for Foreign Bodies in the Trachea and Esophageal Conditions Resembling Tracheal Obstruction. J. D. Bloom, New Orleans.
124 Multiple Pregnancy, History and Treatment of Unusual Termination. E. S. Matthews, Bunkie, La.
125 Traumatic Tetanus. E. M. Dupaquier, New Orleans.
126 Skin Diseases of the Human Race Carried or Transmitted by Insects. M. C. Brady, New Orleans.
127 Arteriovenous Aneurism of Profunda Femoris. Operation by Matas Method. H. B. Gessner, New Orleans.
128 Demonstration of Advantages of Surgical Engine in Bone Work. W. M. Perkins, New Orleans.
129 Case of Volkmann's Ischemic Paralysis. C. W. Allen, New Orleans.
130 Loewy's Test for Insufficiency of the Pancreas. J. A. Storck, New Orleans.
131 Otogenous Intracranial Complications in Children. H. Dupuy, New Orleans.
132 *Spinal Analgesia in Genitourinary and Rectal Surgery. C. Chassaignac, New Orleans.
133 *Arteriosclerosis and Nephritis. F. Watson, New Orleans.
134 Treatment of Nephritis. J. B. Elliott, New Orleans.
135 Nervous and Mental Symptoms of Nephritis. R. M. Van Wart, New Orleans.

122. **Malarial Blindness.**—Davis says that the estivo-autumnal parasite is the one which produces malarial blindness, and its tertian form is the one most frequently present. It is not necessary for the malarial cachexia to exist for the blindness to occur. The blindness may be transient and disappear as the fever goes down, or it may become permanent through atrophy of the optic nerve. The blindness may be produced by an optic neuritis, a retinal hemorrhage, hemorrhage into the vitreous, effusion into the vitreous or by a retinochorioiditis. The diagnosis is rapidly made by blood examination and the ophthalmoscope. The condition is really differentiated from quinin amaurosis by the fact that in the latter there is grave ischemia, while in the malarial affection there is great congestion of the papilla. The prognosis is good. Quinin is best given hypodermatically.

132. **Spinal Analgesia.**—Chassaignac, after four years' additional observation and 650 cases, repeats his conclusions of 1904 that spinal analgesia will neither displace any other method nor die out. It has its proper place, and its own indications and contraindications.

133. **Arteriosclerosis and Nephritis.**—Watson's observations lead him to conclude that a patient, giving the history of one or more of the etiologic factors of arteriosclerosis, who presents on physical examination a hypertrophy of the heart—heart sounds loud and clear at apex and base and an accentuated ringing aortic sound, thickened radial, brachial and temporal arteries, high tension pulse, normal or diminished amount of highly colored urine of normal or high specific gravity, with a variable amount of albumin and with or without hyalin casts—is suffering from a condition primarily arterial, to which the kidney changes are secondary. This is by far the most common clinical picture, according to his observation. The diagnosis should be arteriosclerosis—the prognosis being based on the cardiovascular system: The albumin is no more than an indication that the arteries and glomeruli of the kidney are affected in the general change. The patient if seen early can be greatly helped—can be given years of comfort. The prognosis is much better than for primary chronic interstitial nephritis. The latter condition would show a large amount of pale urine of low specific gravity, a variable amount of albumin and hyalin—possibly granular—casts, and on physical examination a hypertrophied heart, with more or less thickening of the arteries, greatly increased blood pressure and albuminuric retinitis. In the later stages the two conditions are approximately the same

clinically and can be differentiated only on the early history. Here, however, the separation of the conditions is not important for either prognostic or therapeutic reasons.

New York State Journal of Medicine, New York

January

136 Diagnosis of Certain Chronic Abdominal Conditions. W. C. Wood, Brooklyn.
137 *Intermittent Claudication. H. C. Gordinier, New York.
138 Technic of Skin Grafting. E. MacD. Stanton, Schenectady.
139 Chylous Ascites in an Infant Sixteen Days Old. Le G. Kerr, Brooklyn.
140 Artificial Hyperemia in Pulmonary Tuberculosis, with Special Reference to the Kuhn Mask. F. E. Beal, New York.

137. **Intermittent Claudication.**—Gordinier discusses the etiology and pathology of this condition. He says that there are five clinical characteristics which stamp intermittent claudication as a perfect clinical entity and which also serve to make the diagnosis of it very clear. In order of their import, they are as follows: (1) The intermittent character of the symptoms; (2) the absence of the symptoms while the limbs are at rest; (3) the development of painful limping on exertion; (4) the disappearance of all symptoms after a period of rest, to be repeated again on extension; (5) the absence in most cases, especially during the attack, of pulsation of the posterior tibial and dorsalis pedis arteries. The prognosis is usually unfavorable, though some cases improve. He sums up the treatment as follows: Restriction of exercise short of bringing on the attack, or absolute rest in bed; saline baths, gentle massage and electricity, particularly the D'Arsonval current, which relieves pain and produces vasomotor dilatation; vasomotor dilators, especially nitroglycerin and sodium nitrite, together with small doses of potassium or sodium nitrite and general tonics, particularly the glycerophosphates, arsenic and strychnin. Tobacco and alcoholic stimulants should be prohibited. The condition of flatfoot should be carefully corrected; if a syphilitic infection is suspected a systematic and thorough course of mercury and the iodids should be given.

Atlanta Journal Record of Medicine

January

141 Results of Vaccine Therapy in Acute and Chronic Infections. J. E. Paullin, Atlanta, Ga.
142 Complications of Gonorrhea in Women. F. G. Hodgson, Atlanta, Ga.
143 Tuberculosis. G. Brown, Atlanta, Ga.
144 Adenoids. R. B. Ridley, Atlanta, Ga.
145 Hunger and Thirst, and Some More of That Sort. C. A. F. Lindmore, Atlanta, Ga.

University of Pennsylvania Medical Bulletin, Philadelphia

February

146 Two Cases of Relapsing Fever. J. W. Hunter and T. A. Cope, Philadelphia.
147 · The Occurrence of a Ciliate (Opalinopsis Nucleobata, N. S.) in the Liver of a Mammal (Canis Latrans). A. J. Smith and H. Fox, Philadelphia.
148 *The Standardization of Ergot. H. C. Wood and C. A. Hofer, Philadelphia.
149 Pseudodiphtheritic Septicemia, with Report of a Case Diagnosticated by Blood Culture. G. I. MacLeod and F. H. Klaer, Philadelphia.

148. **Standardization of Ergot.**—Wood and Hofer describe a simple method for estimating the comparative power of different specimens of ergot, and discuss the value of the circulatory changes as an indicator of the quality of ergot. They describe the results of a number of tests of fluid extracts of ergot obtained from representative manufacturers, with the result that only two out of eleven samples were found to be active. The authors point out the mistake of the general idea that fluid extract of ergot is a stable preparation; in point of fact it deteriorates very rapidly.

Maryland Medical Journal, Baltimore

February

150 Some Esophageal Cases. R. H. Johnston, Baltimore.
151 Physiologic and Therapeutic Influence of the Mind on the Body. W. E. Magruder, Sandy Spring, Md.

Journal of Nervous and Mental Diseases, New York

February

152 *Facial Paralysis: A Study of 335 Cases. G. A. Waterman, Boston, Mass.
153 *Course of Sensory Impulses in the Spinal Cord. C. D. Camp, Ann Arbor, Mich.

152 and 153. Abstracted in The Journal, July 11, 1908, pp. 163, 164.

Louisville Monthly Journal of Medicine and Surgery

February

154 *Causation and Treatment of Infantile Convulsions. E. W. Saunders, St. Louis.
155 Case Reports: Calculus of Kidney; Pyonephrosis. L. Frank, Louisville.
156 Weak Feet. J. B. Richardson, Louisville, Ky.

154. Published in the *Interstate Medical Journal*, January, 1909, and the *Lancet-Clinic* for Feb. 6, 1909; abstracted in The Journal, Feb. 27, 1909, p. 731.

Mississippi Medical Monthly, Vicksburg

February

157 Bright's Disease. S. W. Glass, Dublin, Miss.
158 Honesty. C. M. Shaw, Robinsonville, Miss.
159 *Conservative Use of Forceps: Indications and Contraindications. J. A. Rowan, Wesson, Miss.

159. **The Forceps.**—Rowan aptly contrasts the extreme practices of the dilatory "Dr. Lookwise" and the officious "Dr. Smart Alec," and then lays down clearly the rational indications for the use of the forceps. The physician should first be thoroughly satisfied that the woman is unable by her own natural forces to effect the expulsion of the child. In the second place, he should be satisfied with the existence of some condition involving the danger to either mother or child, unless delivery is rapidly accomplished. Those affecting the mother are eclampsia, actual or threatened, inadequately compensated heart lesion, hemorrhage from premature separation of the placenta, acute edema of the lungs, and exhaustion. Of this last condition the physician must be his own judge. Patients and friends will often insist on exhaustion, when the woman has strength enough to deliver three or four babies. The feebleness of the pulse is the best indication. Regarding the child, premature separation of the placenta, prolapse of the umbilical cord, undue pressure on the head, and a fetal heart beat below 100 or above 160 are indications. Among contraindications he mentions a hydrocephalic head and a decomposing fetus, in which cases the forceps is almost sure to slip and possibly injure the mother; and a perforated head, which can be better managed with a cephalotribe. Before applying the forceps it is well definitely to ascertain that the pelvic canal is not too small, and that there are no serious mechanical obstructions. Forceps should not be applied until the presenting part has become engaged.

Northwest Medicine, Seattle, Wash.

February

160 *Intestinal Putrefaction and its Relation to Indicanuria. R. W. Matson, Portland, Ore.
161 Examination of the Stool, and its Clinical Significance. N. W. Jones, Portland, Ore.
162 Injuries to the Eye and Adnexa. H. V. Wurdemann, Seattle, Wash.
163 Measurement of the X-Ray. H. Power, Spokane, Wash.
164 "Too Damned Good." W. W. Potter, Spokane, Wash.

160. Abstracted in The Journal, Nov. 7, 1908, p. 1636.

Bulletin Johns Hopkins Hospital, Baltimore

February

165 An Appendix Abscess in a 27-months' Child: with an Analysis of Infantile Appendicitis in the Johns Hopkins Hospital. J. W. Churchman, Baltimore.
166 *Relation of Bovine to Human Tuberculosis. W. L. Moss, Baltimore.
167 Dr. Adam Thomson, the Originator of the American Method of Inoculation for Smallpox. H. L. Smith, Baltimore.

166. **Relation of Bovine to Human Tuberculosis.**—Moss reviews this subject exhaustively both from the clinical and the autopsy point of view, and draws the following conclusions.

1. The clinical cases collected in this paper, in which the circumstantial evidence points more or less strongly to human beings having been infected with tuberculosis from bovine sources, can not be presented as furnishing absolute proof of the question, but they point so strongly to tuberculous cattle as a source of danger to man that, with such evidence alone before us, it would seem advisable to take strict precautions against bovine tuberculosis.

2. The economic losses among the cattle themselves, aside from any possible danger to man, are sufficiently great to demand a vigorous effort to stamp out bovine tuberculosis.

3. The evidence furnished at autopsy statistics of primary intestinal tuberculosis, reported by different observers, is very conflicting.

and, even if there were agreement on a high incidence, this evidence could only be taken as circumstantial, since there is abundant opportunity for primary intestinal infection to occur with tuberculous material of human origin.

4. The use of tuberculins from human and bovine bacilli has not yet thrown much light on the question. The agglutination reaction does not serve to differentiate the two types of bacilli.

5. It seems definitely established that there are two distinct types of tubercle bacilli; the human and the bovine type, which, in a majority of cases investigated, have characteristics sufficiently fixed so that mutation from one type into the other does not occur.

6. The bovine type of bacillus has been demonstrated in 20 per cent. of a series of 306 cases among human beings.

7. The bacillus which causes bovine tuberculosis may also cause tuberculosis in man. It must be borne in mind that every case of tuberculosis in man showing the bovine bacillus need not have received the infection directly from cattle, for it is easily conceivable that a human being having become infected from cattle may pass the infection on to other human beings.

8. The dangers from bovine tuberculosis to man are sufficiently great to warrant strict precautions against it.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 13

1 Signs of Early Disease of the Thyroid. G. R. Murray.
2 Nature and Treatment of Parenchymatous Goiter. F. L. Greaves.
3 Pulmonary Tuberculosis in Children. M. H. Williams.
4 *Iodin in Surgical Tuberculosis. W. A. Tatchell.
5 Control of Infectious Diseases In and Out of the Schools. A. D. Edwards.
6 *Medical Aspect of Dentistry and the Necessity of Dental Instruction for Medical Students. H. P. Pickerill.
7 *Feeding Trial in Relation to "Epidemic Enteritis." E. P. Minett.
8 *Can Opsonic Estimation Be Relied on in Practice? E. C. Hort.

4. **Iodin in Tuberculosis.**—Tatchell says that the most common disease in China is tuberculosis of joints, bones, glands and skin. He has found that after operative treatment the application of iodin liniment has a remarkable effect, and he selects one case of excision of the elbow as an illustration. After operating or scraping, the cavity is thoroughly swabbed with iodin liniment (B. P.). A piece of absorbent cotton twisted around the end of a probe forms a good swab, and can be graduated according to the size of the sinus. The liniment is applied every day. The application does not cause pain, except a momentary sensation when applied to some surfaces; neither does it destroy tissues, as does pure carbolic acid. Granulations do not become excessive. At the first application he inserts a thin piece of gauze or packs lightly, but never at subsequent dressings. Gauze plugs and strips for drainage have undoubtedly been responsible for many chronic sinuses. From the first he gives a mixture internally containing syrup of iodid of iron, 1 dram, and potassium iodid, 5 grains, three times a day.

6. **Dentistry.**—Pickerill discusses the various lesions due to reflex irritation of the teeth—epilepsy, neuralgia, spurious tetanus, cardiac irregularity, the association of dental with pelvic troubles and ear and eye disorders, local cellulitis, and various growths, etc. He discusses the bacteriology of the teeth, and says that in the past, both in dentistry and medicine, there has been too great a tendency to regard the teeth as isolated parts of an organism, existing of themselves and for themselves. Efficient mastication is the best stimulus for gastric and salivary secretion, and it depends on the absence of dental caries. It must be recognized that the teeth are an integral and inseparable part of the alimentary system, physiologically and pathologically. Abdominal surgeons are complaining of a something at work lowering the resistance of the alimentary tract, and this "something," Pickerill holds, is to be found in the enormous strain thrown on it by the constant ingestion of improperly masticated food, incorporated with more or less virulent organisms, toxins and pus from diseased teeth, and also because of the avoidance of hard food, in part secondary to the tenderness of the diseased teeth. The intestines become atonic, having to deal only with non-fibrous, easily digestible substances, and thus become an easy prey to micro-organisms. Dental caries is largely due to errors of diet commencing before birth and extending over the first twelve years of a child's life. Pickerill would have the medical student have a knowledge of what diet is beneficial and what deleterious to the teeth; for what is best for the teeth is best for the rest of the alimentary system. The physician should be able to write prescriptions for mouth washes, dentifrices, etc., suited to various conditions of the mouth, and to instruct parents in the care of children's teeth. He should know the value of a tooth—when it can be safely lost and when it must be saved; the mere extraction of one tooth will often ruin a patient's articulation. He should be able to recognize the difference between dental myelitis, periodontitis and alveolar abscess, and to relieve the pain of each of them without extracting, should this be necessary. In fact, every medical student should have some dental training, and Pickerill would like to see the converse true, namely, that every dentist should possess a medical qualification. A physician should also recognize the effect of measles, scarlet fever, rickets and syphilis on the teeth, and should know something of the treatment of fractures of the jaws by interdental methods.

7. **"Epidemic Enteritis."**—Minett describes a process of preparing dried milk and a trial of its use during the summer season among infants collected from the out-patient departments of Guy's Hospital, the Royal Waterloo Hospital for Children, and the Surrey Dispensary. The trial lasted nineteen weeks, during which 38 infants were supplied with the food gratis, and fed solely on it. Of the 5 cases of diarrhea that occurred, 2 children were already suffering from it when first seen; 2 cases occurred when the infants had run out of food, and for various reasons were fed with other products. One case occurred in an infant fed on dried milk solely from start to finish; it lasted only two days, and no organisms usually associated with epidemic enteritis could be demonstrated. The author is of opinion that dried milk is deserving a further trial during the summer months.

8. **Opsonic Estimation.**—After an extensive trial of over three years of the opsonic index for diagnosis, prognosis and treatment in tuberculosis, Hort can not regard it as a safe guide, he asserts, even when estimated by acknowledged masters of the opsonic art. He reports a series of observations in support of this view.

Lancet, London

February 13

9 *Psychology and Psychogenesis of Hysteria and the Rôle of the Sympathetic System. T. D. Savill.
10 *Clinical Value of Hemomanometer Observations. W. Russell.
11 *Etiology of Beriberi. H. Fraser and A. T. Stanton.
12 Interesting Case of Multiple Retroperitoneal Hydatid Cysts. F. C. Madden.
13 Anatomic Varieties and Their Bearing on the Treatment of Pathologic Conditions of the Palatine Tonsils. G. S. Hett.
14 Etiology of the Psoriatic and Allied Conditions. M. J. Chevers.
15 Transposition of Viscera Occurring in Brothers. L. Lowenthal.
16 Spontaneous Pulsating Exophthalmos. B. Hird and W. F. Haslam.
17 An Unusual Case of Appendicitis. F. J. Smith.
18 A Case of "Leather Bottle" Stomach. J. L. Stretton.
19 Food of Elementary School Children. A. H. Gerrard.

9. **Hysteria.**—Savill discusses the psychology of hysteria under the following headings: (1) The attributes of the hysterical mind; (2) the psychogenic explanation of hysterical disorders put forward by several eminent psychologists; (3) the rôle of psychogenesis in hysterical disorders and its limitations; (4) the rôle of the sympathetic system. Freud's view as to the almost universality of an underlying sexual basis does not accord with Savill's experience, now somewhat considerable, of these neuroses. He has seen scores of neurasthenics and hysterics whose sexual life history and constitution were absolutely normal. In any case he regards it as hazardous, harmful and wholly unjustifiable for any medical person, and particularly for one of the opposite sex, to make investigations into the dead memories of a sexual past and to call them into a state of activity. As to the various hypotheses explanatory of hysteria, he fails to see how any single explanation or hypothesis, whether psychic, physical or vasomotor, can apply to all the varied and manifold manifestations of hysteria. He is convinced, however, that the supreme importance of the rôle played by the vasomotor sys-

tem has been overlooked, and that in the majority of cases the hysterical lesion is vasomotor.

10. **The Hemomanometer.**—Russell discusses the nature of the arterial movements, and insists on the following factor, which he holds has been practically overlooked, that the arteries contract and relax in response to the composition of the blood—that is, to the direct influence on the vessel wall of various substances present in the blood. We know this to be the case with certain drugs, and it is only a reasonable inference that other contents of the blood have a like effect. He describes Oliver's hemomanometer and discusses the many types of cases in which observations made by the finger in regard to the blood pressure, plus hemomanometer observations, become of value—the neurasthenic type, the asthmatic type, the cardiac type, the digestive type, the renal type, and the cerebral type. The hemomanometer is of clinical value, in Russell's opinion, as giving a record of the contraction and relaxation of the arterial wall, rather than of the blood pressure.

11. **Beriberi.**—Fraser and Stanton report details of a study from the Institute for Medical Research at Kula Lumpur, Federated Malay States, into the etiology of beriberi. The general results lend support to the view that this disease has, if not its origin in, at least an intimate relationship with, the consumption of white rice, and that further research along these lines is justified.

Medical Press and Circular, London

February 10

20 Intussusception. D. Kennedy.
21 Recent Work on Immunity, Especially in Relation to Diagnosis and Treatment. R. Muir.
22 Aural Complications of Influenza and Their Treatment. H. F. Mole.
23 Physiologic Importance of the Prostate. C. Posner.

Clinical Journal, London

February 10

24 *Aphasia. G. Rankin.
25 Treatment of Displacement of the Abdominal Organs. W. Sheen.
26 Laparotomy for Acute Perforations. G. Watson.

24. **Aphasia.**—Rankin gives a remarkably clear description of the varieties of aphasia, and their causation and differentiation, understandable even by those with a very limited knowledge of the central nervous system. He urges the adoption of Bastian's suggestion, that the term "aphasia" be restricted to defects of speech produced by lesions in Broca's convolution; "aphemia" to those produced by subcortial lesions in the pyramidal fibers; and "amnesia" to those produced in the auditory and visual word centers and in the commissures by which these are connected with one another and with corresponding centers in the opposite hemispheres.

British Journal of Children's Diseases, London

January

27 Two Cases of Tuberculous Appendicitis. J. Allan.
28 *Relation of Dental Disorders to Tuberculosis. F. Morley.
29 Acute Lymphatic Leukemia. C. Johnson.
30 Case of Hydronephrosis. G. Carpenter.
31 Two Cases of Tetanus Neonatorum. G. Carpenter.

28. **Dental Disorders and Tuberculosis.**—Morley insists that a septic mouth is a predisposing cause of tubercle. It is well known that mouth breathing is a contributary cause of phthisis, but not so well known that mouth breathing is often due to dental causes, and that adenoids do not account for every case. Very frequently, enlargement of the cervical glands, the most common cause of which is bad teeth, is probably at first simply inflammatory, becoming tuberculous by infection later. Such infections may certainly travel by way of carious teeth, though it is not suggested that this is the most common route. A septic root, even if painless, should never be allowed to remain in a child's mouth. The author thinks that dentists have become too conservative in their attempts to save carious teeth, by sacrificing practical to cosmetic considerations. He particularly insists that before sending children to sanatoria their mouths should be put into good order. Failing that, each sanatorium should possess a dental surgeon whose post would be no sinecure.

Indian Medical Gazette, Calcutta

January

32 The Legend of Gabriel Boughton. D. G. Crawford.
33 John Woodall, Surgeon-General. W. Foster.
34 *Are "Seven Day Fever" and "Three Day Fever" Forms of Dengue? J. W. D. Megaw.
35 Case of Atropin Poisoning. G. D. Franklin.

34. **Seven-Day Fever and Three-Day Fever.**—Megaw considers these two forms of fever, described, respectively, by Rogers and McCarrison, and discusses the question of their identity with dengue, which he considers provable.

Glasgow Medical Journal

February

36 "Verruga Peruana." J. W. Allan.
37 Intestinal Obstruction in the New-Born: Strangulation Through a Hole in the Mesentery. H. Rutherford.
38 Cerebral Physiology and the Education of Abnormal Children. J. K. Love.
39 Case of Peripheral Neuritis, in Which the Diaphragm Was Paralyzed for Three Months. J. Cowan and R. S. McKim.
40 Landry's Paralysis. J. Cowan, A. J. Ballantyne and D. MacDonald.

Dublin Journal of Medical Science

February

41 Suggestion for a Three Weeks' Holiday. J. Burgess.
42 Present-Day Diagnosis, Treatment and Prognosis of Syphilis. J. J. Abraham.
43 Hand Sterilization. (Continued.) C. G. Cumston.

Journal Laryngology, Rhinology and Otology, London

February

44 Labyrinthine Nystagmus: An Analytic Review of Dr. Robert Barany's "Physiologie und Pathologie des Bogengang-Apparates Beim Menschen." D. McKenzie.
45 Spontaneous Discharge of Cerebrospinal Fluid from the Ear. G. F. Cott.
46 Treatment of Acute Catarrh of the Nose. R. Spira.

Annales de Dermatologie et de Syphiligraphie, Paris

January, X, No. 1, pp. 1-80

47 Crude Coal Tar in Dermatology. (Le goudron de houille brut en dermatologie.) L. Brocq.
48 Treatment of Eczema with Coal Tar. A. Jambon.

Annales de Gynécologie et d'Obstétrique, Paris

January, XXXVI, No. VI, pp. 1-64

49 Tarnier, 1828-1897. A. Pinard.
50 Prolapse of the Umbilical Cord, with Deformity of the Pelvis as Indications for Cesarean Section. (Procidence du cordon et viciations pelviennes, indications de l'opération césarienne.) A. Couvelaire.

Annales de Médecine et Chirurgie Infantiles, Paris

January 15, XIII, No. 2, pp. 37-72

51 *Development of Children in Weight and Height. (Evolution du poids et de la taille chez l'enfant.) E. Gaujoux.
52 Influence of Environment on Gastrointestinal Infections in Infants. (Influence du milieu sur les infections gastro-intestinales du nourrisson.) P. Hutinel.
53 Mercurial Treatment of Infants. (Mode d'administration et la posologie du mercure chez le nouveau-né et le nourrisson.) E. Lesné.

51. **Development of Children in Weight and Height.**—Gaujoux declares that the scales are the thermometer for the nutrition of the child, and that it is just as important to keep an oversight of the child's development in weight after the age of 2 as during infancy. The record of the weight will give accurate information in regard to the child's normal development or lack of it, even when nothing else points to anything wrong. The height is also extremely important. Both weight and height increase under normal conditions according to fixed laws, and he summarizes these laws as follows, giving a number of detailed tables for the different years between birth and puberty. Weight: The child triples its weight at birth by the end of the first year; doubles this by the end of the seventh year; doubles this by the end of the thirteenth year. A child that weighs 3 kilos at birth should weigh 9 kilos at the close of the first year and should increase by as many times 1,500 or 1,750 gm. as it is years old up to the age of 7. After 7 it should increase by as many times 2,500 to 2,750 gm. as it is years past 7, up to age of 14. Height: The height should average at the end of the first year a half more than at birth; should double the size at birth between the ages of 4 and 6, and triple it between 13 and 15. After the age of 5 the child should grow by adding to its height at this age as many times 0.06 cm. as it is years past 5. These

averages refer of course to French children, but the laws of growth are about the same everywhere as he shows by comparison of German figures.

Archives Générales de Médecine, Paris

January, LXXXIX, No. 1, pp.1-64

54 *Physiologic Respiratory Exercises in Serofibrinous Pleurisy. G. Rosenthal.

54. **Physiologic Respiratory Exercises in Pleurisy.**—Rosenthal gives the details of nineteen cases of primary tuberculous pleurisy in which great benefit was derived from respiratory exercises. They are a powerful means of influencing both the acute phase and convalescence of serofibrinous pleurisy, while entirely harmless if done cautiously, testing the susceptibility of the patient and sparing the lungs. The exercises should be unilateral, progressive, diaphragmatic, etc., supplementing the ordinary measures during the acute phase, and beginning with 5 or 10 respirations through the nose, with the patient reclining. The active dose is from 40 to 60 respirations in series of 10. During convalescence these exercises can be repeated from 3 to 7 times a week, with from 60 to 200 respirations in from 6 to 20 separate series. These exercises counteract the tendency to adhesion of the pleura and to chronic pneumonia and local sclerosis. If supervised and kept up, the patients do not develop pulmonary tuberculosis later. The chest measure soon shows the benefit derived.

Archives des Maladies du Cœur, Etc., Paris

January, II, No. 1, pp. 1-64

55 Present Status of Question of Blood Plates. (Plaquettes sanguines.) P. Pagniez.
56 Congenital Cardiac Affection with Intense Secondary Polycythemia and Orthostatic Albuminuria. F. Parkes Weber.

Bulletin de l'Académie de Médecine, Paris

February 2, LXXIII, No. 5, pp. 171-202

57 Rhizomelic Spondylosis with Tabes. F. Raymond.
58 Arsenical Insecticides in Agriculture.
59 Mortality from Tuberculosis. Armaingaud.
60 *Sulphur Disinfection of Ships. (Un procédé pratique et économique de sulfuration des navires.) A. Chantemesse and F. Borel.

60. **Practical and Economical Sulphur Disinfection of Ships.**—Chantemesse and Borel have devised a portable apparatus for thorough sulphur disinfection of the largest ships in the course of two or three hours. It utilizes a steam motor and a sulphur burner such as is used in the manufacture of sodium bisulphite, etc. The apparatus generates sulphur dioxid and a supply of the liquefied gas can be produced beforehand so that the reservoir will be full when the apparatus is transferred to the vessel, the motor then serving to propel the gas on hand, besides generating new.

Presse Médicale, Paris

January 27, XVII, No. 8, pp. 65-72

61 Transplantation of Vein in Autoplastic Operation on Urethra. (Transplantation veineuse pour l'autoplastie de l'urètre.) J. Tanton.
62 Results of Lightning Treatment of Cancer. (Courants de haute frequence et action ouloplasique.) A. Zimmern.
63 *Writer's Cramp. (Le spasme fonctionnel.) Lanel.

January 30, No. 9, pp. 13-80

64 Histologic Study of Tongue Affections. (La biopsie dans les affections de la langue.) M. Letulle.
65 *Wire "Central Circling" in Treatment of Comminuted Fracture of Leg. (Le cerclage central appliqué aux fractures comminutives de l'extrémité supérieure des os de la jambe.) P. Alglave.
66 Retrogression of Sarcoma of Gum Under Radium. Dominici and Faure-Beaulieu.

February 3, No. 10, pp. 81-88

67 Intestinal Hemorrhage After Appendicectomy. Guibé.

February 6, No. 11, pp. 89-96

68 Dietetic Considerations in Diabetics with Obesity and Acetonemia. L. Landouzy.
69 The Cammidge Reaction and Its Relation to Pancreatic Affections. H. Labbé.
70 Apparatus for Measuring Permeability of Nasal Passages. (Atmorhinometer.) Robert-Foy.

63. **Writer's Cramp.**—Lanel has had the best results from treatment with massage and vibrations in superheated air, followed by re-education to a better method of holding the arm and hand, sparing the muscles from over-exertion. He reports two cases in detail out of a much larger experience to emphasize the advantage of this combination of vibratory treatment and massage in superheated air.

65. **Wire Circle to Hold Comminuted Fractures.**—Alglave gives an illustrated description of his method of running a wire through the different parts of the fractured upper end of the bones of the leg. In a case described almost perfect functional results were obtained. The measure is applied as soon as possible after the fracture. The focus is exposed and cleansed of clots, the parts are brought into proper position and maintained thus by a silver wire passed through each in turn to form something like a circle. He calls the method "central circling." This was followed by immobilization for several weeks.

Semaine Médicale, Paris

February 3, XXIX, No. 5, pp. 49-60.

71 Different Types of Cardiac Arrhythmia Observed in the Clinic. L. Bard.

February 10, No. 6, pp. 61-72

72 Evolution and Present Status of Surgical Treatment of Diffuse Purulent Peritonitis. F. Moty.

Archiv für klinische Chirurgie, Berlin

LXXXVIII, No. 2, pp. 319-629. Last indexed Jan. 30, p. 423

73 Clinical History of Deforming Inflammation of the Hip Joint. (Arthritis deformans coxæ.) König.
74 Hydatid Cysts of Spine and Spinal Cord. (Echinokokken der Wirbelsäule und des Rückenmarks.) M. Borchardt und M. Rothmann
75 Double Nephrectomy and Reimplantation of One Kidney. (Doppelte Nephrektomie und Reimplantation einer Niere.) A. Carrel.
76 Bacteriemia in Ileus and Postoperative Paralysis of the Bowel. A. v. Khautz, Jr.
77 Carcinoma of the Tongue. (Zur Statistik des Zungencarcinoms.) H. Ehrlich.
78 Extensive Resection of Stomach. (Zur Casuistik der ausgedehnten Magenresectionen.) W. J. Rasumowsky.
79 *Actinomycosis of Lung and Pleura. A. A. Opokin.
80 Brain Abscesses After Firearm Wounds. (Hirnabscesse nach Schussverletzungen im japanisch-russischen Kriege.) V. T. Hashimoto, Y. Kuroiwa and R. Mori.
81 Diphtheria at Bethanien Hospital, Berlin, 1903-1908. E. Schultze.
82 Osteotomy of the Cuneiform Bone for Hallux valgus. (Osteotomie des Keilbeines bei Hallux valgus.) H. Riedl.
83 Infection of Firearm Wounds. (Infection der Schussverletzungen.) W. v. Reyher.
84 Plastic Operation for Avulsion of Scalp. F. Ehler.

79. **Actinomycosis of the Lungs and Pleura.**—This article reviews Russian literature on this subject—a total of 57 cases, in 21 of which operative treatment was applied. Only 8 cases are on record in international literature, Opokin states, in which operative measures were followed by complete recovery. Primary actinomycosis of the lungs is seldom recognized during life, the symptoms being differentiated as of tuberculous origin. Bacteriologic and Roentgen-ray examination are important aids for an early diagnosis, but the outlook is not promising for surgical intervention in actinomycosis of either lungs or pleura, unless in the earliest stage, before metastasis has occurred. Surgical treatment should include resection of the foci and fistulas into sound tissue. In conclusion 7 cases observed at Rasumowsky's clinic are described in detail.

Beiträge zur klinischen Chirurgie, Tübingen

January, LXI, No. 2, pp. 301-527

85 Operative Exposure of Upper Posterior Surface of Thorax. (Zur operativen Freilegung der hinteren oberen Thoraxfläche.) G. v. Saar.
86 Operative Treatment of Pseudarthrosis. (Die Codivilla'sche Operation zur Behandlung der Pseudarthrose.) R. Brade.
87 *Hemorrhoids. O. Silberberg.
88 Combined Syndactylia and Polydactylia. E. Jacobsohn.
89 *Pathology of Rupture of Bladder. (Harnblasenrupturen.) T. Goldenberg.
90 *Rupture of Kidney. (Nierenrupturen.) H. Yoshikawa.
91 *Diffuse Hemorrhage from the Kidneys. (Ueber renale Massenblutungen.) T. Bleek.
92 Case of Total Autoamputation of Intestine. (Fall von totaler Selbstamputation des Darmes.) W. Pullmann.
93 Resection of Tuberculous Knee. A. Linhart.
94 Operative Treatment of Pyosalpinx. J. Amberger.
95 Subcutaneous Prolapse of Intestine, a Typical Clinical Picture. G. v. Saar.

87. **Hemorrhoids.**—Silberberg has studied microscopically sections from twenty-two cases of hemorrhoids, his conclusions being that they are the result of local congestion. The disturbance in the circulation causes an effort for collateral circulation with neoformation of vessels, and also induces degeneration of the older vessels and bacterial infection fol-

lows. The chemical reaction of the elastic fibers proves conclusively that the hemorrhoid is the result of pressure and stasis.

89. **Rupture of the Bladder.**—Goldenberg reports three cases and discusses the pathology on the basis of these and the cases in the literature. In many instances the rupture was not diagnosed until too late for surgical intervention. The mortality of rupture of the bladder has dropped from 43.5 per cent. in 1895 to 20.5 per cent. in 1905, when operative treatment can be instituted in time. It is especially important to bear in mind the possibility of rupture of the bladder from its being pushed down into the small pelvis by some "physiologic trauma," the attachment to the omentum tearing out a piece of the attached bladder wall where it joins the rear wall, when cicatricial changes have induced unyielding adhesions. One of the cases reported was an example of this spontaneous form of rupture.

90. **Rupture of the Kidney.**—Yoshikawa gives the details of five cases. The patients were men between 25 and 42, a woman of 30 and a boy of 12. Unless there are signs of internal hemorrhage, absolute repose with ice to the kidney region are indicated. His patients were all dismissed in good condition after operative intervention.

91. **Hemorrhage From the Kidneys.**—Bleck discusses the possibility of unilateral nephritis with hemorrhage en masse and reports a case which sustains this assumption. The affection was probably a manifestation of inherited syphilis and it was diagnosed as "incipient chronic hemorrhagic nephritis," the patient a girl of 19. He reviews 80 cases from the literature in which microscopic examination was made of the bleeding kidney before the operation, and also 11 other cases of renal hemorrhage. No hemorrhage from the kidney should be styled idiopathic until after microscopic examination has been made. Operative treatment should be considered early, especially nephrotomy, which often has a favorable influence on the hemorrhage, but it should never be undertaken without certainty as to the integrity of the other kidney, as deaths have occurred after nephrotomy in bilateral nephritis. Nephrectomy should never be done as the primary operation for obscure unilateral renal hemorrhage. It is justified only as a secondary intervention when the integrity of the other kidney has been demonstrated.

Deutsche medizinische Wochenschrift

February 4, XXXV, No. 5, pp. 185-232.

96 Operative Treatment of Gastric Carcinoma. (Operative Behandlung des Magencarcinoms, ihre Indikationen und ihre Prognose.) L. Kuttner.
97 *Alimentary Fever. (Ueber alimentäres Fieber.) H. Finkelstein.
98 *Experimental Research on Alimentary Fever. L. F. Meyer.
99 *Salt by the Mouth and Intravenously in Treatment of Internal Hemorrhage. (Die stomachale und intravenöse Behandlung innerer Blutungen mit Kochsalz.) R. von den Velden.
100 Three Cases of Bismuth Poisoning. (Vergiftungen mit Bismutum subnitricum.) E. Zabel.
101 Treatment and Bacteriology of Suppurative Perforation Peritonitis. Kotzenberg.
102 Elimination of Atoxyl in Urine. (Ausscheidung des Atoxyls durch den Harn.) G. Lockemann.
103 To Exclude Admixture of Organic Coloring Matters in Spectrum of Blood. (Ausschaltung organischer Farbstoffbeimengungen beim spektroskopischen Blutnachweis.) O. Leers.
104 The Pulsometer. B. Fellner.

97. **Alimentary Fever.**—Finkelstein here presents the grounds on which he bases his assumption that the food alone, without bacterial intervention, is able under certain conditions to induce fever. This alimentary fever is most striking and most easily studied in infants with gastrointestinal disturbances, and his research has resulted in the discovery that albumin has nothing to do with it, and that sugar and salt are the responsible factors. Fat may have an indirect influence, but the sugar or salt is the one responsible element, and it acts by its physical properties. He is convinced that the physical properties of the salts and saltlike elements in the food have some injurious influence on the cells, checking their normal functioning and thus leading to abnormal decompositions in the body, which in turn disturb the regulation of heat. The normal child tolerates salt and sugar without disturbance, but a child with gastrointestinal disturbance responds with fever. Salt or sugar taken into the diseased digestive tract causes the same reaction as when injected subcutaneously. The intestines have evidently some special action on the salt and sugar molecules, rendering them innocuous in normal conditions, but when the intestine is deranged it loses this power. The liver acts vicariously for the intestines in this respect for a time, but when its capacity in this line is exhausted, then alimentary intoxication follows and fever is observed. In infants the intestinal functions and the metabolism in general are still very weak, and consequently the alimentary intoxication occurs on very slight grounds. He believes that severe intestinal processes in adults, chronic colitis, etc., are liable to entail alimentary intoxication in the same way as in infants. The experiences with the latter suggest greater caution in feeding adults with gastrointestinal disturbances with fluids containing salt or sugar, emphasizing the possible importance of sugar and salt in the diet during intestinal derangement and demonstrating the existence of a function of the bowel epithelium in respect to the metabolism of salt and sugar, disturbance in which may explain obscure febrile conditions at all ages.

98. **Experimental Research on Alimentary Fever.**—Meyer is Finkelstein's assistant and his experimental research has confirmed in every respect the former's assumptions in regard to alimentary intoxication from salts. He has traced it down to the compounds of halogens with sodium. None of the other sodium compounds displays this fever-producing property, only sodium chlorid, bromid and iodid. The curves cited demonstrate beyond question the possible pyrogenic influence of these latter when the digestive tract is out of order.

99. **Salt in Treatment of Internal Hemorrhage.**—von den Velden has studied for a year the use of salt by the mouth or in infusion as a means of controlling hemorrhage. His experience has confirmed the traditions in regard to the influence of salt in this respect. His research on animals and on healthy volunteers as well as in the clinic has demonstrated that salt enhances the coagulating power of the blood. It is remarkable, however, that it does not have this action in the test-tube, but it is marked in the living subject. He is inclined to attribute this coagulating influence to the mobilization of thrombokinase stored up in the tissues. In 29 cases of hemoptysis he obtained excellent results from administration of 5 gm. (75 grains) of sodium chlorid by the mouth, the coagulating properties of the blood being much increased thereby for a period of from an hour to an hour and a half. The effects become evident in a few minutes. If the tendency to hemorrhage returns later, he repeats the dose of salt or substitutes sodium or potassium bromid in the dose of 3 gm. (45 grains), the bromid having, further, a sedative action. He does not hesitate to keep up this combined sodium chlorid and bromid treatment, giving in the most urgent cases from 20 to 30 gm. (ʒv to ℥i) of sodium chlorid, and from 12 to 15 gm. (ʒiii to ʒiv) of the bromid during the day. Any tendency to bromin intoxication is corrected by the sodium chlorid. In 9 other cases he administered the salt or bromid by intravenous injection as he did not wish to irritate the digestive tract or kidneys. This series includes seven patients with hemoptysis, and one each with hemorrhage from varices in esophagus or bladder or typhoid lesions in the bowel. He has never witnessed any disagreeable by-effects from this treatment. The beneficial results were apparent in hemorrhage both in the lung and greater circulation. Hemophilia is a chronic defective condition for which a transient increase in coagulating power is of little avail. The hemophilic tendency is probably the result of defective production of thrombokinase, he thinks.

Fortschritte der Medizin, Leipsic

January 20, XXVII, No. 2, pp. 49-96.

105 *Treatment of Syphilis of Nervous System. (Behandlung der Nervensyphilis.) G. Köster.
106 *Assumed Connection Between Tapeworm and Pulmonary Tuberculosis. (Zur Frage über den mutmasslichen Zusammenhang zwischen der Erkrankung an Bandwurm, speziell *Botryocephalus latus*, und derjenigen an Lungentuberkulose.) Abramowski.

105. **Treatment of Syphilis of the Nervous System.**—Köster advocates local measures along with general mercurial treatment wherever practicable, especially for lesions in throat and mouth. He warns against mercurial treatment when there are already signs of atrophy of the optic nerve as it has been known to aggravate the condition. If undertaken it should be with constant oversight of the conditions in the fundus. Even suspension of treatment when the aggravation is noted does not arrest it. For this reason he advises potassium iodid first, and, if mercurial treatment becomes necessary on account of other syphilitic manifestations, the eye should be examined by an ophthalmologist every third day. He also warns against the use of atoxyl; it not only is liable to have an injurious influence on vision but may induce disturbances in the voiding of bladder and bowel contents leading to total incontinence. He emphasizes the fact that this widely advertised drug, alleged to be free from toxic action and to be a sort of panacea for diverse diseases, in treatment of syphilis, is proving a two-edged sword which should be used only with extreme caution. A course of mineral waters, as at Aachen, Wiesbaden or Tölz, is a powerful adjuvant in treatment of syphilis of the nervous system on account of the stimulation of the general metabolism. Even if no benefit is derived from the first course of the kind, experience has shown that hitherto apparently irreparable symptoms may subside during a second or third repetition.

106. **Pulmonary Tuberculosis and Tapeworm.**—Abramowski practices in a seashore district where the tapeworm is common owing to the frequent practice of eating insufficiently cooked fish. He has noticed that the anemia resulting from the presence of the *Bothriocephalus latus* affords a marked predisposition for pulmonary tuberculosis which is also remarkably prevalent. Even the "resorters" frequently acquire tapeworm during their stay as smoked raw fish is considered a local delicacy.

Münchener medizinische Wochenschrift

February 2, LVI, No. 5, pp. 217-264

107 Multiple Functions of the Cell. (Partialfunktionen der Zelle.) P. Ehrlich.
108 Localization of the Curvature, and Other Requisites in Treatment of Scoliosis. (Lokalisation der Umkrümmung und andere Forderungen in der Skoliosenbehandlung.) J. Fränkel.
109 Roentgen-Ray Treatment. (Die Röntgenstrahlen im Dienste der Therapie.) E. Müller.
110 Disagreeable Consequences of Colpoceliotomy and the Alexander-Adams' Operation. H. Freund.
111 Systematic Disinfection by Municipal Authorities. (Die Methoden der praktischen Grosstadtdesinfektion.) H. Trautmann.
112 Arrest of Hemorrhage from the Cystic Artery by Ligation of the Hepatic Artery. (Stillung der Blutung aus der Art. cystica durch Unterbindung der Art. hepatica propria.) H. Kehr.
113 Arsenicated Mineral Waters. (Zur Arsentherapie mit der Dürkheimer Maxquelle.) R. von den Velden.
114 Scarlet Red in Treatment of Eye Affections. (Anwendung von Scharlachrot bei Augenaffektionen.) M. Wolfrum and R. Cords.
115 Treatment of Tuberculin with Spengler's "IK." S. Herzberg.
116 Dental Frontal Headache. (Dentaler Stirnkopfschmerz.) F. Müller.
lapse of Lung When Thorax Is Opened. (Der künstliche
117 Peruvian Balsam, Etc., in Suppurative and Tuberculous Processes. (Anwendung der Digestivmittel bei eitrigen und tuberkulösen Prozessen.) M. Mayer.

Therapeutische Monatshefte, Berlin

February, XXIII, No. 2, pp. 65-128

118 *Treatment of Acute Alimentary Disturbances in Infants. (Therapie der akuten Ernährungsstörungen im Säuglingsalter.) B. Salge.
119 *Preparation for and Care After Gynecologic Operations. R. Birnbaum.
120 Heart Tonics Before and After Gynecologic Operations. (Herzmittel vor und nach gynäkologischen Operationen, nebst Bemerkungen über die Bedeutung von Narkose und Operation bei Erkrankungen des Zirkulationsapparates.) R. T. Jaschke. Commenced in No. 1.
121 Relations Between Constitutional and Ear Affections. (Beziehungen zwischen Allgemeinleiden und Ohrkrankheiten.) Preysing. Commenced in No. 1.
122 *Nature and Treatment of Typical Form of Benign Stenosis of the Colon at the Splenic Flexure. (Typische gutartige Stenose an der Flexura lienalis coli.) E. Payr. Commenced in No. 1.
123 Treatment and Danger of Contagion in Pertussis. (Ansteckungsgefahr und Therapie des Keuchhustens.) E. Müller.
124 Dangers of Intravenous Strophanthin Treatment (Gefahren der intravenösen Strophanthintherapie.) A. Fraenkel.
125 Disadvantages of Combination of Digitalis with Other Drugs. (Kombination der Digitalis and homologer Agenzien mit anderen Arzneimitteln.) J. Pohl.

118. **Treatment of Acute Alimentary Disturbances in Infants.**—Salge remarks that the mother always insists on adding something to the water when the indications are to stop all intake of food while the digestive apparatus is closed for repairs. For this reason he allows admixture of tea with the water, but sweetened only with saccharin, no sugar. If the infant vomits constantly, its lips and tongue can be kept moistened with cold water from a dropper. When there is much diarrhea it is foolish to give laxatives or to try to check the diarrhea with drugs as it is answering a useful purpose. If fluids given by mouth or rectum are not retained, from 125 to 150 c.c. of physiologic salt solution should be infused twice during the twenty-four hours. The temperature should be brought to normal with from four to six cold packs in an hour, repeated again during the day, or if the child is cold, warming it with thermophores or the incubator. But he warns emphatically that these measures require the most constant supervision as the effect frequently runs to the opposite extreme. Camphorated oil may be useful in case of weak heart action. The trouble is in the general metabolism, not merely in the digestive tract alone, and the metabolism will suffer irreparable injury if all food is stopped for more than twenty-four or forty-eight hours. Infants suffer especially from lack of carbohydrates, but they must be given in minute amounts and very cautiously not to supply a culture medium for bacteria in the intestines. It may be necessary to remove the fat even from breast milk by centrifugalizing it but when this is done the child is liable to thrive at once. Not more than from 30 to 50 c.c. daily should be allowed during the first two or three days, watching the urine for sugar. The limits of toleration for the carbohydrates are very narrow in these children, so that constant supervision is necessary as any excess may bring on new disturbances. After the infant has borne this fat-free diet for from ten to fourteen days, the whole milk can be resumed, but it is impossible for recuperation to be very rapid as the general metabolism has been so disturbed. If unable to obtain fat-free breast milk, he gives instead freshly prepared whey obtained from raw cow's milk with rennet.

119. **Care of Patient Before and After Gynecologic Operation.**—Birnbaum states that he has frequently found the temperature several degrees below normal at the close of a tedious operation, even when the operating table and room were specially heated. This shows the importance of warming the patient after an operation. Continuous irrigation of the rectum with warm salt solution, a drop at a time, by the Katzenstein technic, he advocates as the most reliable measure for the purpose. It has the further advantage of stimulating bowel peristalsis without incommoding the patient. Cold alcohol rubs of the chest and back are useful to prevent thrombosis and complications on the part of the lungs. Systematic breathing exercises are also in order, and active and passive exercises of the legs. He prefers repeated and systematic catheterization and disinfection rather than the employment of a retention catheter in case of paralysis of the bladder. When there are symptoms of paralysis of the intestines, he states that great benefit is obtained by rinsing out the stomach, followed by the administration of a large dose of castor oil.

122. **Stenosis from Kinking of the Intestine at the Splenic Flexure.**—Payr describes in detail twenty-five cases of nonmalignant stenosis of the colon in which he has performed operations during the last four years with permanently successful results.

Therapie der Gegenwart, Berlin

February, L, No. 2, pp. 73-120

126 *Gout. (Zur Pathologie und Therapie der Gicht.) F. Umber.
127 Changes in Application of Digitalis in Spontaneous Hemorrhage. (Wandlungen im Digitalisgebrauch bei spontanen Blutungen.) Focke.
128 Experimental and Clinical Study of Treatment of Collapse with Intravenous Injections of Adrenalin. (Behandlung von Kollapszuständen mit intravenösen Adrenalininjektionen.) R. Kothe.

126. **Treatment of Gout.**—This article is based on extensive personal research on the metabolism of individuals with gout,

out of a total of 137 cases, with comparative research on healthy subjects. The findings are particularly instructive as the research was undertaken almost exclusively on a purin-free diet, thus providing a common base for comparison. Twenty-seven of the patients were of the laboring classes. The practical results of the research described include the typical curve of the elimination of uric acid on a purin-free diet. The amount eliminated grows less and less until an attack of gout is impending, when the elimination rapidly increases to reach a high point about the second day after the onset of the attack, and then rapidly subsides again. These waves of endogenous elimination vary somewhat in individuals, but a long continued endogenous curve including several attacks is absolutely pathognomonic, as he shows by comparison with curves in various other affections. Another point is that the gouty respond to ingestion of purin bodies with a much less and more protracted elimination of uric acid than the non-gouty, especially during the depression stage following about a week after an attack. Ingestion of food containing much purin is liable to bring on an attack of gout. He ascribes the retention of uric acid to a peculiar affinity of the tissues for the uric acid. Another pathognomonic feature of gout is the opposite behavior of glycocoll, the retention of one coinciding with increased elimination of the other. During the flood of uric acid in an attack, the glycocoll vanishes completely. There is no medicinal treatment of gout, Umber says, except to relieve the acute attack; the only way to influence the disease is by the diet, which should aim to prevent the accumulation of uric acid in the tissues and in the blood and to provide the most favorable conditions for its metabolism and elimination. He advises refraining from meat entirely when an attack is threatening and for a week or two afterward, and to interpolate from 2 or 3 up to 4 or 6 purin fast days in each week, keeping this up for weeks, months and years. He never allows more than 200 gm. of meat in one day. His research has further confirmed the fact that the retention of uric acid is more pronounced in proportion at night, and consequently he advises that the gouty should take their principal meal in the morning or at latest noon. He quotes Garrod that every particle of food not absolutely needed for the nourishment of the body merely nourishes the disease. Copious ingestion of water certainly aids in the elimination of uric acid, but alkaline waters have the opposite effect. It is all the other factors of spa treatment rather than the mineral content of the water that benefit in a course at a watering place. He remarks in regard to the various remedies for gout on the market that they all promote the solubility of free uric acid, but this does no good in gout as the blood of the gouty is able to dissolve larger proportions of free uric acid than it ever contains. The problem is to dissolve the acid sodium urate, the form in which the uric acid is deposited in gout. These remedies have no action on the sodium urate and he thinks that this is true also of hydrochloric acid. He declares that none of the alkalies or mineral waters has any specific influence on the purin metabolism in gout and that the propaganda for the "lithium content," etc., of springs should be abandoned. He has noticed that the elimination of uric acid decreased during muscular exercise even on a purin-free diet. This must be due to participation of the purin bodies in the increased oxidation processes incident to muscular exertion. This recalls, he says, the saying of an English physician that no man would suffer from gout if he could keep a slave to massage him regularly.

Virchows Archiv, Berlin

January, CXCV, No. 1, pp. 1-176

129 Morphologic Structure and Morphologic and Chromatic Changes in the Leucocytes. A. Cesaris-Demel.
130 Wax-like Transformation of Muscle Fibers. (Wachsartige Umwandlung der Muskelfasern.) R. Thoma.
131 Implantation of Embryonal Tissue. M. v. Tiesenhausen.
132 Sarcoma and Carcinoma in the Thyroid of a Dog. G. Schöne.
133 Anatomic Study of Appendix and Appendicitis. W. Nowicki.

Zentralblatt für Chirurgie, Leipsic

January 30, XXXVI, No. 5, pp.137-176

134 Regional Anesthesia in Transplantation of Skin. (Regionäre Anästhesie bei Hauttransplantation.) G. Nystrom.
135 New Apparatus for Intrathoracic Operations Under Differential Pressure. (Neuer Apparat für Intrathorakale Operationen unter Differentialdruck.) W. Meyer (New York).

February 6, No. 6, pp. 177-208.

136 *Artificially Induced Open Hydrothorax for Prevention of Collapse of Lung When Thorax Is Opened. (Der künstliche offene Hydrothorax zur Erhaltung der Lungenatmung bei Thoraxeröffnungen.) H. Teske.

136. **Artificially Induced Open Hydrothorax to Prevent Collapse of Lung.**—Teske has found that if water is allowed to flow into the thorax when it is opened, the lung floats on the water and it does not collapse. He found this a perfectly practical and feasible way to maintain approximately normal respiration in the exposed lung when a large flap was cut in the thorax wall. He experimented on rabbits, placing them in a bath-tub with blood-warm water and found that respiration proceeded with surprising regularity and normal tempo, the exposed lung keeping time with the intact lung. If the animal was taken out of the water but left on its back, enough water remained in the chest to answer the desired purpose, but if the animal was turned on its belly, the water ran out and the lung collapsed at once. He also found it possible to accomplish the purpose by artificial irrigation of the thoracic cavity, allowing the water to flow in and out, the cannula being wide enough to keep the opening from closing. He is convinced that this method of preventing the collapse of the lung in cases of injury of the lung or heart requiring surgical intervention will prove useful in the clinic, especially in urgent cases requiring rapid work. The shock from collapse of the lung will thus be avoided. Warm salt solution has a stimulating effect on the organs in the chest. He concludes the operation by suturing the lung to the chest wall and allowing the water to escape. He does not think that there need be fear of infection if sterile salt solution and rubber gloves are used, especially as the pleura possesses normally considerable resisting power against infection.

Zentralblatt für Gynäkologie, Leipsic

January 30, XXX, No. 5, pp. 161-200

137 Bacteriologic Diagnosis of Puerperal Fever. Krönig and Pankow.
138 Suture of Skin at Perineum with Michel's Clips. (Zur Hautnaht des Dammes mittels Michel'scher Klammern.) K. Mayer.
139 Construction of Vagina out of Loop of Small Intestine. (Scheidenbildung unter Benutzung einer verlagerten Dünndarmschlinge bei Uterus rudimentarius cum Vagina rudimentaria.) M. Mori.
140 Roentgen-Ray Treatment in Gynecology. Albers-Schönberg.
141 Treatment of Vaginismus with Vaginal Dilator. O. Oberländer.
142 Absorbing Power of Mucosa of Vagina and Uterus. (Resorptionsfähigkeit der Schleimhaut der Vagina und des Uterus.) E. Falk.

February 6, No. 6, pp. 201-232

143 Clinical and Anatomic Study of Endometritis. M. Henkel.
144 *Vaginal Cesarean Section in Severe Eclampsia a Month before Term. (Vaginaler Kaiserschnitt bei schwerster Eklampsie im 8. Schwangerschaftsmonat.) Nacke.
145 Dilator for Treatment of Abortion. (Uterusdilatator bei Abortbehandlung.) O. Oberlander.

144. **Vaginal Cesarean Section in Severe Eclampsia.**—Nacke relates a case which demonstrates that this intervention may prove the only life-saving measure possible in severe eclampsia. But the case further emphasizes the possible complications and mishaps liable when such an operation is attempted in a private house, and that the operation may meet with unexpected difficulties when done before the cervix is dilated, especially when the latter is abnormally long.

Hygiea, Stockholm

December, LXX, No. 12, pp. 1235-1378

146 *Suppurative Affections of the Internal Ear. (Om innerörats variga sjukdomar.) G. Holmgren. Commenced in No. 11.
147 *Vaginal Technic for Operations in Gynecology and Obstetrics. A. Dührssen.
148 Ear Affections in Traditional Household Medicine. (Om öronsjukdomarna i den skänska folkmedicinen.) E. Bergh.

146. **Suppurative Affections of the Internal Ear.**—This article is practically a clinical study with details of typical specimens of each of the various affections involved and the conclusions from comparison of the course with results of treatment and pathologic findings; the whole is classified under the headings of the different affections described. Holmgren has continued Blau's compilation of cases of necrosis of the labyrinth on record, and tabulates the details of 20 more,

thus bringing the total to 124. He devotes a chapter to the prognosis and complications of labyrinthitis and another to the treatment and technic, with 12 pages of bibliography, likewise classified.

147. Vaginal Technic for Operations.—This communication from Dührssen was read at the last Swedish medical congress and is accompanied by eight illustrations to explain the details of the vaginal technic. He also describes his recent modification of his method of vaginal Cesarean section by preceding it with the hystereurynter, utilizing the measure, he remarks, which the practitioner should always regard as the first indispensable step in all cases requiring immediate delivery with the cervix still undilated. If the case is very urgent, manual traction can be exerted on the inflatable bag, but if the cervix fails to dilate when the lower segment of the uterus is thus pulled down, the attempt should be abandoned, as otherwise the cervix or the inflatable bag is liable to rupture. This is especially the case with rigid cervix, and if the cervix persists undilated vaginal Cesarean section is required, or deep incisions in the vaginal portion of the uterus if the cervix has opened. In such a case the general practitioner must summon a specialist or should limit his intervention to expectant treatment until the progress of labor has rendered manual extraction possible. The use of the inflatable bag facilitates Cesarean section. By traction on the bag it is possible to bring the cervix into view when it is an easy matter to make a sagittal incision in the posterior lip and prolong it upward for about 3 cm. With the gloved finger the peritoneum is then pushed away from the posterior wall of the bladder, as far up as necessary, and a loop of suture material is passed through the upper end of the slit. The anterior lip is then incised and a loop of thread introduced in the same way. The inflated bag sinks lower and lower as the cervix opens, and the upper parts of the cervix walls are thus brought into view and can be easily incised, with the bleeding under control. The bag finally slides out of the uterus, when the fetus can be easily extracted. After the placenta has separated, the uterus is drawn down by the loops of thread; the threads are tied and the posterior and then the anterior lips of the cervix are sutured. The continuation of the incision into the fornices does not require suturing as the lips of the wounds are pressed closely together. When the aftercoming head is retained by the cervix the procedure is about the same, the head acting like the inflatable bag whose place it takes. He has successfully applied this technic in one case, severing the constricting ring. The technic is the same as that recently proposed by Döderlein, but Dührssen does not approve of it except under these conditions, as one has to operate in the dark and he doubts whether the bladder will ever spontaneously detach itself from the uterus wall. If it does not, injury of the viscus is almost inevitable. The cases which require vaginal Cesarean section are the very ones in which there is almost certain to be special adhesion between the bladder and uterus, as in elderly primiparæ with rigid cervix or in case of prolapse. Comparing the vaginal and abdominal extraperitoneal technics he remarks that the public has greater dread of abdominal than of vaginal operations, but that the abdominal extraperitoneal technic has certainly a brilliant future in cases of much contracted pelves.

Norsk Magazin for Lægevidenskaben, Christiania

January, LXX, No. 1, pp. 1-244

149 Cardiac Insufficiency with Contracted Kidney and High Blood Pressure. (Arteriosklerose med skrumpnyre og hjertehypertrofi.) P. F. Holst.
150 Torsion of Pedicle of Left Ovary in Two Little Sisters. (Stilkdreining af venstre ovarium hos to søstre, 8½ og 7 aar gamle.) J. Roll.
151 Cutaneous and Ocular Tuberculin Reactions. E. Kaurin.
152 Favorable Experiences with Trusses in Hernia. (Smaatrack fra brokbaandsbehandlingen.) O. Borchgrevink.
153 Five Generations of a Family with Six Fingers and Toes. (En familie med seks fingre og seks tær.) V. Magnus
154 *Forty-three Cases of Exophthalmic Goiter. (Morbus Basedowii.) H. J. Vetlesen.

154. Exophthalmic Goiter.—Vetlesen's article is published as a 128-page supplement to the *Magazin*. All but 2 of the 43 patients were women, and the majority of cases developed between the ages of 20 and 30 or 40 and 50. A fright or great sorrow had evidently something to do with the onset of the affection in several cases, and acute articular rheumatism or rheumatic complications were evident in 8. One patient had had acute rheumatism five times. He also calls attention to the fact that 8 of his patients suffered from hemicrania and that 3 of these and 5 others had a family history of hemicrania in the parents or grandparents. He believes that this suggests some special connection between exophthalmic goiter and hemicrania. Simple goiter was also noted in the direct family antecedents of 4 of his patients, and 4 others have brothers or sisters with goiter. In 3 cases both mother and daughter were affected. All his patients were cured or much improved with the exception of 5 whose deaths later are recorded. His treatment consisted of thymus extract and sodium phosphate, alone, alternating or combined, and his impressions are very favorable as to the efficacy of this method of treatment. He is undecided as to whether the sodium phosphate or the thymus extract deserves the preference, but the cost of the latter sometimes turns the scale against it. Thyroid treatment of exophthalmic goiter is directly contrary to the indications; the trouble is the result of hyperfunctioning of the thyroid gland and it is absurd to give more thyroid. It is even liable to transform a simple goiter into the exophthalmic form, of which he relates several examples, the patients having been given thyroid treatment by some other physician before they consulted him. One of his patients was doing well under sodium phosphate when exacerbation followed an attack of influenza, and he ordered thymus tablets. No improvement followed, the general condition and symptoms rather becoming aggravated. After taking from 70 to 80 tablets the patient discovered that the bottle was labeled "thyroid tablets" instead of the prescribed "thymus." As soon as thymus tablets were substituted for the thyroid, improvement was rapid and has been permanent to date. In one of the cases with fatal termination the patient had been taking "antithyroidin," which seemed to have a toxic action. Roentgen-ray treatment was applied in only 2 cases; the results were excellent in one but nearly negative in the other. Operative treatment was instituted in 2 cases; in the first there was considerable improvement for a few months but then a second operation became necessary and the patient soon succumbed to asystoly or possibly embolism. The other patient seemed to derive great and permanent benefit from the operation. He prescribes the sodium phosphate in the dose of 1 gm. (15 grains) in solution four times a day. The more recent the onset of the symptoms, the more effectual the sodium phosphate. He gives from 2 to 4 of the thymus tablets three times a day. He tabulates the details of the 43 cases for comparison, with the age, initial symptom, treatment, etiology, etc. He has been using the sodium phosphate since before 1899, on the recommendations of Trachewsky, Sahli and Kocher. He has never witnessed any inconveniences from its administration, even when kept up for many months. Very exceptionally, a little tendency to diarrhea was noticed, but this righted itself at once when he reduced the dose somewhat. He tried several other drugs in the course of his experiences, but long since abandoned them all for the sodium phosphate or thymus tablets.

Ugeskrift for Læger, Copenhagen

January 21, LXXI, No. 3, pp. 57-76

155 *Papulous Syphilids in Mouth Nine Years After Infection, with Positive Findings of Pale Spirochetes. L. Nielsen.

January 28, No. 4, pp. 77-106

156 Diagnosis of Destruction of the Internal Ear. (Om Diagnosen Labyrintdestruktion.) P. T. Hald.

155. Papulo-Erosive Syphilids in Mouth Nine Years After Infection.—Nielsen's patient was a man of 28 who had been infected with syphilis nine years before and had been smoking some of late. Typical pale spirochetes were cultivated from the scrapings of the lesions in the mouth. The primary infection had been thoroughly treated, it was supposed. In two other patients the syphilids developed on the tongue eleven and thirteen years after infection and recurred whenever the patient smoked much.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 24, XXX, No. 10, pp. 97-112

157 *Influence of Injections of Lecithin on Serodiagnosis of Syphilis. (Azione delle iniezioni di lecitina sulla reazione di Wassermann.) G. Quarelli.

January 28, No. 12, pp. 121-128

158 *Phlebitis Following Interval Appendicectomy. A. Sertoli.

January 31, No. 13, pp. 129-144

159 *Hernia of Diaphragm with Gastric and Intestinal Stenosis. (Ernia diaframmatica.) F. Senna.

160 *Primary Cancer of Pancreas: Chauffard's Syndrome in Diagnosis. G. Alessandri and C. Minerbi.

February 2, No. 14, pp. 145-152

161 *Stimulating Influence of Scarlet Red on Regeneration of Epithelium. A. Cernezzi.

157. **Influence of Injections of Lecithin on Serodiagnosis of Syphilis.**—Quarelli states that in twelve cases of syphilis in which serodiagnosis was positive, several injections of lecithin had the result that the serodiagnosis gave negative findings thereafter in all but four cases. In some of these, however, the reaction increased in intensity.

158. **Phlebitis Following Interval Appendicectomy.**—The three patients in the cases reported by Sertoli were young men, and the phlebitis developed between the tenth and fourteenth day of aseptic healing of the wound. They were all debilitated from repeated attacks of appendicitis. The phlebitis was limited exclusively to the left leg and subsided harmlessly after a few days.

159. **Hernia of the Diaphragm.**—Senna reports a case to emphasize the points useful for differentiation. It is not difficult if the phenomena in the chest and abdomen are minutely studied and coordinated. The autopsy in his case confirmed the diagnosis showing that the sudden symptoms were the result of incarceration of the stomach in the hernia. A perforation was found in the stomach and also in the ascending colon which was likewise involved in the hernia. An important sign is the presence of gas in the pleural cavity, without metallic sounds.

160. **Cancer of the Head of the Pancreas.**—The syndrome presented was that described by Chauffard as characteristic of primary cancer of the head of the pancreas. The only additional symptom was uncontrollable vomiting. The Loewy sign—the ocular reaction to adrenalin—was very pronounced. The cancer in this case had originated in the gall bladder, which contained stones, and had involved the liver, spreading later to the head of the pancreas, but the body was intact. The case does not detract from the importance of the Chauffard syndrome, but shows that it differentiates malignant disease in the head of the pancreas only when there are no other foci elsewhere and when direct palpation of the gall bladder excludes biliary lithiasis with reasonable certainty.

161. **Influence of Scarlet Red on Regeneration of Epithelium.**—Cernezzi has been applying a 5 or 8 per cent. lanolin or petrolatum salve of scarlet red, the dye which Fischer found so remarkably active in inducing proliferation of epithelium. Cernezzi applied the salve to extensive burns or other raw surfaces, or to hasten the healing of Thiersch or Reverdin flaps. He applies the salve in a thin layer to the edges, covering it with perforated rubber tissue, renewing the dressing in one or two days. The rapid proliferation of the epithelium was most striking even in cases long rebellious to other measures. One man with a burn of the entire forearm and part of the hand was treated with Thiersch flaps and the scarlet salve and the lesions healed over very rapidly with a much firmer growth of epithelium than is usual after such transplantation, allowing the man to resume his trade as a mechanic without mishap during the five months since. No by-effects were ever observed with the salve. Cernezzi warns that it is not necessary to apply the salve except to the edges of the islands or borders of epithelium; it is inadvisable to interfere with the development of granulations by applying the salve to them as it might induce maceration. Neither he nor Schmieden thinks there is any danger of inducing excessive proliferation as the salve is applied lightly to the surface, not injected subcutaneously as in Fischer's experiments.

Policlinico, Rome

February 7, XVI, No. 6, pp. 165-196

162 *Lime in Treatment of Epilepsy. (La terapia calcica nell' epilessia.) F. Ciccarelli. (Commenced in No. 5.)

162. **Lime in Treatment of Epilepsy.**—Ciccarelli gives the details of twenty-nine cases of epilepsy in which he found that treatment with lime had a pronounced effect in mitigating the seizures and reducing their number. He regards the lime salts as preferable to the bromids at times, the best results being obtained when a course of lime was alternated with the ordinary bromid treatment. He gave daily from 2 to 3 gm. (30 to 45 grains) of calcium hypophosphite in fractional dose. The patients were all chronic epileptics, although the affection was of traumatic origin in some and associated with infantile spastic paralysis in others, the majority, however, being of the idiopathic variety.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

EDUCATIONAL PAMPHLETS. Issued by the Committee on Experimental Medicine of the Medical Society of the State of New York, 17 West Forty-third Street, New York. ANIMAL EXPERIMENTATION AND DIABETES. By Graham Lusk, New York City. THE ETHICS OF ANIMAL EXPERIMENTATION. By John Dewey, New York. ANIMAL EXPERIMENTATION AS VIEWED BY THE SUPERINTENDENT OF A HOSPITAL. By G. F. Clover, New York City. THE SERVICE OF ANIMAL EXPERIMENTATION TO THE KNOWLEDGE AND TREATMENT OF NERVOUS DISEASES. By Charles L. Dana, New York. THE RELATION OF ANIMAL EXPERIMENTATION TO THE LIVE STOCK INDUSTRY. By Veranus A. Moore, Ithaca, N. Y. ANIMAL EXPERIMENTATION AND NUTRITION. By Lafayette B. Mendel, New Haven, Conn. WHY ARE SPECIAL LAWS TO RESTRICT ANIMAL EXPERIMENTATION UNWISE? By J. G. Curtis, New York City. Each 4 pp., paper.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. U. S. Department of Agriculture, Bureau of Animal Industry—Bulletin No. 39, Parts 22 and 23. By Ch. Wardell Stiles, Ph.D., Consulting Zoologist of Bureau of Animal Industry; Zoologist of U. S. Public Health and Marine-Hospital Service, and Albert Hassall, M.R.C.V.S., Assistant in Zoology, Bureau of Animal Industry. Paper. Washington: Government Printing Office, 1909.

NEW AND NONOFFICIAL REMEDIES, 1909. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association, Prior to Jan. 1, 1909. Paper. Pp. 168. Price, single copy: Paper cover, 25 cents. Cloth cover, 50 cents. Chicago: Press of American Medical Association, 1909.

HOW TO NURSE SICK CHILDREN. By Charles West, M.D., Founder of and Late Physician to the Hospital for Sick Children, Great Ormond Street. With a Preface by George F. Still, M.D., Physician to Out-Patients, The Hospital for Sick Children. New Edition. Cloth. Pp. 52. Price, 40 cents. New York: Longmans, Green & Co., 1908.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. By Philip B. Hawk, M.S., Ph.D., Professor of Physiological Chemistry in University of Illinois. Edition 2. Cloth. Pp. 447, with illustrations. Price, $2.50. Philadelphia: P. Blakiston's Son & Co., 1909.

ABSTRACTS FROM A PRACTITIONER'S HANDBOOK OF MATERIA MEDICA AND THERAPEUTICS. Based Upon Established Physiological Actions and the Indication in Small Doses. By T. S. Blair, M.D., Member American Medical Association. Paper. Pp. 48. Philadelphia: The Medical Council.

ECONOMIC ASPECTS OF LENGTHENING HUMAN LIFE. By Prof. Irving Fisher of Yale University. President of the Committee of One Hundred on National Health. Address Delivered Before The Association of Life Insurance Presidents, New York, Feb. 5, 1909. Paper. Pp. 18.

ROTUNDA PRACTICAL MIDWIFERY. By E. Hastings Tweedy, M.D., F.R.C.P.I., Master of the Rotunda Hospital, and G. T. Wrench, M.D., Late Assistant Master. Cloth. Pp. 464, with illustrations. Price, $6. New York: Oxford University Press.

REPORT OF AN INVESTIGATION OF WATER AND SEWAGE PURIFICATION PLANTS IN OHIO. Made Under Authority of an Act of Legislature, Passed Feb. 23, 1906. 1906-1907. Cloth. Pp. 888. Columbus: F. J. Heer, State Printer, 1908.

QUAIN'S ELEMENTS OF ANATOMY. Edited by E. A. Schäfer, Johnson Symington and T. H. Bryce. Edition 11. Vol. III, Part 1: Neurology. By E. A. Schäfer and J. Symington. Cloth. Pp. 421, with illustrations. Price, $4.50. New York: Longmans, Green & Co., 1908.

PARCIMONY IN NUTRITION. By Sir James Crichton-Brown, M.D., LL.D., F.R.S., Lord Chancellor's Visitor in Lunacy, London. Cloth. Pp. 111. Price, 75 cents. New York: Funk & Wagnalls Co., 1909.

TRANSACTIONS OF THE SIXTEENTH ANNUAL MEETING OF THE HAWAIIAN TERRITORIAL MEDICAL SOCIETY. Held in Honolulu, November, 1907. Paper. Pp. 88.

REPORT OF THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION. Food Products, 1908. Being Part ix of the Biennial Report of 1907-1908. Paper.

CALIFORNIA GROUND SQUIRRELS. By C. Hart Merriam, Chief U. S. Biological Survey. Paper. Pp. 8. Washington: Government Printing Office, 1909.

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Original Articles

CONSERVATISM IN SURGERY

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MINNEAPOLIS

Conservatism has no place in modern surgery, and it has even gone out of date in religion. If we wish to speak of a surgeon in the highest praise we should not use the word conservative. There was a time—fortunately for us long ago—when to designate one as a conservative in medicine, religion or politics was to bestow on him the highest praise. The Century Dictionary defines conservatism as "the disposition to maintain and adhere to the established order of things; opposition to innovation or change;" and a conservative as "one who is opposed by nature or principle to innovation and change; in an unfavorable sense, one who from prejudice or lack of foresight is opposed to true progress." Conservatives in this sense have ever clogged the wheels of progress.

While we use the term now in a more liberal sense, applying it to one who is progressive without going to extremes, it is far better to use the term "progressive," because the progressive surgeon is one who does not make changes for the sake of change but for improvement. He does not accept a new point in technic or pathology because it is new, but because it is better than the old. In other words, a progressive surgeon is one who is neither a conservative nor a radical. Some operations should be radical, but no surgeon should be so. At the beginning of the present surgical era, the greatest in the history of the world, the conservatives were the worst enemies of the progressive surgeon, but now he has the radicals to deal with. The former were constantly denouncing operations and treating patients medically without success who are now being treated successfully by surgery. The latter are constantly taking advantage of the safety of modern technic and performing unwarrantable operations, to the detriment of progressive surgery. This is the age of radicalism, and it might be better to take that as a text; but it is scarcely possible to discuss Scylla without also discussing Charybdis, so I shall discuss them in turn.

While the conservative is out of date and has lost most of his influence as an obstructionist, he is still sufficiently in evidence to be entitled to an occasional reminder of his shortcomings.

Some cases of empyema are still being treated medically or with the aspirator.

Tumors of the breast are too often neglected, notwithstanding the fact that over 80 per cent. of them are malignant and that the only hope of the patient lies in early and radical operation.

Many patients suffering from gallstones are being treated for dyspepsia.

Appendicitis is too often treated by hot or cold applications until the best time for operation has passed.

Typhoid and other intestinal perforations are very commonly neglected until all hope from operation is gone.

When conservatism prevailed the mortality rate from obstruction of the bowels was 95 per cent. This rate has now been reduced to 45 per cent. or less by progressive surgeons, and this latter could be reduced more than half if the conservative habit of waiting could be overcome.

In the treatment of diseases of the female pelvis the conservative was long since displaced by the radical, who in turn is being gradually but surely displaced by the progressive surgeon.

Numberless prostates are being treated by the catheter and other conservative methods that might better be operated on. Up to the present time it has been impossible for prostatectomy to be placed on a proper footing because the patients were and are so commonly treated conservatively that the surgeon gets only complicated cases.

The statement just made concerning breast tumors is equally applicable to malignant growths in any location, but delayed diagnoses are more excusable in internal organs like the stomach because early evidences of the growth can not be demonstrated by sight and touch. The conservative still treats patients with these growths for dyspepsia and other functional disorders until tumors are palpable, when all hope of successful surgical treatment usually is gone. The conservative tells the woman who has passed the menopause who comes to him on account of a bloody vaginal discharge that it is a trifling affair and prescribes a vaginal douche, thus depriving her of the hope offered by modern surgery. He applies salves to the little, hard ulcer on the lower lip until the neighboring lymphatic glands become enlarged, when in addition to the ointment he paints the glands with iodin.

Unfortunately we are still groping in the dark as to the cause of cancer; but we do know that under conservative treatment the mortality rate, except in a few very superficial cases, is 100 per cent. We also know that surgery does save a certain percentage when the disease is recognized and the patient operated on early. How anyone can treat incipient malignant disease conservatively in the face of these facts is beyond comprehension. A certain few cases of very superficial cancer can be cured by the *x*-ray, by radium, and by caustic paste, but it is now thoroughly understood that these agents have absolutely no curative effect on extensive malignant tumors or deep-seated malignancy and their use in these cases is unwarrantable conservatism.

In tuberculosis of bones and joints the conservatives have their best opportunity, but they have carried conservatism to such an extreme that surgeons are prone to become radicals. Between the conservative who never operates and the radical who always operates in these cases, the progressive surgeon scarcely gets an opportunity to demonstrate what can be accomplished. In at least 75 per cent. of the cases of bone and joint tuberculosis the tendency is toward self-limitation of the disease and ultimate recovery with deformity. The conservative assists Nature, relieving suffering and preventing deformity by means of mechanical appliances, but he very frequently fails to obtain the best results by continuing his mechanical treatment when a surgical operation is clearly indicated. He too frequently allows a tuberculous abscess in an epiphysis to break through into a joint and destroy it when an operation would have saved it. He often allows tuberculous abscesses to burrow extensively when they could be better treated by surgery. He pulls and stretches for months at contracted muscles and tendons by mechanical means when a knife would overcome the deformity in a few minutes. He often allows patients to go on from bad to worse under conservative treatment until they die from exhaustion or general tuberculosis, when timely erasions, excisions or amputations would have restored them to health.

If from a surgical standpoint we thus condemn the conservative for his sins of omission, how much more must we condemn the radical for his sins of commission; for the former is not a surgeon in the common acceptance of the term, while the latter is classed as one because he is constantly performing operations. The radical is one who believes that operations are the whole of surgery and that any one who can secure primary union of wounds most of the time is a surgeon. His existence is due to the fact that our modern technic makes it possible to invade all parts of the body with impunity. He often announces himself as a specialist in surgery without having had sufficient training to justify any such step, and too often secures patients by dividing fees with that class of practitioners who have a higher regard for their own pocket-books than they have for the welfare of their patrons. He frequently performs unnecessary and even unwarrantable operations, and often when an operation is indicated fails to relieve the patient of his suffering because the surgeon's ignorance and inexperience prevent him from recognizing pathologic conditions or from removing them when found. He classes every operation from which the patient recovers as successful, regardless of whether any good has been accomplished or not. Every surgeon is consulted by a host of people who have been advised by the radicals to submit to all manner of operations for which there is no indication and for which very frequently positive contra-indications exist. The radical, for want of surgical training and experience, as a rule, does not perform radical operations. He is very apt to remove the stones from the gall bladder and leave those in the common duct. He removes the prominent part of a malignant growth, leaving the outlying parts and the neighboring lymphatic glands. The sins committed by the radical are legion, but time will permit mention of only the most common ones.

Gastroenterostomy was recently spoken of by an eastern medical man as "that great western fake," because it has been performed for all manner of stomach symptoms, when stenosis did not exist or when the operation could not rationally be expected to do any good. Every surgeon knows of some unfortunate victims who regret that the operation was not fatal, because it not only failed to relieve the original symptoms but caused many new ones by disturbing Nature's anatomic and physiologic arrangements.

The floating kidney is often anchored when, because of a general ptosis of the abdominal organs, there is no possibility of relief.

The radical surgeon frequently removes the appendix for insufficient reasons because it is such a common offender that people are very ready to accept a diagnosis of appendicitis on a very small array of symptoms.

It is no longer popular to remove ovaries for every pelvic pain, but many healthy or but slightly damaged tubes are being sacrificed on the altar of radicalism.

Plastic operations on the uterus and vagina, which can be so helpful when indicated and properly performed, are being discredited by imperfect and unnecessary operations.

This is not the wailing of a pessimist, but it is a note of warning from an optimist who hopes for better things and would like to see them brought about through the influence of the medical profession. Surgeons, no matter how honest and scientific they may be, can not bring about this reform alone, for their motives are apt to be misconstrued by the very ones they would help. With the aid of their best friends, the honest scientific physicians, however, it should be possible.

Medical men are only human beings and perfection can not be expected of them, but they have the health and lives of the people under their care and should therefore attain the highest degree of excellence attainable by man. It is the privilege of every graduate in medicine to aspire to become a surgeon, but the surgeon requires special training and no one should be allowed to practice surgery who has not had this training, for it is within the reach of all. A few weeks in a postgraduate school will not make a surgeon any more than it will make any other specialist, but there are plenty of openings in hospitals and as assistants to enable every man who so desires to obtain the required training. It is a deplorable fact that such a spirit of commercialism pervades our western colleges that it is difficult to fill these places satisfactorily. The graduates all want to begin practice at once and most of them want to do surgery.

We all know that evils do exist in the profession, and as a duty to ourselves as well as to the community we should give them publicity and stamp them with our disapproval. We of the profession have made no effort to conceal them, but have assumed the same attitude toward offenders within the profession that we have toward those outside, feeling that when the laity insist on being imposed on, we can not help it; but we, by virtue of our superior knowledge, have no right to allow them to be imposed on even when they insist. Our tolerant attitude is no longer tenable because these evils are growing, and unless we are outspoken in denouncing them the whole profession will be condemned for the sins of the few. When the laity wake up, as they surely will in the near future, they are liable to have drastic laws enacted which will overshoot the mark and be a serious handicap to legitimate surgery. It behooves the profession, therefore, to give these grave matters careful consideration and to map out a definite course for their suppression. A mere hue and cry will do no good, but will only lead to controversy and discredit.

It is much easier to point out evils than to suggest remedies for them; but when the profession does take concerted action in these matters the question naturally arises: Shall we undertake to control them by legislation or by education? The tendency at the present time is to control everything by legislation, and the consequence is that we have more law and less justice than ever before. Our Minnesota law governing the practice of medicine is considered one of the best, and it has been a most potent influence in raising our educational standards; but it fails to protect the public from those within the profession whom, for want of a better name, I have designated as "radicals," and from those outside the pale whom we term "quacks." High-minded men who wish to enter our medical societies and to have professional standing go before our Board of Medical Examiners for license to practice, and many of them fail; but the quacks begin practice without any such formality and the board seems to be unable to stop them. The quacks are beyond our jurisdiction and we should not be held responsible for them; fortunately for mankind, they rarely undertake surgery. The offenders within the profession are often a greater menace than the quacks because of their greater undertakings, and for these we should be held responsible until we have exhausted every possible means for their control. Laws have been successful in requiring a diploma before granting a license to practice, so that it is now practically impossible to practice without one. It would seem, therefore, that laws requiring, in addition to the degree of M.D., a definite amount of experience either as hospital interne or as an assistant, before license to perform major operations is granted, would be helpful, and such laws would come with better grace through the influence of the profession than from outside. Such laws would wrong no one, but, on the contrary, would be helpful to all, for surely any one undertaking surgery can practice it more successfully for himself as well as his patient after he has had proper training. Such additional laws would doubtless be helpful, but it would be better to secure the desired end by making the necessary training a part of the college course. Every medical college now requires so much laboratory work that it takes half a student's time, leaving him very little more time to study the practice of medicine and surgery than he had when the requirement for graduation was but two years. Life is short and a man can not afford to spend any more time in college for theoretical training than is now required by our high-grade institutions, but he can well afford the time for practical hospital experience, and if he will not choose this as an elective it should be made obligatory.

The matter of fee-splitting may not be a crime, but it is based on deception and offers a premium on incompetence. When this is the basis on which a case is referred, the question in the mind of the one who refers it is not, "Who is the most competent man to whom I can refer this confiding patient?" but "Who will give me the biggest rake-off?" It is not, "Who will give the patient the best return for his money?" but "Who will put most of this patient's money into my pocket without my having earned it and without his knowledge?" This is not a matter for legislation, but is one to be controlled by medical societies and through education of the rising generation of medical men. Our medical organizations should be so perfected that any one who makes merchandise of his patrons can no longer have the semblance of respectability in the profession. We all know who do this; why not be outspoken about it? Why not separate the sheep from the goats? Publicity is the surest cure.

It is our duty to teach our students and young practitioners that this practice is morally wrong; that the teachers and practitioners who are held in the highest respect by the profession are not guilty of this practice, and that they who are entering on professional life must not be if they hope to be classed with the leaders; that it is not a good business proposition because it is based on duplicity which is sure to become known sooner or later. We should teach our students practical ethics, not an obsolete, impractical, written code, however, altruistic it may be, but the "golden rule" which always has been and always will be practical.

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ELECTIVE CESAREAN SECTION *

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It is proposed to discuss in this paper the Cesarean section as an operation of choice, and more especially the advisability of performing this operation on patients who are usually delivered by so-called minor operations or by unaided natural forces after prolonged labor.

In reaching correct conclusions, the mortality and morbidity of both the child and the mother are the important factors. Heretofore too little attention has been paid to the life of the child, and too little to the morbidity of both the mother and the child.[1] This is a question not only of motherless children, but a question also of invalid mothers and idiot children. That a mother gets through labor with her life and that the babe be born alive is not sufficient. The aim should be to conduct the labor so that neither shall be harmed thereby. There must be nothing in the labor *per se* which will prevent the mother from complete recovery or the child from developing into a normal human adult.

Let us first inquire as to the infant and maternal mortality attending the high application of the forceps, version and extraction of the child, the induction of premature labor, and the expectant plan in women with narrow pelves. Forceps, version and induction of premature labor, according to Zinke,[2] result in a maternal mortality of 10 per cent. and a fetal death rate of 50 per cent. Reimann[3] says that with proper precautions the high application of forceps results in no maternal mortality and in a fetal mortality of 10 per cent. E. P. Davis[4] places the maternal mortality at 58 per cent. and the infant mortality at 15.63 per cent. He says that "the high application of the forceps is especially dangerous for the child in contracted pelvis." In the Breslau clinic the high application of the forceps showed no maternal mortality which could be traced directly to the use of the forceps, but a fetal mortality of 31 per cent. Induced labor in this clinic resulted in a maternal mortality of zero and a fetal mortality of 28 per cent. In the Berlin, St. Petersburg and Budapest clinics the maternal mortality in high forceps ranges from zero to 6.5 per cent. and the fetal mortality from 20 to 30 per cent. According to Lusk,[5] the fetal mortality in "slightly contracted pelves" with spontaneous birth is 13 per cent., while Playfair[5] puts it at 20 per cent., and Schroeder says that if the contraction is enough to indent the head of the child 50 per cent. will die. Version in contracted pelvis gives, according to Nagel (quoted by Hirst[6]) a fetal death rate of 25 per cent. or more. According to Hirst[6] the induction of premature labor two to four weeks before the expected termination of pregnancy in patients with a conjugate diameter not lower than 9.5 cm. entails no additional risk to the child if conditions are such as to permit it to have the best care, and is followed by no maternal mortality in his experience in private practice. He calls attention, however, to the fact that in the discussion which occurred at the International Congress in Amsterdam in 1899 the maternal mortality was acknowledged to be 1 per cent., and the infant mortality was given by Barnes as 33 per cent., by Bar and Herzman as 26 per cent., and by Becker and Black as 50 per cent. In cases of normal pelvis the fetal mortality following the use of forceps is, according to Leisenwitz[7] (quoted by Davis in the article already referred to), 14.28 per cent. Leisenwitz also states that he found practically the same results following use of forceps with the head in the pelvic cavity and at the brim. Eliminating all but mechanical complications, he found a fetal mortality of 10.68 per cent. and a maternal mortality of 0.58 per cent.

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* Read before the Southern Surgical and Gynecological Association, St. Louis, Dec. 16, 1908.

[1] I regard craniotomy on a living viable child (unless it be a monster) as an entirely indefensible procedure, the opinions of Katz, Pfannenstiel, and others (mostly Germans) to the contrary notwithstanding.

[2] President's address at twenty-first meeting of Am. Assn. of Obst. and Gynec., Baltimore, Sept. 22, 1908.

[3] Prog. Med., September, 1908.

[4] Prog. Med., September, 1908.

Let us now consider the question of morbidity of mother and child in this same class of cases. Again we turn to Davis' review of the literature in *Progressive Medicine*, and find that Leisenwitz says that 73.6 per cent. of the mothers were injured to such an extent as to require suture, the injuries including those to perineum, bowel and bladder. Aside from fractures, the percentage of which he does not give, he found that 5.45 per cent. of the children had facial paralysis and 1.15 per cent. had paralysis of a nerve plexus.

Riemann[8] gives the particulars of the use of the high forceps in 100 cases in Baumm's clinic. Of the women, 16 per cent. had a febrile puerperium and in 7 per cent. there was serious injury of some kind, while of the children 22 per cent. were born dead and 10 per cent. were seriously injured. Instrumental interference is assigned by Suttleworth[9] as the cause of idiocy in 29 per cent. of the cases admitted to the Royal Albert Asylum. Down[10] says that in 20 per cent. of 2,000 idiots examined by him there was evidence of suspended animation at birth. Crichton Browne[11] also emphasizes protracted and abnormal labors as a cause of idiocy and other mental diseases. An examination of the birth records of the Indiana School for Feeble-minded Youths, kindly made for me by Dr. H. K. Monser, shows that the percentage of difficult labors in 727 cases in which the birth record is given is 11.69, including all the grades, and of the epileptics there is a history of difficult labor in 17.64 per cent. of the cases. The investigations of Carmichael[12] and others show that cerebral hemorrhage in the newborn is due not to instrumental aid in delivery, but to the conditions which made such aid necessary. Of 14 cases of cerebral palsy studied by Carmichael, in all but 2 the labor was long, and in 8 there was marked asphyxia. He regards asphyxia as the existing cause and cranial compression as the contributory cause.

As pointed out by Frazier,[13] if these children recover from the immediate effects of the hemorrhage they almost invariably suffer permanent physical disability, and it is said that in 30 per cent. epilepsy develops. McIlrath[14] found that of 250 cases of infantile convulsions, abnormal labor was the cause in 10 per cent. Kulnig, Gowers and others have emphasized the close relationship between congenital palsies and epilepsy, which, taken together with the close relationship known to exist between birth injuries and congenital paralysis, increases the importance of prolonged and difficult labor as a cause of epilepsy.

Summarizing the foregoing figures, we find that the average maternal mortality resulting from high forceps, version, induction of premature labor and expectancy as given by fifteen authors is 1.14 per cent. and the fetal mortality 17.3 per cent., while from these same figures we find that there was serious maternal morbidity in 42 per cent. and a serious fetal morbidity of 12.3 per cent., not including the fractures of the skull in Leisenwitz's figures.

It is well to recall here the opinion of Frazier, above noted, that the children who recover from cerebral hemorrhage invariably suffer permanent physical disability, and that in 30 per cent. epilepsy develops.

Through private correspondence I have collected from thirteen operators reports of 126 cases of elective Cesarean section done on uninjured, uninfected, unexhausted women. Four were done for tumor of the pelvis; the tumor was removed at the same time the Cesarean section was done in 3 cases, and in 1 this point is not covered in the report. Six were done for placenta prævia, 3 for eclampsia, 1 for rigidity of soft parts in a primipara, 1 for uterine distortion due to ventrofixation. The remaining 110 were done for contracted pelvis. In this series of cases there were 4 maternal deaths (3.1+ per cent.), 4 fetal deaths (3.1+ per cent.), 17 cases of morbidity in the mothers (13.49+ per cent.), and no fetal morbidity.

Summarizing these figures, as was done in those given concerning forceps, version, etc., and eliminating 4 fetal deaths which were in no wise due to the operation, and 2 maternal deaths due to uremia, but including 1 maternal death following the removal of a tumor plus Cesarean section, which death might with equal fairness be attributed to the removal of the tumor, and we find that we have a maternal mortality of 1.58 per cent. for Cesarean section, as compared with a mortality of 1.14 per cent. for high forceps, version, etc.: a fetal mortality of zero for Cesarean section, as compared with a mortality of 17.3+ per cent. for high forceps, version, etc.; while the maternal morbidity in Cesarean section is 12.69 per cent., as compared with a maternal morbidity in high forceps, version, etc., of

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[5] Dorland: Modern Obstetrics, p. 572.

[6] Text-Book of Obstetrics, p. 516.

[7] His conclusions are based on a study of 27,238 labors, in which the forceps were used in 2.55 per cent. of the cases.

[8] The Journal A. M. A., 1907, xlviii, 2082; abstr. from Monatschr. f. Geburtsh. u. Gynäk., xxv, 1554.

[9] Brit. Med. Jour., Jan. 30, 1886.

[10] Tr. Obst. Soc. London, December, 1876.

[11] West Riding Lunatic Asyl., i and ii.

[12] Scottish Med. and Surg. Journal, June, 1906.

[13] Prog. Med., March, 1907.

[14] Prog. Med., March, 1908.

42 per cent.; and the fetal morbidity in Cesarean section is nil as compared with a fetal morbidity, in many instances worse than death, of 12.2 per cent., excluding the skull fractures in Leisenwitz's cases. These cases have been tabulated, and the table is appended, as it contains some details which are not mentioned in the paper.

TABLE OF INDICATIONS AND RESULTS IN 170 CASES OF CESAREAN SECTION*

Name of Operator.	Cases.	Indications.	Deaths, Maternal.	Deaths, Infantile.	Morbidity, Maternal.	Morbidity in Child.	Remarks.
J. G. Lynds, Ann Arbor.	3	Placenta prævia, 1; narrow pelvis, 1.	0	0	?	?	One patient since confined and again pregnant.
J. B. DeLee, Chicago.	19	Mechanical disproportion, 13; Vag. stenosis antefixation, P. prævia, pelvic tumor, each 1; eclampsia, 2.	2	2	9	0	Two stitch abscesses; 4 mothers had fever, 1 had jaundice, 1 temporary ileus, 1 had hernia following second section. Operated second time on 2. One death from eclampsia. The patient in one tumor case died. Fetal deaths, 2, 1 due to ignorant assistant, and 1 child was diseased at birth from hypotrophidism in mother.
W. J. and C. Mayo, Rochester, Minn.	2	Not given.	0	0	0	0	
J. H. Carstens, Detroit.	5	Pelvic deformity, 4; tumor, 1.	0	0	0	0	
W. A. Newman Dorland, Philadelphia.	2	Immature mother, 1; rachitic pelvis, 1.	0	0	0	0	
J. F. Baldwin, Columbus, O.	10	Contracted pelvis.	0	0	0	0	One pair twins.
S. J. Goodwin, Columbus, O.	1	Contracted pelvis.	0	0	0	0	
E. H. Grandin, New York.	3	Not given.	1	0	0	0	Death due to uremia.
Joseph Price, Philadelphia.	4	Malformation, 3; eclampsia, 1.	0	0	0	0	
E. P. Davis, Philadelphia.	44	Disproportion between child and mother.	1	0	5	0	One hematoma. One odorous vaginal discharge. Three stitch abscesses. Silk for sutures and ligatures. Death due to peritonitis of unknown source. Two patients delivered second time, and in both hysterectomy done.
Miles F. Porter, Fort Wayne, Ind.	2	Pelvic tumor, ovarian, 1; placenta prævia, 1.	0	0	0	0	In the tumor case patient was multipara, but after delivery of tumor it was thought better to deliver child by section. This woman has since been delivered normally. In the placenta prævia case the patient was primipara operated after only two vaginal examinations, and after one fairly free hemorrhage. Dr. L. P. Drayer was the physician in charge in this case, and it was he who made the diagnosis and advised the operation, and to him belongs the credit for the fact that this patient is to-day the mother of a hearty baby.
A. P. Condon, Omaha.	5	Placenta prævia, 3; fibroid, 1; narrow pelvis, 1.	0	2	?	?	One child lived 18 and 1 48 hours after delivery; 1 delivered at 7 months. One placenta prævia patient has since been delivered normally.
F. S. Newell, Boston.	26	Rigid soft parts, elderly primip., 1; disproportion, 25.	0	0	3	0	In 3 cases the operation performed was the second or third section; 2 other patients were subsequently delivered by section by other operators. One patient had ether pneumonia, 1 a phlebitis, and 1 had eclampsia and during convulsion opened wound and extruded bowels, but recovered.
E. G. Zincke, Cincinnati.	7	Rachitic dwarf, flat rachitic pelvis, kyphoscolic-rachitic pelvis, each, 1; cicatricial contraction, and generally contracted pelvis, each, 2.	0	0	0	0	One patient subsequently delivered with aid of induced labor at thirty-fourth week. Both mother and child living.
Rudolph W. Holmes, Chicago.	4	Contracted pelvis in all.	0	0	1	0	Second successful section done in one case.
E. J. Ill, Charles Ill, Dr. Gunther, Newark, N. J.	33	Ventrofixation, 5; carcinoma, 1; contracted pelvis, 11; eclampsia, 13; myofibroma, 1; Cic. contraction vagina, 1; artificial anus, 1.	6	9	?	?	Of the maternal deaths, 1 was due to sepsis present at the time of the operation, which was done after forceps and version had both been tried and failed, 2 were due to eclampsia, which was the indication for which the operation was done; 1 death from sepsis occurred in a case of deformed pelvis with albuminuria; 1 death occurred in a patient operated on for concealed hemorrhage with cicatricial contraction of the vagina, and 1 in a case of narrow pelvis in which the cause of death is not given. Of the fetal deaths, 7 occurred in utero, and the remaining 2 in children born of mothers in eclampsia. One woman who was operated on twice, and who, prior to the first section, had been delivered 4 times of still-born babies, has 2 living children. One of the women operated on has since been confined twice normally, and 1, once.
Total	170		10	13	18	0	

* With the addition of reports from Drs. Zinke, Ill, and Holmes, received after the paper was written.

The possibility of error in drawing conclusions from so small a number of cases (126) is fully recognized, but inasmuch as the mortality and morbidity as arrived at from these cases agree closely with the opinions of a large number of men of experience on these same points, I think that the deductions above given may be regarded as practically correct.

In recent private letters the Mayos, Newell, Price, Hirst, Dorsett, and Grandin express the opinion that Cesarean section done under favorable circumstances by competent operators should give practically no mortality nor morbidity. Condon places the maternal mortality at 2 per cent. The following are some of the opinions expressed in personal letters to me:

Lynds of Ann Arbor says: "It would seem as though the operation (Cesarean section) done under fairly favorable circumstances is comparatively safe and possibly should be done for placenta prævia oftener than it is done at present."

Hirst says: "As between high forceps and version in primiparæ, and Cesarean section, the expert abdominal surgeon would get the best results with the last, even though he were also an expert in the other operations; but this would not apply, of course, to the general practitioner."

Newell of Boston, speaking of Cesarean section, says: "In the first place the elective operation done before labor, in the absence of complicating disease, with the patient in good condition, is, in competent hands, a safe surgical procedure, and I believe the morbidity in these cases is very slight and certainly very much less than could be claimed for the ordinary obstetrical operation in the same class."

De Lee thinks that "Cesarean section ought to have a wider field and should replace many of the brutal forceps and version operations."

According to Davis, "Elective Cesarean section by competent operators, on uninjured and uninfected patients in good condition, gives at the present time the best chance of life and health to mother and child in cases where mechanical disproportion or physiologic incompetence to endure labor are markedly present."

Eliminating those deaths for which the operation was in no way responsible, we find that the maternal mortality of Cesarean section in Schanta's[15] clinic is 2.85 per cent. Kerr's[16] mortality is 6.6 per cent. in 30 cases. Leopold's[17] 4.9 per cent. in 229 cases, while 80.8 per cent. of the children thus delivered lived to be 8 years old. Wallace[18] reports 15 cases with neither fetal nor maternal mortality. He has done 16 operations in all, in 1 of which the patient died from sepsis due to attempts at delivery before section was done. Zinke, in his paper above referred to, says: "Zweifel is credited with 55 Cesarean sections with the loss of only 1 mother, Schauta with 111 Cesarean sections and but 1 maternal death. The latter operated 75 times for relative indications and all mothers lived." Dr. Zinke, in a private letter, reports 7 clean cases of Cesarean section without a death. His maternal mortality in high forceps is 8 per cent., in prophylactic version 3 per cent. His fetal mortality in those operations is 12 per cent. and 23 per cent. respectively, and the maternal morbidity 40 per cent. and 35 per cent. Further proof of the facts deduced from the cases in the table is unnecessary.

As for maternal morbidity in such cases, there can be no doubt that it is less after Cesarean section than after the other methods of delivery under discussion. So far as concerns the child there is no method of delivery which subjects it to as little risk as does Cesarean section.

In the treatment of placenta prævia, version, metreurysis and the use of Bossi's dilator are the methods preferred at present. Bossi's dilatation has failed to reduce either maternal or fetal mortality, and adds materially to morbidity of the mother as compared to other methods of dilatation. According to Zinke, the various methods above mentioned result in a maternal mortality of 8 per cent. and a fetal mortality of 70 per cent. Hirst places the fetal mortality at 50 per cent. Holmes,[19] in a paper in which he attempts to show that Cesarean section is improper in placenta prævia, gives the fetal mortality under so-called obstetric treatment as 54.1 per cent. and the maternal mortality as 7.36 per cent. He further states that Cesarean section in placenta prævia has reduced the fetal mortality 30 per cent., but has raised the maternal death rate threefold.

Let us stop for a moment to weigh those statements. In estimating the value of the child's life as compared with the mother's, it is entirely proper to consider the fetal deaths that occur within a few days or less than two weeks after the delivery, but to attribute those deaths to the operation *per se* is wrong and misleading. In deciding the method to be pursued it is also necessary to consider the maturity and vigor of the child, but these questions should be kept separate and distinct from risks to the mother and child from the methods of delivery themselves if we are to arrive at correct conclusions. I take it that one would be justified in adding a very slight risk to the mother's chances by choosing a method which would entail no risk to the child, in preference to a method under which the child would have less than once chance in two of being born alive, and would add little or nothing to the mother's chance of recovery. It can be proved by the statistics at hand that no method of delivery gives the immature or weakly child so good a chance to live as does Cesarean section. In the 126 cases of Cesarean section which I have collected and made use of in the first part of this paper there were only 4 fetal deaths, and not one of them in the remotest way due to the method of delivery. According to those same statistics, the maternal death rate in Cesarean section all told is 4 in 126 cases, or 3.17 per cent. One of those deaths was due to eclampsia and one to uremia, leaving 2 deaths in 126 cases, or 1.58 per cent., due to the operation—a death rate of less than one-fourth of that given by Holmes for "obstetric" methods.

Macan, in his paper read before the British Medical Association[20] on "The Treatment of Accidental Hemorrhage," says that "from his personal experience he is entirely in favor of preferring Cesarean section in these cases in preference to rapid dilatation of the cervix." "He would favor vaginal Cesarean section." In the discussion which followed the reading of this paper, Kerr of Glasgow and Byers expressed themselves as in favor of Cesarean section, while Galabain "thought that Cesarean section might in some cases increase shock to a fatal issue." Rupture of the uterus in subsequent pregnancies, adhesions and hernia are remote results said to follow Cesarean section that must be considered if we arrive at correct conclusions.

Werth[21] has had 1 case of rupture of the uterus following Cesarean section and has collected reports of 11 others. Prüsman[22] had 1 case occurring in a woman who had been delivered twice by Cesarean section. He says that the mucosa had grown into the cicatrix. His patient was saved by operation. Prüsman says that when his paper was written (1905) but 7 other cases had been recorded. In Davis' review of the literature of uterine rupture[4] appear abstracts of articles from four reporters, giving their personal experience in 29 cases, and from a paper by another in which the statistics of 97 cases are given, and in no case is a previous Cesarean section given as a cause for the rupture. Dr. Zinke informs me in a personal letter that he had had one patient on whom he did a Cesarean section who was subsequently successfully delivered by the aid of induced labor at the thirty-fourth week.

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[15] Neumann, J.: Die Sectio Cæsarea an der Klinik Schauta, The Journal A. M. A., 1906, xlvii, 973; abst. from Arch. f. Gynäk., lxxix, No. 1.

[16] Am. Jour. Med. Sc., September, 1906, 174.

[17] Prog. Med., September, 1908.

[18] The Journal A. M. A., Apr. 13, 1907 abstr. from Practitioner, London, March, 1908

[19] Holmes, R. W.: Cesarean Section for Placenta Prævia an Improper Procedure, The Journal A. M. A., May 20, 1905, xliv, 1594.

[20] Am. Jour. Med. Sc., cxxiv, 360.

[21] The Journal A. M. A., 1905, xlv, 879, abstr. from Berl. klin. Wchnschr., xlii, No. 27.

[22] The Journal A. M. A., 1905, xlv, 1124, abstr. from Ztschr. f. Geburtsh. u. Gynäk., lv, Olshausen Festschr.

I have had one patient, a primipara four and a half months pregnant, from whom I removed a large uterine fibroid which necessitated damage of the uterine wall down to the mucosa over an area larger than the palm of the hand, who delivered herself naturally at term of the child which she was carrying at the time of the operation, and who has since been normally delivered twice.[23] I also had another patient on whom I did a Cesarean section following the removal of an ovarian cyst, and who has since been delivered without accident. It is well to recall just here that rapid dilatation is much more likely to produce rupture of the uterus in placenta prævia than in cases of normal implantation, because of the increased friability of the uterine tissues at the placental site as compared with the tissues at a distance. Davis[4] has had 1 fatal case following the use of Bossi's dilator. Winter (quoted by Davis[4]) reports 4 cases, 2 of which were fatal. In 1 spontaneous expulsion occurred after version, in 1 version and extraction was done, in 1 the child was expelled largely by abdominal pressure after version, and in the other five minutes were occupied in bringing the head through the cervix. Lea[24] reports a fatal case in which version and extraction of a seven months' fetus was done.

Considering the sparsity of cases of rupture of the uterus reported as following Cesarean section and myomectomy and the results of muscle suture in general, the conclusion seems warranted that the danger is so slight that it may be disregarded, save in cases of unusual obstruction to the passage of the child due to narrow pelvis, large child, or other cause, in which cases subsequent pregnancies should be prevented by removal of the tubes, or a Porro operation, or the woman should again be delivered by Cesarean section, as the exigencies of the case demand.

So far as concerns adhesions, it may be said that, because of the size of the uterus immediately following delivery, they are more likely to form between this organ and the abdominal wall after Cesarean section than after any other operation save ventrosuspension or ventrofixation, but that troublesome adhesions are likely to form after section, there is no reason to believe.

The accumulated experience of competent operators warrants the assertion that the danger of hernia is practically nil. That the danger of Cesarean section is not materially increased by some hours of labor in the absence of infection, I am convinced. That infection increases the danger of Cesarean section more than it increases the danger of obstetrical operations is not proved. Hirst (who has done 80 Cesarean sections, with 5 deaths), in his letter says: "My recent experience convinces me that Cesarean sections may be done with impunity after hours of labor, if the woman is not infected and the technic of the operation is as good as it ought to be; the mortality even in infected cases need not necessarily be excessively high."

We are warned by many writers that there is danger of having unnecessary Cesarean operations if we emphasize the lack of danger in favorable cases. This danger is a real one, perhaps, but that it is as great as is that arising from the all-too-prevalent notion that high forceps, version and other obstetric operations require no particular skill lacks proof.

The point I wish to make here is that the so-called obstetric operations require for their proper conduct just as much skill as does Cesarean section. Indeed, I am of the opinion that the inherent difficulties of the obstetric operations are greater than are those of Cesarean section. All the operations under consideration require skill and judgment, and it is little short of criminal for one who is not possessed of both to undertake any one of them.

The following conclusions are presented:

1. In patients with contracted pelves, Cesarean section should supplant the obstetric operations in many cases and practically always in primiparæ.

2. In placenta prævia centralis Cesarean section should be the operation of choice if the child is viable.

3. In eclampsia occurring at or near term in a first pregnancy, Cesarean section is the best method of delivery, except in cases where the child is relatively small, or the vagina and pelvis capacious, when Dührssen's operation might be given the preference.

4. Women requiring abdominal section at term for the removal of uterine or ovarian tumors should be delivered by Cesarean section immediately before or after the tumor is removed.

5. In the case of an elderly primipara at term with a vigorous child, with a normal pelvis, but with rigid soft parts, who is unusually sensitive to pain, whose nervous equilibrium is unstable, and whose physical condition is below par, Cesarean section done before labor has begun or at its very beginning offers a better chance of life and health to both mother and child than the so-called conservative operations.[25]

6. It is not to be forgotten, of course, that one of the chief arguments in favor of Cesarean section as against other operations is the fact that it entails no risk to the child; hence, in case of a dead or dying child this argument carries no weight and, therefore, it will not infrequently happen that because of a dead or dying child a conservative method will be better in a case which, were the child vigorous and viable and the other conditions the same, Cesarean section would be the better method.

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THE INFLUENCE ON THE NOSE OF WIDENING THE PALATAL ARCH.*

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The relation between nasal obstruction and malformation of the jaws and teeth has long been considered by both the dental and medical profession.

Only recently has the proper attention been given to the removal of nasal and postnasal obstruction before correcting deformities of the jaws and teeth. To-day there is much written on this subject, and general practitioners of medicine are referring their little patients to specialists practicing rhinology and orthodontia.

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[23] Ann. Gynec. and Pediat., February, 1902.

[24] Am. Jour. Med. Sc., cxxx, 360.

[25] In this connection I refer the reader to Newell's paper (Am. Jour. Med. Sc., October, 1908) on The Effect of Overcivilization on Maternity, which was not published until this paper was well along. The class of patients referred to in conclusion 5 of my paper do not always belong to the "overcivilized" class.

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The patients are sent first to the rhinologist and then to the dentist. This I believe to be the proper procedure if there is an obstructive lesion in the nose, or the nasopharynx. There is, however, a very common class of cases in which there is an intimate relation between the nose and the palatal arch, the proper treatment for which is not always given due consideration.

I refer to those cases in which there is constriction of the nares, with a narrow palatal arch, without a pathologic obstructive lesion in the nose. With many of the cases in the class first mentioned where nasal or postnasal obstruction exists there is also a lack of development of the nasal bones that has much to do with imperfect nasal breathing. What I have to say about the second class of cases, that is, those without obstructive lesions in the nose or nasopharynx, with normal turbinates, applies also to the class of cases just mentioned.

In order that there may be no misunderstanding regarding the kind of cases I place in my second group, let me describe a condition illustrating it, which is not infrequently seen in practice. The patient comes with a complaint of never having breathed well through the nose. Examination of the nose shows turbinates normal in size and structure, septum slightly deflected, as is usually the case in all noses, or markedly deviated, no exostoses, but the inferior turbinates pressing against the septum, or against the floor of the nose, or usually both, which is, of course, an abnormal condition. Adenoids may be present, but their removal does not give the usual relief. The palatal arch is constricted, and, of course, there are malpositions of the teeth.

I have patients fifty years of age with the conditions above described, who have never had proper nasal respiration, and in whose cases no operative procedure on the nose is indicated. In many cases like these, turbinates have been entirely removed in the effort to secure breathing space. This procedure, because of its serious sequelæ, is never indicated except for diseased turbinates. The respiratory function of the nose may be lost by such a procedure. Even if performed, it does not give good results so far as the breathing is concerned, because the anterior nares are so slit that in respiratory effort the alæ of the nose are brought against the septum, and nasal occlusion, in part at least, produced.

If the nose is constricted because of a narrowing of its walls, what is the rational therapy? The only answer possible is this: The nasal walls should be separated and the cavities thus widened.

This can be accomplished in only one way, and that is by widening the palatal arch. That the nose is widened by this procedure we all know. We have all had patients who have told us that widening the arch has improved nasal respiration.

Notwithstanding this well-known fact, I doubt if a great number of patients are referred to the dentist for preliminary widening of the arch before attempting to improve nasal respiration by septum operations or other intranasal operations. These measures are rather resorted to first, and the patient sent to the dentist later.

This is not the correct procedure. If the case is not a typical case of the second class— that is, if there is a pathologic growth obstructing the nose or nasopharynx— this should be removed first, because we should hasten to improve breathing by all proper means, and then widen the arch.

If the nasal operation should take much time, the operation on the palatal arch should be done at the same time. There is no excuse for intranasal work being done in a typical case on a patient with normal turbinates and septum before the orthodontist has accomplished what he can by widening the palatal arch. This procedure is one I think we hear too little about.

It is well known that a dentist should send his patients with nasal obstructions to the rhinologist. It is equally important that the rhinologist send every patient with contracted arch to a dentist.

For many years it has been my practice to send all my younger patients suffering from interference with nasal respiration to the dentist. I believe that this should always be done. Even if the palatal arch is not constricted, there may be other conditions which, if relieved in time, will save the patient great annoyance in years to come.

I have found it exceedingly difficult to measure in the living subject the increase in size of the nares secured by widening the palatal arch. There is no question but that it occurs. With the widening of the nose and consequent increase of nasal respiration the turgescence of the mucosa so common in constricted noses is improved and the breathing still more benefited.

Wishing to ascertain the actual change that may be made in the osseous walls of the nose itself by a widening of the palatal arch, I asked Dr. G. V. I. Brown, of Milwaukee, to widen the arch of a green skull. I made measurements before and after widening, using a very simple instrument, which I believe will serve for intranasal measurements in the living subject.

The following are the intranasal measurements before and after the widening of the palatal arch:

1. Distance across the posterior nares just posterior to the inferior turbinates: before widening, 32 mm.; after widening, 34 mm.

2. Distance across the posterior nares just above the posterior ends of the middle turbinates: before widening, 23 mm.; after widening, 24.5 mm.

3. Distance from the vomer to the outer wall of the nose in the posterior nares half way from posterior end of the inferior turbinate to the floor of the nose on the left side: before widening, 17 mm.; after widening, 18.5 mm.

4. Same measurement on the right side: before widening, 24 mm.; after widening, 24 mm.

5. Distance between the anterior attachment of inferior turbinate in inferior portion of the middle meatus of the same point on the opposite side: before widening, 23 mm.; after widening, 25 mm.

6. Distance between vomer and inferior turbinate at narrowest part of the inferior meatus, left: before widening, 6 mm.; after widening, 7 mm.

7. Same measurement on the right side: before widening, 8 mm.; after widening, 9 mm.

These measurements speak for themselves. Not only is there a widening of the inferior meatus, but of the middle. Consequently the beneficial results are not confined to the respiratory function of the nose, but there is an improvement in the drainage from the sinuses. Pressure in the upper portion of the nose, with its numerous reflex troubles, may be relieved.

The beneficial influence of improvement of nasal respiration in the general condition of patients is well known. I have had patients that have exhibited as much and similar improvement after widening the palatal arch as others have shown after the removal of adenoids.

12½ South Clinton Street.

THE RELATION BETWEEN DEVIATION OF THE NASAL SEPTUM AND IRREGULARITIES OF THE TEETH AND JAW

FROM A RHINOLOGIST'S STANDPOINT *

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My attention was first directed, in 1899, to the relationship between deflected nasal septums and jaw irregularities by the remarkable effect produced in a patient 33 years of age, who presented a very badly deflected septum with a high vault and laterally contracted V-shaped, upper maxilla. The application of a regulating apparatus to bring about proper occlusion of the teeth to secure better mastication of food resulted in the marked relief of the nasal stenosis in regard to which she consulted me.

This led to investigation as to the etiologic factors in the production of deformed nasal septums, with the result of fully convincing me that not only are dental and jaw irregularities a decided factor in the production of deflected septa, but that the complete relief without possibility of return of this distressing condition, when found in conjunction with dental deformities, can be brought about only by first correcting the deformity existing in the superior maxilla.

The etiologic factors producing septal deflection and dental and jaw irregularities are compared in the following tables:

ETIOLOGY OF SEPTAL DEFLECTIONS	ETIOLOGY OF DENTAL AND JAW IRREGULARITIES
PREDISPOSING FACTORS	PREDISPOSING FACTORS
Heredity.	Heredity.
Racial characteristics.	Racial characteristics.
Admixture of racial types.	Admixture of racial types.
Some defects in primary laws of organization.	Some defects in primary laws of organization.
Diathetic or constitutional disorders:	Diathetic or constitutional disorders:
Rachitic.	Rachitic.
Syphilitic.	Syphilitic.
Tubercular.	Tubercular.
Traumatism:	Eruptive or infectious diseases.
In utero.	Local and general malnutrition.
During delivery.	Mouth breathing.
During early childhood.	Disuse.
Inflammatory processes in nose weakening structure.	Habits:
Local and general malnutrition.	Thumb sucking.
Infectious diseases.	Biting lower lip.
Disease of the teeth.	Resting tongue between upper and lower lip.
Degeneracy.	Degeneracy.
	Perverted cell action.
ACTUAL FACTORS	ACTUAL FACTORS
Malocclusion.	Malocculsion.
Traumatism:	Premature loss of deciduous teeth.
In utero.	Prolonged retention of deciduous teeth.
During delivery.	Loss of permanent teeth.
During early childhood.	Tardy eruption of permanent teeth.
At any period of life.	Supernumerary teeth.
Local and general malnutrition.	Abnormal frenum labium.
Mouth breathing.	Mouth breathing.
DEVELOPMENTAL FACTORS	DEVELOPMENTAL FACTORS
Unequal development of the vomer.	Overdevelopment of maxillæ.
Underdevelopment of the superior maxillæ.	Arrest of development of maxillæ.
Overdevelopment of superior maxillæ.	Neuroses of development of the maxillæ.
Non-development of septum from disuse.	
FORCE DIRECTLY APPLIED	FORCE DIRECTLY APPLIED
Foreign bodies.	Perverted muscular action.
Nasal growths.	Mastication.
Hypertrophic rhinitis.	Cheek and lip pressure.
	Atmospheric pressure.
FORCE INDIRECTLY APPLIED	
Perverted muscular action.	
Mastication.	
Cheek and lip pressure.	
Atmospheric pressure.	

The etiologic factors above mentioned are all I have been able to gather in the literature of the two subjects at my command, and it will be seen that the majority of factors are common to the two conditions.

A comparison of the tables tends to strengthen the belief that each writer has been justified in his deductions. For instance, in any particular case, some factor was found apparently predominant in the production of the deformity. The author in his eagerness to advance his theory as to the etiology has not given due weight to the other factors which assisted in bringing about the deformity.

Some authors state positively that certain of the factors mentioned are not causative, while others are equally positive that they are.

There is not a shadow of a doubt that the health of the individual is placed in jeopardy by mouth breathing; and it is the consensus of opinion, both rhinologic and orthodontal, that mouth breathing, whatever its cause, must be relieved; also that nasal occlusion (whether it be due to stenosis of the nasal passages or to pharyngeal adenoids) and the teeth and jaw irregularities are as a rule associated to a greater or less degree.

However, the etiology, be it what it may, is of comparatively slight importance. The improvement of the condition of the unfortunate individual is the consideration which demands our attention.

TREATMENT

An unaccountable feature to me in reviewing the literature on septal deflection is the fact that while rhinologists practically as a whole acknowledge the important part which irregularities of the upper maxilla play in the production of septal deformities, they do not apply that knowledge in the treatment of the condition.

Nowhere can I find under the head of treatment any suggestion for the correction of these deformities. It is

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908. Because of lack of space, the article is here abbreviated by the omission of the portion relative to etiology and the quotations of authorities on dental and jaw irregularities. The complete article appears in the author's reprints.

barely possible that the rhinologists are so taken up with the results obtained by submucous resection (which, it must be conceded, are good), and so confined to their own specialty, as to forget or fail to recognize the importance of contiguous structures.

The fact is, rhinologists as a body do not as yet appreciate the benefits that may be obtained by widening the superior maxilla in nasal obstruction of any nature (even in pharyngeal adenoids) except obstruction due to malignant growths.

Those practicing orthodontia have to a large degree had this fact forced on them in the past apparently by accident, in adjusting dental and jaw irregularities, and it is only the more progressive who have applied or attempted to apply this knowledge with its resulting benefits to their patients.

Dr. D. B. Kyle rightly says that of the many operations for the correction of septal deflection, each was suggested by its author for a particular variety of deflection, and that much discussion and confusion has been caused by the fact that other operators adopt the methods for varieties of deflection to which they are not adapted. The results being unsatisfactory, the method is condemned.

The variety of septal deflections is infinite, and although some authors attempt a classification, no two are alike. From my understanding the same may be said of dental and jaw irregularities. As a result no definite rules can be laid down as to treatment, each case being a law unto itself.

OBJECTS TO BE OBTAINED IN TREATMENT

The objects to be obtained in treatment of septal deflection are: First, to establish free nasal breathing; second, to restore the septum to the median line with its surfaces as smooth and even as possible; third, to equalize the space on either side of the septum; fourth, to leave the septum with mucous covering as little injured as possible so that its function may not be impaired.

The first thought that comes to one on looking into a nose having a septum with a marked deflection is that more space is needed, and that something must be removed to obtain this. There is no doubt that there is seemingly superfluous tissue in the largest percentage of these cases when compared to the nasal space in which they are found, but the fact that the nasal space is much smaller than it should be is, as a rule, not taken into consideration.

The removal of tissue, such as turbinates, thickened portions of the septum, or spurs in overcrowded nares, is beneficial. In many instances, however, the removal of too much tissue, which is a fault with many operators, is a real source of danger. To my mind it is far better to attempt to increase the size of the nasal fossæ first, and then proceed to the removal of any superfluous tissue should it be found necessary.

This can be accomplished, so far as my knowledge goes, only by widening the arch of the superior maxilla. This procedure, to be effective in enlarging the base of the nares, *must be essentially different from the ordinary expansion for the regulation of the teeth in abnormal position.*

Expansion of the maxilla relieves the pressure on the septum, which tends to straighten itself; the breathing space is enlarged and allows the nose to functionate. There is an actual increase in the width of the base of the nose. The volume of air inhaled being increased, the static congestion disappears with a reduction in the size of the turbinate bones, resulting in a further increase in nasal space. Adenoids rarely fail to become rapidly smaller after nasal breathing is established.

This state of affairs should be allowed to continue until no further increase in nasal space is noticed and the turbinated bones have decreased in size as much as possible before deciding if any tissue should be removed.

Several dentists have attempted to widen the upper maxillæ of their patients by a slow torturing process of expansion, which exhausted the patience of the individual long before the desired results were accomplished.

Dr. G. V. I. Brown accomplished the results in the case which first started my investigations along this line. He is the only one with whom I so far have come in contact who succeeds in obtaining the results desired.

How he does it he must explain to you. We differ as to how the result is brought about to a certain extent, and I am afraid that I must concede that his theory is correct; that is, the result is produced entirely by separation of the median palatal suture, which is manifested by the increased space between the middle incisors.

My theory is that in addition to this separation there is a real lowering of the vault, the result of an outward tilting of the alveoli. I do not see how the septum can be so materially straightened, which is the case in practically every instance, unless the vault is lowered and pulls the septum down. As a result the patient is, as a rule, so well satisfied with the increased breathing space and relief from the disagreeable symptoms produced by the stenosis and congestion that he considers operative procedure in the nose unnecessary. This, however, is not always so. In some instances removal of a portion of the turbinated bones or a spur or exostosis or a submucous resection of a part of the cartilage is required.

TIME TO OPERATE

The age at which deflection of the nasal septum begins to make itself manifest is somewhat disputed.

Dr. Talbot says that many septums are deformed before the sixth year. The earliest age I have found given by rhinologists is five years and nine months, observed by Bishop.

Lack says:

> Apparently deviations of the septum may be congenital for Anton saw nine instances in 59 infantile skulls, and other less important similar statistics have been published. Zuckerhandl, however, states that septal deviations very rarely occur before the age of seven and Dr. Keith informs me that he has never seen a congenital deflection. As a matter of clinical experience, all forms of septal irregularities are very rare in children. I never have seen a true deviation under the age of six, but have in a few instances, observed small projections or spurs in younger patients.

Freer gives eight years as the age of the youngest patient on whom he has operated.

Dr. Bogue says:

> If irregularities are found among deciduous teeth, irregularities of the same nature, but still more pronounced, may always be expected in the permanent teeth which are to follow these deciduous teeth. If no perceptible irregularities of the deciduous teeth exist, and at five and one-half or six years no separation of the deciduous incisors has taken place, we are certain that development of the arch of permanent teeth has been arrested and that there will be irregularity of the front teeth, because the permanent teeth, being larger than the deciduous teeth, need a larger arch in which to erupt.
>
> It is not wise to attempt to place on any child the burden of overcoming unaided the conditions just described, of insufficient air spaces, accompanied by insufficient room for dental develop-

ment. Teeth, if seriously irregular, can never regulate themselves, and noses insufficiently developed always lead to worse evils as the time goes by.

On the proper formation of the palatine arch and the various sinuses depends the resonance and carrying qualities of the voice, and on the accurate formation of the dental arches and the correct occlusion of the teeth depend the power of clear and distinct enunciation and the power of thorough mastication which means insalivation. This is the first step in the digestive process so important to the health and strength of the individual. It has only recently become known that impending defects of the kind here mentioned may be discovered in early childhood and may be remedied while the bones are in a formative state and the teeth are in process of development. .

Slight wire arches a little wider in circumference than the dental arches of the child should be placed on the undeveloped arches of deciduous teeth, and be allowed to expand until the proper size of the arch or even a trifle larger than is necessary for the normal development of the permanent teeth is procured. This operation should be entirely painless and should occupy but a few weeks in its accomplishment, but when completed it will be found that the nasal stenosis has at the same time been largely or altogether corrected.

The results of Ziem's experiments in producing nasal stenosis in young animals by occluding one-half of the nose artificially are worthy of note in this connection. These results are that the two sides of the nose and adjacent bone tissue develop asymmetrically, that the obstructed half remains undeveloped, and that this arrest of development extends to all the adjacent tissue on that side of the face.

Dr. Kyle, referring to mouth breathing and its resultant developmental deformities, says that unless perfect nasal breathing is established early in life, that is, before the fifth or sixth year or not later than the seventh, the bony cartilaginous framework becomes so firm that little can be done toward increasing the nasal space for breathing and the individual will of necessity be a mouth-breather for life.

Again taking the rhinologic standpoint, this statement seems reasonable, but from an orthodontal viewpoint the situation changes. Gray states:

> The superior maxilla commences to ossify at a very early period, *but the sutures* between the palate processes persist until middle life.

This being the case, the jaw may be widened at any time before this. The necessary nasal space should be obtained first and then, if necessary, remove superfluous nasal tissue after the effect of partially restored nasal breathing has been observed for a time.

Dr. Faught, in the summary of his paper last year, brought up several points, some of which clinical experience seems to contradict.

1. "The result of ordinary expansion operations on nasal conditions is more dependent on vital tissue in the nasal region than mere mechanical movement." This is true in part. The "ordinary expansion operations" are as a rule not sufficient to produce the desired effect of increasing the nasal space sufficiently, but they do tend to stimulate the nose to properly functionate.

2. "Operations designed mechanically to increase the respiratory capacity of the nasal passage are practically valueless, unless the intermaxillary suture is separated, as shown by increase of space between the central incisors." This is true, and is the very reason why so many dentists fail to obtain relief when operating for nasal stenosis.

3. "It is impossible to relieve stenosis due to adenoids or septal irregularities by expansion methods." Clincal results entirely disprove this assertion.

4. "Adenoids and deviations of the septum should receive the usual treatment at the hands of the rhinologist prior to the correction of dental irregularity." This I believe incorrect, as stated earlier in the paper, with this exception: In cases of marked pharyngeal adenoids their removal is demanded previous to any attempt at regulation of dental deformities as this will aid in development of the face.

Dr. Bryant says:

> The course of treatment to pursue if nasal breathing can be maintained is to straighten the teeth first and operate on the nose later if necessary. If nasal breathing can not be maintained, operate on the air passage sufficiently to allow nasal breathing before regulating the teeth. Then regulate the teeth, and, last of all, do the final work of the nose if any further work is required.

WHY SEPTAL OPERATIONS ARE NOT EFFECTIVE

The great reason why septal deformities tend to return is, in the first place, the difficulty in the removal of sufficient tissue to prevent backward pressure on the septum and a consequent return of the deflection. If two little tissue is removed the result is unsatisfactory. In the second place, the main etiologic factor—that is, some dental or jaw irregularity—is overlooked and goes uncorrected. The main factor in the production of the deformity remains with a lessened resistance in the deformed part with a consequent tendency to return. This was much more frequently the case in the days before submucous resection, but to a certain extent still holds good.

Thus the fact is being forced on us that the conditions, normal or abnormal, of one portion of the head and face are dependent on the condition of other portions. The result is the relation of each of the specialties with the other must be recognized, and specialists, instead of drawing imaginary circles around their respective provinces and saying to themselves, "Thus far must I go and no farther," and to their neighbors, "Thus far may you come and no farther," must accept the results of the study and clinical experience of specialists in other branches and cooperate with them for the good of the patient. The time is past for thinking that in one particular field of medicine or surgery the whole cause may be found; on the contrary, the causative factors may be very complex.

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[THE ARTICLES BY DRS. DEAN AND BLACK WERE IN A SYMPOSIUM WITH ARTICLES BY DRS. TALBOT AND BROWN. THE REMAINDER OF THE SYMPOSIUM, INCLUDING THE DISCUSSION, WILL APPEAR IN THE JOURNAL NEXT WEEK.]

PERIPHERAL AND INTRACRANIAL NEUROFIBROMATOSIS

OR FIBROMA MOLLUSCUM, VON RECKLINGHAUSEN'S DISEASE; WITH REPORT OF A CASE *

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Extensive and satisfactory contributions to the literature of neurofibromatosis have been made, particularly from the pathologic standpoint, but the clinical findings in intracranial cases have not been emphasized enough, I think, to be clear even to neurologists. Textbook literature on the subject is decidedly sparse. A short survey of the literature and the summary of an almost unique, but wonderfully illustrative, case, presenting both peripheral and intracranial findings, will be of service.

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* Case reported before Chicago Neurological Society, Nov. 19, 1908.

Not going back to the pioneers in this field, von Recklinghausen, Knoblauch and Soyka, we find the first important work to be the monograph on neuroma by Thomson (Edinburgh, 1900). A valuable feature of his discussion is his subclassification of false neuromata into (1) diffuse and generalized fibromatosis of trunks of nerves; (2) plexiform neurofibromata; (3) cutaneous neurofibromatosis or molluscum fibrosum; (4) elephantiasis neuromatosa; (5) pigmentation of skin and nerve origin; (6) secondary malignant neuroma, being the sarcomatous transformation. To be sure, many cases show characteristics belonging to more than one of these subclasses, our own for instance, clearly coming under subheads 1, 3, possibly under 5, and very probably under 6. These subclasses, however, are not complete according to the discoveries of Henneberg and Koch, Cestan and others; there must be added the group of cases in which the tumors are found in the medullary substance, either white or gray, of either cord or brain.

Adrian,[1] in two articles which cover pretty much the same ground, collects the entire literature and discusses many varieties of neurofibromatosis. In 1903, however, he was able to find but very few recorded cases with intradural complications. Henneberg and Koch[2] present a splendid paper in which intracranial neurofibromatosis is much more satisfactorily discussed. The most recent long article is by Harbitz,[3] but it does not treat of the class of cases in which we are at present interested.

In studying these extensive papers and the various reports of cases which have more or less similarity to my own, one finds the following facts or theories to be of main import: Bruns[4] insists that the disease is expression of a congenital pathologic anlage. Thomson found records of eight cases in which some other members of the family than the patient suffered from some form of the same trouble. Adrian classifies the cases according to anatomic location of the tumors. He states that next to the peripheral nerves the spinal nerves are most frequently affected, with various symptoms corresponding to the parts compressed. Much less frequently the cranial nerves are involved, and even then the tumors are mostly seated on the extradural portion of their course. The pneumogastric is most often affected, but almost always outside the dura. Still rarer are the cases in which the tumors grow on the cranial nerves inside the cranium. The posterior fossa, and particularly the cerebello-pontile angle, is the elective localization. Enough cases have now been reported to show that few, if any, of the cranial nerves are exempt. Berggruen[5] had a case in an 11-year-old boy in which there were tumors on the cranial nerves on both sides, only the first, second, sixth and eleventh being spared. It was early stated by von Strube that the eighth nerve was never affected, but Adrian, writing in 1903, collected five cases in which the auditory nerve was the seat of a tumor growth, and since then there have been a number of other cases reported. Adrian found numerous instances in which there was psychic disturbance connected with the appearance of fibroma molluscum. The mental trouble was always of the nature of feeble-mindedness or great stupidity. In most cases the organic cause of this is not known, but in at least one instance a tumor of the frontal lobes was found.

Rarest of all are the half-dozen or so of cases, to which group belongs the case reported below, in which the tumors were both peripheral and intracranial. To be sure, some of the patients are known also to have had tumors on the spinal nerve roots and even in the medullary substance. Roux[6] argues from the literature, and from a patient of his own who had subcutaneous tumors and presented the earliest symptom in the form of Jacksonian epilepsy, that perhaps neurofibromatosis is always both central and peripheral, and that the evolution from benign to malignant growths determines the symptomatology. It seems certain from the study of many case reports that there is great variation in the evolution of symptoms, and that, as with our own patient, there may be considerable periods with stationary or recessive symptoms. Pathologic findings have led some authors, such as Hulst,[7] Cestan[8] and Berger,[9] to designate the disease, at least in its acute form, as neurofibrosarcomatosis. On the other hand, we have the reports of benign cases with even stationary intracranial symptoms, the most remarkable of which is the interesting case of Pastine,[10] in which the patient, with left facial, hypoglossal, vagal and glossopharyngeal paralysis, had reached the age of 67 when reported.

The symptoms of intracranial neurofibromatosis are, of course, those of tumor of the brain in general—headache, vertigo, vomiting, optic neuritis, impairment of vision—plus the findings significant of involvement of special cranial nerves; for instance, when the acusticus is affected the earliest symptoms are generally tinnitus and vertigo, followed by gradually increasing deafness. Two peculiarities of the evolution of this particular disease appear to be of great significance for diagnosis: First, there are quite often simultaneous or almost simultaneous signs of involvement of nerves on both sides which preclude interpretation of the findings as being caused by a single unilateral or even by a mesial growth; this was shown clearly in the case which I shall report, as well as in the reports of Berggruen,[5] Raymond,[11] Cestan,[8] Henneberg and Koch,[2] Raymond and Claude,[12] and Skoczynski.[13] Second, there are apt to be remissions of months' duration in the symptoms, as in our case and those of Henneberg and Koch and others. The reason for these prolonged betterments would seem rather hard to explain if the rapidly developing symptoms are always caused by true sarcomatous metamorphosis of the tumor. The possible celerity of the growth of the tumors is evidenced by Skoczynski's case, in which the subcutaneous tumors increased in number from forty to sixty while the patient was under observation. In our case the peripheral tumors undoubtedly grew to their present size in a year's time from a condition at least not readily noticeable. Death is frequently determined indirectly by involvement of the pneumogastric, which may lead to tachycardia, vomiting, difficulty with swallowing and consequent aspiration pneumonia.

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[1] Centralbl. f. d. Grenzgeb d. Med. u. Chir., 1903; Beitr. z. klin. Chir., 1901.

[2] Arch. f. Psychiat. xxxvi, 251.

[3] Archiv. Int. Med., February, 1909.

[4] Encyclop. Jahrb. d. ges. Heilk., 1905, xii, 318.

[5] Arch. f. Kinderh., 1896, p. 89.

[6] Rev. neurol., April 15, 1907.

[7] Arch. f. path. Anat., clxxvii, p. 317.

[8] Rev. neurol., 1903, p. 745; 1900, p. 161.

[9] Arch. gén. de med., 1904, p. 1367.

[10] Riforma med., 1906, pp. 1037, 1076; abstr. in Rev. neur., 1907, p. 61.

[11] Jour. de méd. inst., 1902, pp. 165, 199; Sem. méd., 1903, p. 278.

[12] Rev. neur., June 15, 1908.

[13] Neurol. Centralbl., 1905, p. 375.

From study of the literature we must certainly decide with Cestan that in many cases of neurofibromatosis the central nervous system is spared, in so far at least as localization of the symptoms is concerned. We know definitely that many tumors may exist on the spinal roots, in the cauda or even in the cord or brain without causing symptoms; we know that on account of the growth of the tumor from the interstitial elements that the nerve filaments need not be heavily compromised; indeed, intact axis cylinders have been observed passing through the tumors. So it seems that both centrally and peripherally disposed tumors might easily be overlooked clinically and not discovered without a complete autopsy. Thus we are brought back possibly to the standpoint of Roux, namely, that the disease is perhaps always both central and peripheral. However this may be, the combination, shown by the patient in the case which I report below, of intracranial with subcutaneous tumors, has been reported by only a few authors—Haushalter,[14] Pastine, Henneberg and Koch, Raymond and Claude, Skoczynski, Bartel.[15] After recognizing the very definite picture of the disease in this form one has no hesitation in subscribing to the dictum of Bruns,[4] who says that it is safe to assume that intracranial symptoms of compression are caused by neurofibroma if one finds such tumors in the periphery, especially if the symptoms point to the cerebello-pontile angle.

Therapy relating to this disease is a blank. I find no record of operation for the intracranial growth, nor on account of the usual multiplicity of the tumors is anything more than a palliative decompressive operation likely to be of service.

I saw the following case through the courtesy of Dr. A. E. Luckhardt. To him I am very grateful for much aid in painstaking examinations and in eliciting the history, which was obtained with difficulty.

Patient.—Miss X., aged 18, candy-maker who had not worked for about a year previous to examination. Family history and personal history previous to onset of present illness negative; no injuries, habits good.

History.—Four years ago the first symptoms of the present trouble began with ringing in the ears and progressive deafness. Both ears were early involved. Operations on the tonsils and nasopharynx gave no benefit and there was gradual onset of bilateral deafness. About three years ago the patient began to suffer from headaches in frontal and occipital regions, occasional vomiting, from vertigo and progressive difficulty in walking. Then diplopia appeared and some impairment of vision. There were never any fits or convulsions at any time. The symptoms remained stationary for some time. Then there was betterment and the patient resumed work. About one year before the time of examination she finally stopped work on account of trouble in walking, inability to see well enough for her occupation, and vertigo. About six months before the patient was seen, however, her suffering became much less acute. Vomiting became very infrequent, headaches much less severe and vision somewhat better. Afterward the condition was much the same until just before the patient was examined, except as to gait, which grew gradually worse. Very recently an entirely new symptom, difficulty in wallowing, appeared. The patient had been seen about ighteen months previously by Dr. David Fiske, who then discovered an optic neuritis of high grade; he does not believe hat the subcutaneous tumors on the face were then present.

Examination.—Nutrition was good; color fair. Examination of abdomen and thorax was negative with the exception hat the otherwise normal heart action was always rapid. About a dozen subcutaneous tumors were found on various arts of the body, asymmetrically disposed, three of them being on the face. They were well defined circular growths attached to the skin, non-inflammatory, easily depressed to or near the level of the skin, soft, and some of them distinctly tender when deeply pressed. There was a trace of pigmentation over some, but not clearly marked. The mental condition was apparently normal and the patient unusually bright, considering the trouble with seeing and hearing.

Cranial nerves: First: Smell normal subjectively and objectively. Second: Fingers seen at six feet with left eye, but this varied; sometimes this eye was blind while the patient was in the hospital. The patient read fairly well with the right eye, though vision at periphery of field was poor. The optic discs showed high grade neuritis; swelling about 4 diopters; appearance of mottled paleness in the center of exudate more marked in the left eye. Third and fourth: Negative; pupils equal, symmetrical and reacted to light and accommodation. No ptosis. Nystagmus only on lateral deviation. Fifth: Cornea on both sides markedly insensitive. Sensibility of skin over face normal. Good action of masseter muscles. Sixth: Abducens paralysis practically complete on left side, almost complete on right side. Seventh: Paresis of facial muscles on both sides, left more marked than right. Electrical examination showed no reaction of degeneration, but there was slight diminution to the response of the muscles of the right side. Eighth: Completely deaf on both sides to both air and bone conduction. Ninth: Palatal and pharyngeal insensitiveness, no pharyngeal reflex, nasal voice, palate lifted equally on both sides, but not to normal degree. The patient complained of occasional difficulty in swallowing and more occasional regurgitation of liquids through the nose when swallowing. Tenth: Tachycardia persistent, pulse regular but always over 90. When the patient left the hospital the pulse was about 120 while at rest. Eleventh and twelfth: Negative, tongue freely moved and with normal force.

Motor: Gross strength of arms and hands good on both sides. Fine movements of hands somewhat defective on both sides. Legs, strength slightly impaired. Slight spasticity in left leg.

Gait: Typical cerebellar. At repeated trials no evidence could be gained of falling or of walking persistently either to right or left.

Sphincters: Action normal, never any difficulty.

Coordination: Good in hands and arms; in legs, cerebellar type of incoordination both right and left. On taking position there was extreme swaying either with eyes open or shut. The patient stood and walked with feet far apart.

Tremor: Rather coarse, noticeable only in outstretched hands.

Sensation: Everywhere normal to temperature, touch, pain. Sense of position normal. Stereognostic sense perfect.

Reflexes: Arm-jerks lively, no carpo-metacarpal reflex, knee-jerks and Achilles jerks both much increased, left greater than right. No clonus. Babinski both sides, right greater than left; Oppenheim both sides; Gordon paradoxic sign left side; abdominal reflexes all absent.

The unusual features of this case seemed very hard to explain until Dr. H. G. Anthony made the diagnosis of the subcutaneous tumors and I had studied the literature of the subject. It then appeared clear, in the light of recorded cases, that our patient was suffering from multiple intracranial neurofibromata. During four weeks in the hospital, part of the time under antisyphilitic treatment, the patient showed no radical change except that the tachycardia gradually increased.

When this case was presented before the Chicago Neurological Society it was discussed among others by Dr. Carl Wagner, who said that the patient had later come under his care, that *x*-ray pictures demonstrated a growth in the region of the cerebellum, and that he operated and discovered a tumor. The patient quickly developed respiratory difficulties from which she did not rally. No autopsy was obtained. The case is, however, clear-cut enough to add to the few recorded cases of peripheral plus intracranial neurofibromatosis.

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[14] Nouv. icon de la Salpêtriere, 1900, p. 639.
[15] Zeitschr. f. Heilk., 1905, Abth. f. path. Anat., p. 281.

ATAXIC ARSENICAL NEURITIS WITH LOSS OF OSSEOUS SENSIBILITY

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Considering the widespread occurrence of arsenic in nature, its frequent medicinal use, its occurrence in wall papers, fabrics, and occasionally alcoholic beverages, it is somewhat surprising that so few cases of arsenical poisoning, and particularly arsenical neuritis, have been reported in medical literature.

The remarkable Manchester epidemic reported by Dr. E. S. Reynolds[1] in 1900 is quite familiar to us all, and yet with its two or three thousand cases nothing absolutely pathognomic of arsenical neuritis could be established. It is true that, taken collectively, the symptoms varied sufficiently from those of the more common alcoholic form to arouse Dr. Reynolds' suspicions and lead to his brilliant piece of investigation. Dr. J. S. Bury,[2] writing about the same time, states that for the thirty years preceding this epidemic only seventy cases had been reported; consequently, most of our knowledge concerning this particular form of neuritis must be gathered from the study of the Manchester cases, and I shall review briefly the more salient features of this epidemic.

From the reports by Reynolds, Bury, Niven,[3] and from the editorial columns of the *British Medical Journal*, Dec. 1, 1900, and the succeeding four and five issues, the following more prominent symptoms may be enumerated: Running of eyes and nose, pigmentation of the skin, rashes on hands and feet, paralysis, analgesia, myalgia, paresthesia, diarrhea, ataxia of varying degrees, tachycardia, elevated temperature (102 to 103 F.), gastrointestinal disturbances and vasomotor changes. While most of these symptoms are common to other forms of neuritis, the combination of skin pigmentation with the vesicular or papular eruption, tachycardia, extreme ataxia, marked sensory changes, and persistent slight elevation of temperature with the usual symptoms of neuritis and a history of its toxic nature, should be strongly suggestive of an arsenical type.

Since the Manchester epidemic I have collected reports of 28 cases of arsenical neuritis from the literature: 2 following the ingestion of rough-on-rats (Sabin,[4] Hersman[5]), 1 from ingestion of arsenic with suicidal intent (Sedgwick[6]), and 25 following the administration of arsenic for medicinal purposes. Reports of 23 of the 25 cases following medicinal use were collected in the monograph of Thomas and Greenbaum,[7] in which 19 followed chorea and 4 were nonchoreic. Of the remaining 2 cases, 1 is reported by Sinkler,[8] who remarks on the infrequent occurrence of arsenical neuritis, and the other case is reported by Dr. Angell in discussing Sinkler's paper. Thus, leaving out the British epidemic, I have found reports of only 98 cases in the last thirty-eight years—Bury's 70 cases before the epidemic, and the 28 cases reports of which were collected by myself. But 18 of the cases reported by Thomas and Greenbaum were collected from the literature prior to the Manchester cases, and if we exclude these, since they may have been included in Bury's estimate, we find only 80 cases for the past thirty-eight years: at least this is the result of my study of the references and the journals at my command.

Accordingly, the following case has been of interest to me for three reasons: first, because of the infrequent occurrence of the condition; second, because of the difficulty in ascertaining the etiologic factor; and, lastly, because of its pseudo-tabetic features and the observation of a clinical sign common to tabes and neuritis which has hitherto been unreported in the latter condition, namely, the loss of osseous sensibility.

History.—E. G., male, aged 31, was admitted to the University of Virginia Hospital, in the service of Dr. J. S. Davis, Aug. 27, 1908. He was referred to me on September 3, at which time he complained of "nervousness in hands and feet, and inability to walk." The patient, with his wife, mother and father, had been living in a newly painted house, and all of them had recently suffered from gastric disturbances; the father now complained of tingling and numbness in the hands and feet. When a child, the patient had had whooping cough and diphtheria, but recovered from both without ill effects. He denied lues, but admitted a moderate indulgence in alcohol, having drunk about two dozen bottles of beer in the past month. His occupation was that of yard conductor in a railroad terminal.

Present Illness.—On July 16 (at which time the house was being painted) the patient was suddenly taken with nausea and vomiting while on his way to work. The vomitus was of dark green color and tasted bitter. The attack began about 5 p. m., and the patient continued to vomit, at intervals, until late in the evening, when there occurred severe griping pains in the upper abdomen and slight diarrhea. His condition became so alarming that a physician was called who gave him an "injection in the arm." The next morning he was slightly exhausted, but otherwise comfortable and able to attend the wants of his father and mother, who were confined to bed from a severe vomiting spell of the evening before. On the following day, July 18, after eating some cold meat, of which his mother also partook, both again had severe vomiting, which was more marked in the patient, in whom it lasted several hours and was accompanied by abdominal pain. He continued to suffer from gastrointestinal irritability until about July 22, when he began to improve steadily and could retain an ordinary diet. About ten days later (August 1) he noticed tingling and numbness in his hands and feet, and observed red blotches on the palms and soles, but nowhere else on the body. These symptoms were soon followed by weakness in the legs, tenderness in the calf muscles, and difficulty in performing finer movements with the hands. There was difficulty in walking unless the eyes were directed to the ground. He continued to grow worse, and finally, about two weeks later, his legs "gave way" and he fell in the street. The fall was not preceded by nausea, vomiting, or vertigo, and there was no loss of consciousness or incontinence of urine or feces. The other members of the family had entirely recovered, except the father, who, the patient said, still had tingling and numbness in the hands and feet.

General Examination.—The patient was a rather poorly nourished white man, six feet tall, weighing 140 pounds: his normal weight being 170 to 180 pounds. He lay comfortably in any normal position and there was no evidence of contractures. There was a slight double wrist-drop and marked drooping of both feet. He could not stand alone, and there was marked Romberg sign present. He could walk with as-

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1. Reynolds, E. S.: Brit. Med. Jour., Nov. 24, 1900.
2. Bury, J. S.: Remarks on the Diagnosis and Treatment of Arsenical Neuritis, Brit. Med. Jour., Dec. 8, 1900.
3. Niven: Cases Illustrating the Nature of the Epidemic in Manchester, etc., Brit. Med. Jour., Dec. 15, 1900.
4. Sabin, F. R.: A Case of Arsenical Neuritis, Johns Hopkins Hosp. Bull., July, 1901, xii.
5. Hersman, C. C.: Discussion on paper by Wharton Sinkler, The Journal A. M. A., 1905, xliv, 602.
6. Sedgwick, R. E.: A Case of Acute Arsenical Poisoning. Lancet, London, 1904, II.
7. Thomas, H. M., and Greenbaum, H. S.: Multiple Neuritis (Non-diphtheritic) in Children, The Journal A. M. A., April 27, 1907, xlviii, 1397.
8. Sinkler, Wharton: Some Uncommon Forms of Multiple Neuritis, The Journal A. M. A., 1905, xliv, 598.

sistance and there was extreme ataxia and decided "steppage" gait.

Head: The pupils were regular, of equal size, and reacted to light and during accommodation; the eyes moved equally in all directions. There was no ptosis, nystagmus or strabismus. The forehead was wrinkled equally on the two sides, the nasolabial folds were of equal intensity, and the patient could whistle, show the teeth or smile in a normal manner. The tongue was protruded promptly and in the median line. The first, eighth, and both portions of the fifth nerves were apparently normal. The eye grounds were examined by Dr. Compton, who reported: "Retina of both eyes slightly hyperemic and nasal margin of both discs slightly blurred. Fields of both eyes good."

Trunk: The chest expanded equally on the two sides. Respiration was 20 to the minute. The abdominal cutaneous reflexes were present and of normal intensity. There was no disturbance of cutaneous sensibility. The sphincters were normal.

Upper Extremities: All active movements could be performed, though somewhat diminished in strength, and the extensors were somewhat weaker than the flexors and less resistant to passive movements. There was a slight double wrist-drop and slight depression of the dorsal interosseous spaces. The variation in measurements of the two arms was within normal limits. The hands and forearms, in the lower one-third, were anesthetic to touch but hyperesthetic to pain, which was particularly marked at the fingers. The temperature sense was normal. There was marked ataxia in both upper extremities. The biceps and triceps tendon reflexes were present.

Lower Extremities: All active movements at the hips could be performed and resistance to passive movement was good. The extensors of both legs were considerably weakened to both active and passive movements. The calf muscles were extremely flabby, powerless, and slightly atrophic in both legs, though more marked on the right side. The anterior tibial and peroneal muscles were paralyzed in both legs, and the foot-drop was marked. There was anesthesia to touch in both feet and legs, extending up to about the middle of the thighs, where there was gradual transition into normal cutaneous area. The same area was hypersensitive to pain. The temperature sense was retarded, but hot and cold could be distinguished. Over the external malleolus of the right leg there was a vesicle about the size of a twenty-five-cent piece, and just above this a vesiculo-papular eruption. There was some impairment of the postural sense confined to the toes. Ataxia was marked in both legs. The patellar and tendon-of-Achilles reflexes were absent on both sides. The cremasteric reflex was exaggerated. Babinski, Oppenheim and Gordon phenomena were absent, and here was no ankle or patellar clonus. There was no marked difference in mensuration on the two sides. Over both tibiæ here was a loss of osseous sensibility or vibratory sense, when ested with a middle C tuning-fork. The loss of this sensibility, owever, did not extend over the entire subcutaneous surface of he tibiæ. It was absolutely lost in the upper and lower hirds, but could be appreciated in the middle third in irregularly distributed spots when the vibrations were of wide amplitude. Even in these areas the sense is greatly diminished.

Electric Examination.—The extensors of both forearms howed diminished irritability to the faradic current, and increased response to the galvanic current. The extensors on the ont of the thigh, anterior tibial and peroneal muscles, gastrocnemius, soleus, and flexor brevis digitorum of both extremities failed to respond to the strong faradic current. Their reaction to the galvanic current was greatly diminished, the contraction was slow and lazy, and the anodal closure contraction was greater than the cathodal closure contraction.

Blood Examination.—Reds numbered 4,768,000; whites, 000; hemoglobin, 80 per cent. A fresh smear and stained ecimen showed nothing of any consequence. Blood pressure as 140 mm. Hg. Nothing abnormal was found in the urine.

Course of Disease.—The patient remained in the hospital out two months, and during the entire time had an irregular mperature varying from 96 to 100.5, while the pulse varied from 70 to 140 per minute, but appeared to bear no relation to the changes in temperature, and most of the time was above 100. Sudden variations of the pulse, from 60 or 70 to 120 or 140 per minute were a most striking feature.

Diagnosis.—Here, then, we had a nervous affection of sudden onset with vomiting and epigastric pain, followed by lower segment paralysis and anesthesia of symmetrical distribution, loss of deep reflexes, Romberg sign present, extreme ataxia, and loss of osseous sensibility in both tibiæ. The differential diagnosis lay between tabes dorsalis and multiple neuritis, while the more remote possibilities were anterior poliomyelitis, acute ascending paralysis and beriberi.

The gastric pain, vomiting, sensory disturbances, loss of deep reflexes, presence of Romberg sign, marked ataxia and loss of osseous sensibility were very suggestive of tabes dorsalis. But the absence of shooting pains, constriction bands about trunk, Argyll-Robertson pupil and bladder or rectal involvement, the absence of history of lues, and the presence of muscular degeneration served to exclude locomotor ataxia. Accordingly, by a process of exclusion, a diagnosis of multiple neuritis was reached. The next and most important duty was to determine the cause of the neuritis. Three possibilities suggested themselves: the ingestion of some toxic substance, autointoxication, and idiopathic neuritis. The toxic theory seemed most promising, and lead and arsenic were strongly suspected. The absence of a lead line on the gums, the wide distribution of the paralysis, and the facts that the patient and his family had in no way handled the paints, that all the painting was on the exterior, and that the blood examination was entirely negative, somewhat weakened my belief in lead as a causative factor. Recalling the Manchester epidemic among beer-drinkers, I at once sent to the patient's home for a sample of the beer he had been using, but learned that it had all been consumed; consequently my opinion was divided between ptomain poisoning, the ingestion of some metallic poison, and neuritis of unknown origin. The usual treatment for neuritis was then begun and strychnin and arsenic administered internally. On September 26 my patient's family sent a can of baking powder to the hospital. A portion of its contents had been used on July 16, when the family was first made ill, but, by chance, it had not been used again until some time in September, when the gastrointestinal symptoms were again induced, and their suspicions were aroused. I at once took the baking powder to Prof. J. W. Mallet, of the University of Virginia, and asked him to examine for arsenic. Much to our surprise, on the following day he reported arsenious acid present in 1.33 per cent. The paper wrapper about the original package of powder was analyzed and found free from arsenic. Other specimens of the powder obtained from various sources were analyzed and found free from arsenic. Professor Mallet therefore believed that the arsenic was placed in the can with criminal intent. Due credit should be given the manufacturers of the powder, who, on hearing of the case, immediately sent a representative to make investigations and have since employed detectives who are now making every effort to apprehend the criminal.

When these facts came to light, arsenic was at once eliminated from the treatment, and the patient left the hospital one month later, much against our advice, but considerably improved.

Seeing the harm, then, that may follow the treatment of disease when the diagnosis and etiology are not well established, I must regret my failure to analyze the urine, hair and nails in this case before treatment was begun. Arsenic was found in all these substances during the Manchester epidemic; the analysis is simple and the detection of it in abnormal amounts would have at least prevented the administration of more arsenic.

J. Dixon Mann[9] found that the white matter of the nervous system contained larger amounts of arsenic than the gray, a fact which he explained by the greater affinity between the arsenic and neurokeratin network; and he thinks that the duration of arsenical neuritis depends not only on this combination of arsenic with the neurokeratin, but also on its subsequent liberation and dissemination. This might also explain the variable pulse and the marked changes in muscle reaction to the electric current observed in my case; that is, the arsenic may be liberated periodically or in variable amounts.

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[9] Mann, J. D.: Brit. Med. Jour., Oct. 12, 1901.

The loss of "osseous sensibility" in this case is of interest because the same phenomenon is observed in tabes dorsalis, which is frequently simulated by the ataxia form of multiple neuritis, or pseudo-tabes of the French.

According to Goldscheider,[10] the "vibratory sense" was first demonstrated by Rumpf, who in 1889 tested individual acuteness in distinguishing the vibrations as separate sensations and as a continuous buzzing. Later, in 1895, Treitel made use of the tuning-fork in studying the duration of the vibratory sense. Both of these investigators found abnormal sensibility when this test was applied in cases of tabes dorsalis.

This method of examination, however, received little attention until 1899, when M. Egger[11] announced that by means of the vibrating tuning-fork he could determine the conductivity in bone, and hence called it "osseous sensibility." He studied the condition in tabes, syringomyelia, Brown-Séquard's paralysis, cerebral hemianesthesia and hysteria, and found that in each of these conditions the "osseous sensibility" was greatly diminished or entirely absent. Loss of this sensation was so constant in tabes and syringomyelia that the tuning-fork became helpful to him in clinical work. There seems to be so much uncertainty concerning this "vibratory sense" or "osseous sensibility" that I shall not attempt to discuss its nature or mode of propagation, but shall refer the reader to the more recent works of Goldscheider,[10] Marinesco,[12] Williamson,[13] and Minor.[14] None of these authors, however, has made any report on the "vibratory sense" in neuritis. Furthermore, in my review of 200 cases of neuritis from various causes, since the appearance of Egger's article, I have not found one in which the vibratory sense was tested. For this reason it appeared worth while for me to report the observation in this case, but I do not mean to say that the loss of this sensibility is indicative of the nature of the neuritis. Occurring, as it did, in the ataxic form of neuritis, this loss of "vibratory sense" illustrates a further resemblance of that disease to true tabes.

I wish to thank Dr. J. S. Davis for permission to report the case, and Prof. J. W. Mallet for his generosity in making the chemical analysis.

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[10] Goldscheider: Ueber das Vibrationsgefühl, Berl. klin.

[11] Egger, M.: La sensibilité osseuse, Jour. de physiol. et de path. gén., 1899, i.

[12] Marinesco: Presse méd., Aug. 13, 1904.

[13] Williamson, R. T.: The Vibrating Sensation in Affections of the Nervous System, Lancet, London, 1905, i.

[14] Minor, L.: Jour. Nerv. and Ment. Dis., 1905, abstract.

Sensibilities of Idiots.—H. B. Sheffield, in the *Post-Graduate*, February, states that most idiots are insensible to touch, pain, heat or cold—anomalies of sensibilities which explain the frequency with which such children are subjected to external injuries and voluntary bodily mutilations. In some of them, however, especially in those with marked defective vision, tactile sense is so highly developed that by this means they are able to recognize the persons who feed and care for them.

THE ROENTGENOLOGIST AND HIS SPECIALTY *

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It is just thirteen years since the scientific world received from Professor Roentgen his classical "First Paper," a communication which caused it to turn its interested gaze toward the little city of Würzburg, interest giving place to astonishment as the second and subsequent papers appeared. Heretofore, man could gain knowledge of invisible things only by deduction from hearing and touch, but now—to see the unseen! Small wonder that this new material for research was seized by scientific workers the world over. Roentgen's discovery was taken up with eagerness by all nations active in educational matters, and experimentation was promptly begun. Certain propositions were not accepted absolutely, argumentative attitudes were assumed, opposing theories brought forward. It must be conceded, however, that a great proportion of Roentgen's observations and assertions are to be regarded as axiomatical and remain incontrovertible after the passage of thirteen years.

By guiding the mind and hand of the discoverer, in that some of his earliest observations were made on portions of the living skeleton, Destiny seemed to decree that this new physical agent was to be a gift from Science to Medicine — that it was to become, in practical application, a profound factor in the relief of human ills and suffering.

So it has been, but with what sacrifices! Human sacrifices, on the altar of Learrning. Many of these offerings were chosen by Science from her ranks, but Medicine, receiving the gift in the spirit of the giver, contributed as generously from among the worshipers in her own temple. Formidable, indeed, is the list of those who have laid down their lives in an honorable cause, and he who can appreciate the glory achieved by these martyrs, storming the citadel of Knowledge in the face of a subtle and unrecognized danger, can never forget the names of Dally, Weigel, Fleischman, Radiquet, Blacker, Fuchs and Wagner.

Although Medicine welcomed the gift of this new agent as a possible addition to her diagnostic and therapeutic munitions, she regarded it as a powerful but clumsy weapon, its possibilities quite uninvestigated; useful, indeed, but not delicate enough for expert hands. The throat mirror needed the practiced eye, the stethoscope an acute ear, and the scalpel trained fingers, but this new affair, these *x*-rays, their very name a confession of inexactitude, could be managed by any hospital photographer, ward orderly or nurse. The one thing needful, only, was a hand to start the machine and then —to stop it. A process purely mechanical; no brains necessary. I heard it said, about ten years ago, that any high-school boy, given a smattering knowledge of human anatomy, should be able to "take *x*-ray pictures," to borrow the expression used. History seems to show, by the character of results at this time recorded, that the mental dimensions of these jacks-of-all-trades must have fitted the requirements to a nicety, indeed.

Clumsy apparatus and tiresome details made private office practice with the new rays undesirable, and patients were often sent for a diagnosis to the larger hospitals or to the laboratories of the technical schools. In many instances these imperfect conveniences were unavailable, and in isolated communities Dr. Thomas, Dr. Richard and Dr. Henry struggled manfully to determine the position of fracture fragments with complete disregard of certain fundamental laws of optics, or, in blissful ignorance of the phenomena of a Roentgen dermatitis, continued to produce sloughs where often a simple dermic lesion formerly existed. It is not surprising that the patient regarded the cure as worse than the disease; and as a consequence, not to speak of the additional effect of frequent fantastic diagnoses, the Roentgen rays received a series of blows in the eye, of which the ecchymosis has not yet disappeared.

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* Address before a joint meeting of the New York Academy of Medicine and the American Roentgen Ray Society, New York, Dec. 29, 1908.

What was the reason for this state of things? It is not hard to find. The practice of using the Roentgen rays for the purposes of medicine was not placed on a stable basis. It was a piebald proceeding, a sort of Joseph's coat of many colors, which fitted no one. The attendant wires and sparks suggested an electrician's work, surely; true, but there were the plates, darkroom and chemicals, considered usually the accessories of the photographer. Neither of these artisans, on the other hand, could be expected to intrude themselves so far into the realms of medicine as to offer a diagnostic verdict.

Nothing but chaos came or could come from such a situation. Since a right pursuance of the work seemed to demand the conjoined efforts of at least three experts of distinctly dissimilar training, no one of them could do the work of all. The electrician, after dallying in the darkroom with the chemicals, produced photographic results of no higher quality than might be expected of an electrician; the photographer, after producing a generous display of pyrotechnics in the immediate vicinity of the patient, finally met with a practical electrical problem quite beyond his depth; while the surgeon, albeit well versed in all heretofore employed methods of diagnosis, skillfully cut for renal stone in an endeavor to find what was, in reality, the elusive suspender button.

Thus it became only too apparent that there was needed, in this field of usefulness, an individual who should save the situation; who should redeem from its uncertain status the practical application of a physical phenomenon of the greatest practical possibilities. This individual must not have simply bowing acquaintance with a broad education, but he must have a cheek-by-jowl intimacy with specific knowledge which only especial schooling creates. He must not possess mere "medical training," a term with an elastic application, but he must have acquired the doctor's degree, and, in addition, must have gained the technical skill required to make his medical opinions valuable.

When, therefore, there appeared at this juncture the one so long needed, an individual who foresaw the importance of roentgenology as a medical specialty, and was prepared to declare himself a devotee thereof, his arrival was as opportune as Sheridan's at Winchester. He entered the field by various roads, and his respect for his chosen work was such that, in instances where he was qualified as a physicist alone, he cheerfully retired, to re-enter by the steep and rugged path of Medicine. Known in those days, in an offhand way, as "an *x*-ray man," it became his duty to assume alike the part of the electrician and the photographer, and often, one regrets to say, that of the ward orderly, if not of the nurse. The implements with which they had struggled to till the new soil descended to him as a heritage, together with all the odium attached to the earlier practical work, which had proved a disappointment instead of a blessing. A discouraging task, indeed, but he went at it with good spirit. As a result of his efforts, first, certain technical features of the work have been exalted from the mere connecting of wires and rule-of-thumb manipulation to an involved study of electrostatics and the management of electrical discharges *in vacuo*. Second, by demonstrating that roentgenology, the science, and photography, as a calling or a trade, have nothing in common, he has established the fact that his diagnostic plates are merely a means to fortify his opinion as a diagnostician, and are not to be "struck off" at so much the dozen. Third, as a medical practitioner, the divers procedures connected with his work have brought him in contact with nearly every branch of medicine and surgery. What, indeed, could be more broadening in its influence?

It is but fair, at this point, to mention three additional impediments, of somewhat extraneous origin, which, for a time at least, hindered the early development of the roentgenologist as a medical specialist. Possibly the greatest of these was the adoption of the Roentgen rays by the charlatan for his irregular purposes. This type of individual was quick to see the impression which might be produced in the lay mind by a demonstration, chiefly of fireworks, which could be masqueraded beneath the protecting cloak of the Roentgen rays. According to expectation, the public was duly impressed, and perhaps an exact science might have been paraded even longer under false colors, had not the discovery of radium and various other agents which easily could be veiled in mystery diverted the attention of the unscrupulous pseudopractitioner.

The second deterrent factor, and none the less detrimental, was the attitude of the zealous manufacturer who experimented at the expense of his customer and whose sole interest was his own financial aggrandizement. What roentgenologist but who, in his early efforts to uplift his professional usefulness, has not, at some time or other, been made the dupe of conscienceless roguery by means of cheap-john apparatus, made to sell but never to use? The medical profession is noted, it is said, for its unsuspecting credulity. This is doubtless due to the fact that it judges others by the same standard of ethical conduct it requires of itself, and in respect to which it is often tried in the balance and seldom found wanting. The roentgenologist of the earlier days attained a degree of gullibility never reached by his professional brethren, and this was duly taken advantage of in the manner above mentioned.

It is not my purpose to deplore these unhappy situations as the existing order of things, but rather merely to mention them as a suggestion of what the earnest worker in this new science has had to contend with. Fortunately, much of it is now history.

Through the efforts of the roentgenologist the required results from the employment of the *x*-rays in diagnosis and treatment were becoming too scientifically exact for the peace and comfort of the charlatan. These efforts naturally resulted in a complete vindication of Abraham Lincoln's statement as to the impossibility of the permanent illusionment of the entire population. Since then roentgenology has had little to suffer from misrepresentations of the quack. By the very character of the work, born of perseverance, he has been routed; the consulting practitioner, weighted down with the responsibility of his patient's welfare, has learned to demand the type of diagnostic and therapeutic result which only true work can produce, and no longer is content to accept, with gaping credulity, a fluoroscopic diagnosis of appendicitis!

By an evolutionary process engendered by his own short sight, the objectionable manufacturer is being gradually but surely eliminated. We have in our own ranks men whose primary training has been of a nature purely physical. They have fashioned tools for us which we can use confidently and therefore effectively. These men protect us from the wiles of those with fewer scruples, and we can work in peace.

The third inimical influence against the proper development of roentgenology was by far the most serious one, and its effects are felt even to-day, unfortunately. It originated in the deplorably promiscuous use of the Roentgen rays as a therapeutic agent. When one recalls the history of the "Elixir of Life" and the "Philosopher's Stone" he can not much wonder at temporary over-enthusiasm concerning any new discovery.

The days of the alchemists having passed, however, the persistence of the belief that the Roentgen rays were almost a cure-all may well cause surprise. Few bodily ills were to be denied its healing influence, as may be judged from the fact that, as recently as 1906, it was publicly declared that the *x*-rays should be considered as a therapeutic measure in the cure of an acute appendix!

The manner of applying the *x*-rays, even under proper circumstances, was wholly haphazard, although their profound degenerative effect on the skin was becoming only too well known. In the general enthusiastic excitement, cases were reported in the most glowing terms, without the least allowance for the lapse of time—the one true test.

History shows that the serious-minded Roentgen worker, far from indulging in this early general hysteria, counseled a more temperate view of the matter and foresaw the reaction which was bound to ensue, and from which he has undeservedly suffered. Such a reaction has been as desirable as it was inevitable, for it has helped to clear the air, and so has been welcomed by the one who prognosticated its occurrence. In the same spirit he has willingly remained to bear the brunt of this reaction, while the howling fanatic, whose extravagant claims gave it birth, like Longfellow's Arabs in the night, has folded his tent and silently stolen away.

Such a revulsion of feeling has been far-reaching. It is not surprising that it should give rise to an impression among the medical profession, false, as I believe, that the Roentgen worker in the diagnostic field essays to create about his diagnosis the atmosphere of absolute finality. This is not so. Although many pathologic situations make themselves readily visible by this method of diagnosis, we can describe them only as they are apparent to us, and appearance may be a far cry from reality, surely The medical practitioner well knows, however, to his everlasting benefit that a multitude of roentgenologic appearances have come to possess a definite meaning, based on the best pathologic proof. These "appearances," so called for want of a better name, are becoming as constant in value as the stethoscopic sound or the microscopic field. The true roentgenologist never stoops to consider the diagnostic agent which he commands other than a mere factor, but one out of many which help to clarify the diagnostic situation.

Since this is so, the specialist in roentgenology can ask no more than to be met by the general medical profession in the same spirit of fairness it would accord to any other worker in a specific field. All human endeavor or services are either good or poor. Good work is cheap at any price; poor work, even if gratuitous, is of the utmost costliness. Good work reflects the influence of the brain, ably aided by the hand; poor work reflects the efforts of the hand deserted by the brain. Remember these facts when you seek the fruits of true roentgenology elsewhere than at the tree. A diagnostic plate made at a commercial warehouse, or in a drug shop, is, in value, as the glass it is made on.

In his desire thus to maintain roentgenology on the high plane of scientific exactitude to which he has raised it, the American Roentgen worker of to-day looks to you, his professional brethren, for support of such a degree of integrity that it will radiate its benign influence to every city and community. He begs that this support will be offered in a temper of conservatism, remembering the while that his watchword is, also, "conservatism." To engender this spirit, and also the better to serve your interests as well as his, you have but to follow the advice of Pope:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

155 Newbury Street.

FIBROMYOMA OF THE UTERUS COMPLICATED BY CANCER OR SARCOMA

WITH REPORT OF THIRTY-FIVE CASES

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The careful study of fibroid tumors of the uterus in the last few years has shown that these tumors are not the benign innocuous growths they were once believed to be. Each succeeding series studied shows more clearly that the dangers of these growths are not only from the symptoms produced by the tumors themselves, such as hemorrhage, etc., but also from the complications and degenerations incident to their continued presence in the uterus.

The most important change or complication which may occur in these fibroid growths is their association with malignant changes either in the tumor itself or in its host, the uterus. This malignant change or association has a very direct bearing on the treatment of these tumors in that, if it can be proved that there is a large percentage of malignancy in the growths or dependent on their presence in the uterus, a weighty argument has been made in favor of early operation and removal.

This malignant complication may occur in two ways, either as a direct degeneration in the tumor itself, as in sarcomatous degeneration, or as an association of cancerous or sarcomatous disease in a uterus already the host of a fibroid tumor.

It is difficult in some cases to decide whether a fibroid tumor has previously existed in a uterus which is now the seat of extensive malignant disease, for the destructive malignant lesion may have caused a disappearance of the fibroid growth or the growth itself may have created tumor formation to simulate the necrotic remains of a fibroid. This is particularly true of sarcomatous disease, and the small percentage (1 per cent.) of sarcomatous degeneration in this series compared with others is held to be due to the fact that no tumor was included in this series unless it was distinctly shown that there was a true sarcomatous degeneration.

The association of malignant change with fibromyomata has had renewed study since my paper[1] in 1904, where, in a series of 280 cases of fibromyomata, it was shown that there was a considerable percentage of malignant changes; three cases of sarcomatous degeneration were reported, with one case of chorioepithelioma. These four cases are included in the present series of thirty-five cases of fibroid tumors complicated by malignant disease, cancer, sarcoma or chorioepithelioma malignum. These cases have been placed in three tables. Table 1 shows the percentage of occurrence of cancer in fibroid disease in a series of 700 routine cases; Table 2 contains the complications of sarcoma and chorioepithelioma and their relation to 700 fibroid tumors, while Table 3 is a summary of the previous two and gives the total percentage of occurrence of malignancy in the 700 tumors. These 700 cases[2] include the series of 280 studied in my previous paper of 1904.

It is also of importance as bearing on the treatment of these growths to know not only the percentage of occurrence of malignant change, but the age at which such change is likely to take place. For this reason the age of the patient at the time of operation has been included in the tables and the percentage of occurrence of each form of malignancy at each decade is shown.

TABLE 1.—CANCER ASSOCIATED WITH FIBROIDS

Age.	Total Fibroids.	Adenocarcinoma of Fundus.		Squamous Carcinoma of Cervix.	
		No.	%	No.	%
20-30	19	0	0		
30-40	233	0	0	1	0.4
40-50	332	12	3.6	1	0.3
50-60	95	6	6.3	3	3
60-70	21	2	9.5	1	4.6
	700	20	2.9	6	0.8

TABLE 2.—SARCOMA AND CHORIOEPITHELIOMA ASSOCIATED WITH FIBROIDS

Age.	Total Fibroids.	Sarcoma.		Chorioepithelioma.	
		No.	%	No.	%
20-30	19	0			0
30-40	233	0			0
40-50	332	2	0.6	2	0.6
50-60	95	3	3		
60-70	21	2	9.5		0
	700	7	1	2	0.3

TABLE 3.—TOTAL MALIGNANT COMPLICATIONS

Age.	Total Fibroids.	Malignancy.	
		No.	%
0-30	19		
0 40	233	1	0.4
0-50	332	17	5
0-60	95	12	12.7
0-70	21	5	23.8
	700	35	5

CANCER AND FIBROID TUMORS

While the frequent association of cancer with fibroid umors has been recognized for many years, it is only ince more exact methods of examination have been in-roduced that adenocarcinoma of the fundus was found o be a much more frequent association than was squa-ious carcinoma of the cervix.

It was noted in my paper of 1904 that "it seems at east that, while the association of squamous carcinoma ith fibroids is accidental, the occurrence of adenocarcinoma may be more or less influenced by the presence of fibroid tumors." This statement has been borne out by many investigators, notably Piquand,[3] who has collected 179 cases of this association and has reported three cases of his own. Isolated cases, however, have little value or bearing on the treatment, for it must be proved that the liability to cancer is of sufficient importance to constitute an indication for the routine removal of these growths, and to do this not only must the total number of cases be noted but the varying percentage of the forms of cancer and the age at which they occur.

Noble[4] has collected from the various reports 4,880 cases of fibroid tumors, which showed cancer of the cervix as a complication in 63 cases and cancer of the body of the uterus in 75 cases.

From the foregoing collection it may be seen that, while the age is not noted, adenocarcinoma occurs as a complication of fibroids in 1.5 per cent. and squamous carcinoma in 1.3 per cent. In the cases reported in this paper adenocarcinoma occurred in 2.9 per cent. and squamous carcinoma in 0.8 per cent.; in other words, there were three times as many cases of adenocarcinoma as there were of squamous carcinoma.

This proportion is entirely the reverse of the usual proportional occurrence, as is shown by Piquand's collection of 1,135 cases of uterine cancer, in which he found 100 cases of squamous carcinoma to 17 cases of adenocarcinoma; and also from the records of the Johns Hopkins Hospital,* where there were found 412 cases of squamous carcinoma and 78 cases of adenocarcinoma, a proportion of 100 to 18.

It is obvious, therefore, that adenocarcinoma is relatively more frequent in association with fibroid tumors than is squamous carcinoma. This relationship may result from a common etiologic factor, or the fibroids may predispose toward the occurrence of adenocarcinoma of the fundus.

The fact that myoma of the uterus, as is well known, predisposes toward sterility, and that squamous carcinoma is found but seldom in women who have never had children, may have something to do with the apparent frequency of adenocarcinoma; in other words, women who have fibroids have no children and so are not likely to have squamous carcinoma of the cervix.

Although this may seem apparent, the argument on investigation develops several flaws. First of all, the percentage of sterility has been estimated by gynecologists on operative cases, as is shown by the proportion of sterility given by Mann,[5] 64 per cent.; Frederick,[6] 52.8 per cent.; Giles,[7] 60 per cent., and Cullen,[8] 52 per cent. It is obvious that if the percentage of 14.8 of occurrence of fibroids is correct, as shown by my autopsies reported in 1904, so that one woman in seven has a fibroid tumor, many women who never see a gynecologist have fibroids. Hence a gynecologist's percentage of sterility is not exact, but the actual percentage of sterility is probably lower.

It may be that the common etiologic factor is in the uterus itself and that there is some quality in the organ which makes it liable to become the seat of fibroid and malignant disease. This, however, is at present impossible of proof.

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[1] McDonald, Ellice: Complications and Degenerations of Uter- le Fibromyomata, THE JOURNAL, 1904, May 21, xlii, 1344.

[2] These cases are from the records of the Bender laboratory, nd I am indebted to Dr. Wolbach, the director, for access to the ter ones.

[3] Piquand: Ann. de gyn., July and August, 1905, new series, ii.

[4] Noble, Charles P.: Fibroid Tumors of the Uterus, THE JOURNAL A. M. A., 1906, xlvii, 1881, 1998, 2065.

* Sampson, John A.: Importance of an Early Diagnosis in Cancer of the Uterus, THE JOURNAL A. M. A., 1905, xliv, 1586.

[5] Mann: Am. Jour. Obst., June, 1907.

[6] Frederick: Am. Gynec., 1902, 1.

[7] Giles: Lancet, London, March 2, 1907.

[8] Cullen: Cancer of the Uterus, 1900.

While a common etiologic factor may explain in part the association of adenocarcinoma and fibroid tumors, it is probable that the fibroid has some part in the frequency of this association. It has been suggested that the irritation of the fibroid tumor may cause congestion of the mucous membrane, alteration in the blood supply, and hyperplasia of the endometrium. Against this theory, however, it may be said that fibroids, unless they are sloughing, cause as a rule very little visible alteration in the mucous membrane, and it is held that there is usually a preliminary hyperplasia of the endometrium before adenocarcinoma occurs.

Mechanical disturbance of the circulation may be a factor. Of 20 cases here reported, calcification was present in 6 of the fibroids and necrosis in 4 cases. In 15 of the cases the fibroids were multiple and in 5 single. As may be seen from the table, no case of adenocarcinoma occurred in a patient under 40 years of age, and the percentage of occurrence increased with each decade.

In squamous carcinoma there was but one of the six cases in a patient less than 40 years of age, and the percentage of occurrence increased with each decade.

While fibroids may bear a causal relation to or have a common cause with adenocarcinoma, the association of squamous carcinoma is accidental. And, while the etiologic relation of the combination of adenocarcinoma with fibroids is obscure, the fact of the large percentage of this complication remains to be taken into account in regard to the treatment of these growths.

SARCOMATOUS DEGENERATION

There were seven cases of sarcomatous degeneration among 700 fibroid tumors. During the time the seven cases of malignant degeneration were observed there were twelve other cases of sarcoma of the uterus.

The tendency of pathologists in the past has been to doubt the possibility of a sarcoma arising from a myoma of the uterus, but most now admit its possibility. So good an observer as Mallory[9] states that he has studied a tumor, which without doubt was a malignant leiomyoma, and in which "the tumor cells tend to differentiate into perfect muscle cells." Such a possibility has long been recognized by gynecologists.

Tracy's[10] collection of 3,561 cases of fibroids gives 54 cases (1.5 per cent.) of sarcomatous degeneration. This form of malignancy is the one most frequently overlooked, as is shown by Winter's[11] two series. In the first of 500 cases only the suspicious points were examined microscopically, and sarcomatous degeneration was found in 3.2 per cent. In the second series of 253 cases in which sections were taken systematically sarcoma was found in 4.3 per cent. Winter believes that if myomata were examined systematically sarcoma would be found in about 4 per cent. of all cases. But this view is not borne out by this series, in which microscopic examination was made of all tumors.

The frequency of this degeneration will be seen from Table 2 to increase with each decade, being 0.6 per cent. in the fourth, 3 per cent. in the fifth and 9.5 per cent. in the sixth. No instance of this degeneration occurred before 40 years of age.

CHORIOEPITHELIOMA MALIGNUM

There were two instances of this complication, both of which occurred in the fourth decade. Both occurred after abortion, and one infiltrated the substance of the fibroid tumor, as was reported in my paper of 1904.

These two cases are supposed to be the only two instances reported of this association of chorioepithelioma malignum and fibroid tumor. Noble[12] reported one case, which, however, was afterward held by his pathologist, Babcock, to be a chorioepithelioma alone. The latter states: "In the early description of the growth it was described as a sarcomatous or endotheliomatous degeneration of a fibroid tumor, but restaining gives no evidence that fibromuscular tissue is present more than would accompany the growth of the syncytial tumor. It is believed that this is a primary syncytioma malignum in a uterus not the seat of any other tumor."

The complication is a rare one and is mostly of interest because of its rarity.

TOTAL MALIGNANT COMPLICATIONS

The total number and percentage of malignant complications of 700 fibroid tumors, then, were 35 cases (5 per cent.), including 20 of adenocarcinoma, 6 of squamous carcinoma, 7 of sarcoma and 2 of chorioepithelioma malignum. Of these 35 cases, 27 cases (those of adenocarcinoma and sarcoma) were due to or influenced by the presence of the fibroid tumor, while 8 cases (those of squamous carcinoma and chorioepithelioma malignum) were of accidental association, that is, their occurrence was not influenced by the presence of fibroid tumor.

There was but one case of malignant complication, a squamous carcinoma, in a patient below 40 years of age; with each decade after 40 the percentage of malignancy increased markedly, being 5 per cent. in the fifth, 12.7 per cent. in the sixth, and 23.8 per cent. in the seventh.

In view of this large percentage of occurrence of fatal disease among patients having fibroid tumors, and the great increase of malignant complications after 40 years of age, it seems wise that a physician should advise all patients who have fibroid tumors and are over 40 years of age, to have these growths removed; for, if the fibroid is not removed, the probabilities are that malignant change will result in one case in every twenty between the ages of 40 and 50, one case in every eight between the ages of 50 and 60 and one case in every four between the ages of 60 and 70.

While it may not be necessary to remove every fibroid tumor in every case, it seems that in view of the malignant complications alone, putting aside the many other evil effects of these growths, it is dangerous to treat these tumors conservatively in patients more than 40 years of age.

Those adhering to the classical teaching assert that the tumors should be kept under observation until symptoms of malignancy or other dangers arise.

This is contrary to the surgical teaching of the age, which is essentially one of prevention of grave dangers by exposure to the lesser danger of operative cure.

Were there distinctive symptoms by which the advent of malignancy in cases of fibroid tumors could be recognized, the dangers of conservative and expectant treatment might be less; but who can say when a fibroid has become sarcomatous or how long a cancer will be confined to the uterus? Sarcoma often occurs without increase in growth of a fibroid and adenocarcinoma may cause but little additional discharge or hemorrhage in a case of fibroids which has excessive menstruation or bleeding.

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[9] Mallory: Buck's Reference Handbook of the Medical Sciences (Sarcoma).

[10] Tracy, S. E.: Fibromyomata, Degenerations, Complications and Associated Conditions, Surg., Gynec. and Obst., 1908, vi, 246.

[11] Winter: Zeitschr. f. Geb. u. Gynäk., 1906, vol. vii, 1.

[12] Am. Jour. Obst., 1898, xlvi, 3.

Those advising against operation in fibroid tumors in women over 40 years should remember that fibroid tumors are always dangerous, and that the older the patient is the more dangers these growths have. The menopause, instead of bringing a cure to fibroids, is but the precursor of more dangerous complications. The smouldering fire should not be watched until the house is in flames.

135 Central Park West.

GASTROINTESTINAL DISTURBANCES DUE TO ARTERIOSCLEROSIS *

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Gastrointestinal disturbances due to arteriosclerosis are sometimes found in patients who have a generalized arteriosclerosis or in those in whom the splanchnic arteries only appear to be diseased. The cases that come within the latter group are perhaps the more important from the diagnostic standpoint, as the true cause of the symptoms may be overlooked. Within the past few months I have treated ten patients with arteriosclerosis in whom the symptoms were mostly gastrointestinal.

The patients are usually over 40 years of age; individuals between 40 and 50 years old may have symptoms of a generalized arterial disease, while some patients who are much older may complain only of symptoms of a localized vascular disease. Of course generalized arteriosclerosis is more common in elderly people.

Abdominal pain is a prominent symptom. At first it is paroxysmal, lasting from a few minutes to half an hour and recurring several times a day; later it becomes continuous and the patient complains of a dull ache, soreness and throbbing in the abdomen. The pain is localized in the epigastric or umbilical regions, less commonly in the lower abdomen. It is increased by exertion and in some instances during digestion. Buch says that the attack may also be traced to emotional disturbances, or to assumption of horizontal position. One of the patients whose history (Case 3) I shall report had pain in the lower abdomen coming on about two hours after eating, lasting about two hours and then disappearing. Treatment directed against the vascular disease gave prompt relief.

Next to pain the most common symptom is weakness, and not a few patients lose weight. The loss of weight may be moderate and gradual or rapid and considerable. A loss of weight is very common in patients with arteriosclerosis, but the loss of weight is even greater in those who have an associated dyspepsia. The reduction in weight is due in part to the vascular disease and in part to the dieting which is undertaken in an effort to relieve the dyspeptic symptoms.

Abdominal distention and belching are frequently present. Therefore the association of dyspeptic symptoms with weakness and loss of weight in persons of middle or advanced age is apt to arouse some apprehension. As a matter of fact, malignant disease of the stomach had been suspected in four of the cases referred to below before they came under my observation. There may be fulness and distress after eating, nausea at times, and regurgitation of sour liquid is an occasional symptom. The appetite may be normal, increased, or diminished, or in some cases lost. The bowels are variable; there may be constipation, or constipation alternating with attacks of diarrhea, or the movements may occur at normal intervals.

Some patients suffer from attacks of vertigo, and a few complain of disturbance of vision. The urine is frequently diminished in quantity and may show signs of an interstitial nephritis. Many such patients show symptoms of autointoxication at times.

The radial arteries may or may not show the presence of sclerosis, and the blood pressure may be high, low or normal. It is important to determine the blood pressure. If one does not possess an apparatus for this purpose, fairly satisfactory results may be obtained, after a little practice, by applying one's fingers to the radial artery and noting the amount of pressure necessary to arrest the pulse wave. Of course the impression gained in this way is not to be compared in accuracy with the result obtained by the use of a blood-pressure apparatus.

While a diagnosis of arteriosclerosis can be made in most such cases without an analysis of the gastric contents, it is safer and more satisfactory to carry out such an analysis, for one is thereby better able to eliminate the probability of the presence of malignant disease of the stomach. Free hydrochloric acid is not infrequently absent from the stomach contents in normal persons over 50 years of age; therefore one need not be surprised at its absence in cases of arteriosclerosis such as those under consideration. Digestion is usually fair, and depends partly on the character of the gastric juice. The motility of the stomach is usually normal; in some cases it is increased, but lactic acid and Oppler-Boas bacilli are not found in uncomplicated cases of arteriosclerosis. Buch and others state that the abdominal pain is not influenced by the character of the food, and is felt only when large meals are taken. The character of the food does alter the symptoms, as good digestion is not to be expected in the absence of free hydrochloric acid from the stomach, and the secretion is not only altered in its chemistry, but in some cases the secretion of gastric juice is considerably reduced. Then, again, indiscretions in diet not infrequently produce a renewal of the autointoxication, a subacute aortitis or arteritis with diminished urinary secretion, vomiting, etc. In such cases of abdominal arteriosclerosis there is usually a pulsation in the epigastrium and the abdominal aorta is tender and painful. Some patients may have attacks of angina pectoris and the pain may also be referred to the epigastrium.

The following cases present some features which are of interest:

Case 1.—*Patient.*—L. B., female, white, aged 68, married, born in the United States, housewife, had been a hard-working woman and the mother of a large family, four sons being physicians. The patient was brought to me by Dr. George E. Bair, of Braddock, Pa., on March 28, 1908. Family history was negative.

History.—The patient had had the diseases of childhood and typhoid fever four years before examination. Her chief complaint was weakness, abdominal distention after food, heartburn, poor appetite, fulness and distress after eating; nausea, regurgitation of sour liquid after food or drink, constipation and vertigo. She had lost considerably in weight during the past six months and complained of some soreness in the abdomen, headache and pain in the back of head. She had been in bed most of the time for twelve weeks before I saw her, and was on a diet of broth and malted milk, as she could not retain anything else and very little of that. The patient was so weak that on her arrival in Philadelphia she was taken from her berth in the Pullman car to the residence of a relative and again placed in bed, where I saw her the following day.

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* Read before a meeting of the Philadelphia County Medical Society, Dec. 23, 1908.

Physical Examination.—The patient was a medium-sized woman, with a good color. There was evidence of wasting but no emaciation or cachexia. The teeth were very defective; lungs and heart negative, except that the aortic second sound was increased. The abdominal wall was very much relaxed, with a prominence in the umbilical region suggesting the presence of gastroptosis. The liver was normal in size and position. Gastric tympany began at the sixth rib in the left nipple line and the greater curvature of the stomach passed downward and to the right, crossing the abdomen three inches below the umbilicus. The lesser curvature of the stomach was midway between the xiphoid cartilage and the umbilicus. The position of the stomach was confirmed by inflation with the stomach-tube. There was a great deal of tenderness of the abdominal aorta, which could be moved by the palpating fingers. Palpation of the abdominal aorta caused her distress and a sense of nausea and faintness. There was no tenderness in the regions of the gall bladder or appendix. Peristaltic sounds could be heard over the displaced pylorus, occurring at intervals of from twenty to twenty-two seconds. The sigmoid flexure of the colon was palpable and probably contained feces. The radial and superficial temporal arteries were hard and easily palpated. The urine was negative but reduced in quantity.

Analysis of Gastric Contents.—An Ewald test breakfast was given and forty-five minutes later 100 c.c. of gastric contents were aspirated. Digestion was fair; some mucus was present. Total acidity was 35; free hydrochloric acid, a trace; reaction to Congo positive. The test for occult blood was negative, and no Oppler-Boas bacilli were found.

Diagnosis.—Arteriosclerosis, acute aortitis of the abdominal aorta, gastroptosis, gastric subacidity and constipation.

Treatment.—A zinc oxid plaster abdominal belt was applied for the gastroptosis. The patient was put on a suitable light diet of a mixed character; the constipation was relieved by enemata. She was also given tincture of strophanthus 10 drops three times a day and theobromin sodium salicylate 5 grains three times a day. She improved rapidly in flesh and strength, getting out of bed in three days, and two days later she walked seven blocks in the open air. She continued to improve; notwithstanding her age, she was very active and was able in a few weeks to walk great distances with other members of her family. A letter received from Dr. Bair on Nov. 5, 1908, states that the patient continues in good health. That gastroptosis was not the cause of the symptoms in this case was shown by the fact that rest in bed, which is very good treatment for this condition, failed to give relief, and that improvement took place only after treatment of the vascular disease.

Case 2.—*Patient.*—W. S., male, white, married, aged 68, born in the United States, principal of a school, was referred to me by Dr. Thomas S. Shriner, of Philadelphia, on May 19, 1908. His mother and one sister died of tuberculosis, the former aged 60, the latter 33. The patient had had the diseases of childhood and typhoid fever thirty-one years ago.

Present Condition.—The patient complained of loss of weight and strength, also of loss of appetite, nausea, fulness and distress after food, bad taste, very foul odor to the breath, and paroxysmal attacks of pain in the lower abdomen. There was considerable expectoration but no cough. The loss of weight had been gradual and amounted to twenty pounds during the last two years. There was no vomiting but considerable nausea, some belching; the bowels were costive. Headache was occasionally present, but no vertigo.

Physical Examination.—The patient was a medium-sized man with fair nutrition; no emaciation or cachexia; color pale. The teeth were in good repair. The tongue was coated white, and there was an intensely foul odor to the breath which was due to a fetid pharyngitis, and this was also the cause of the nausea, expectoration and bad taste. The lungs and heart were negative. The liver was palpable below the costal border. The abdominal aorta was tender and the radial arteries hard and thickened. The stomach was aspirated forty-five minutes after an Ewald test breakfast but no contents were obtained. The test breakfast was repeated one week later and 100 c.c. of contents obtained after thirty minutes. This showed poor digestion. Total acidity was 30. There was no free hydrochloric acid; no lactic acid; no Oppler-Boas bacilli. The occult blood test was negative; there was no mucus; the urine was negative, and no occult blood was found in the stools.

Diagnosis.—Arteriosclerosis; gastric subacidity.

Treatment.—Tincture of strophanthus 10 drops three times a day, and theobromin sodium salicylate 5 grains three times a day, and dilute hydrochloric acid 10 drops three times a day after food. Under this treatment the patient gained in weight and strength. The pharynx received local treatment. He is now, seven months later, enjoying good health.

Case 3.—*Patient.*—J. D., male, white, married, born in the United States, aged 50, real estate broker by occupation. His father died at 73 of apoplexy. He had had scarlet fever when a child and typhoid fever and lumbago in 1891; he had recovered after six weeks' illness. He took tea and coffee moderately and smoked to excess.

Present Condition.—The patient was well up to two years ago, when he began to have pain in the lower abdomen, coming on from one to two hours after eating, and fulness and distress in the same region, particularly after food. Belching and the passage of flatus were very annoying and distressing symptoms. The pain, which was intermittent at first, had become nearly constant for the previous three months. There was a constant dull ache to the left of the umbilicus which was somewhat relieved by lying down. The patient was much weakened. The appetite was increased; there was regurgitation of sour liquid occasionally; no nausea or vomiting. The bowels were usually costive. There was occasional headache. The patient was very nervous and slept poorly and had palpitation. No edema was present; loss of weight had been twelve pounds within a year.

Physical Examination.—Sclerosis of the radial arteries; an increased aortic second sound; abdominal distention and pulsation in the epigastrium; and a very tender abdominal aorta.

Diagnosis.—Arteriosclerosis.

Treatment.—Tincture of strophanthus 10 drops three times a day, and theobromin sodium salicylate 5 grains three times a day. In three days after the institution of this treatment the abdominal pain had disappeared; sleep was better and the patient recovered good health in a short time. Treatment for the so-called dyspepsia and distention had no effect until the vascular disease was attacked.

Case 4.—*Patient.*—M. H., aged 59, female, white, married, born in the United States, occupation housewife, lived on a farm and worked very hard. I saw her in consultation with Dr. G. M. Grim, of Ottsville, Pa., Aug. 23, 1908. Her mother died at 53 of tuberculosis; her father died at 70 from cause not known to the patient. One sister died of tuberculosis or gastric catarrh (?) Her husband and two children were living and well. The patient had had the diseases of childhood and typhoid fever at the age of 25.

Present Condition.—Outside of occasional attacks of vertigo for several years the patient was perfectly well up to April, 1908, when she began to feel weak, easily tired, and have headache occasionally. In May her appetite began to fail; nausea and retching appeared and had continued up to the time when the patient was seen. Belching, palpitation of heart and a gradual loss of weight were complained of; there was also some epigastric soreness and throbbing. In May the patient had an attack of diarrhea which lasted for four days. Almost everything she attempted to eat, for two months before I saw her, caused so much nausea that she could not swallow it; or if she did swallow it, most of the food was immediately rejected. During those two months she did not eat any bread. She had been confined to the bed most of the time for over a month. She expectorated considerable mucus but had no cough. The bowels were costive, and a small amount of urine was passed.

Physical Examination.—The patient was a medium-sized woman, with good color but poor nutrition; no cachexia or emaciation. She was unable to keep her false teeth in her mouth on account of the nausea. Heart beat was 110 per minute, but regular; the aortic second sound was increased; the radial arteries were atheromatous. The tongue was dry, red and fissured. The lungs were negative. The liver was palpable below the costal border. There was abdominal distention, pulsation and moderate tenderness of the aorta in the epigastrium. The stomach was normal in size and position; no mass was felt and no peristaltic waves were visible. The kidneys and spleen were not palpable. The patient had a chronic pharyngitis which was the cause of the nausea and expectoration. The physical examination was otherwise negative. The urine did not show any abnormalities.

Analysis of Gastric Contents.—After some difficulty I persuaded the patient to take an Ewald test breakfast; she protested that she could not swallow it, nor could she retain it. She did, however, take the breakfast and retained it. The gastric contents were aspirated in forty-five minutes and 70 c.c. of well-digested contents were obtained. An analysis of the same showed some pharyngeal mucus; total acidity 51; free hydrochloric acid 12; reaction to Congo positive; no occult blood and no Oppler-Boas bacilli found. This analysis showed the gastric motility and secretion to be normal.

Diagnosis.—Arteriosclerosis and chronic pharyngitis.

Treatment.—This was similar to that in the other cases, except that local applications were made to the pharynx, etc. The patient's diet was rapidly increased and I received a letter from Dr. Grim the last of October stating that he had not seen the patient in thirty days; that she considered herself well and had been doing her own work as usual.

CASE 5.—*Patient.*—K. M., female, aged 61, married, white, born in the United States, a housewife by occupation, was seen on Sept. 2, 1908, having been referred to me by Dr. Joseph A. Moore, of Philadelphia. One brother died of tuberculosis at 51 years. One sister died at 67 of cancer of the gall bladder and liver. Another sister died of apoplexy at 70. The patient had had an attack of bronchitis in February, 1908.

Present Condition.—The patient was well up to July 4, 1908, when indigestion followed indiscretion in diet, and she had not been free from trouble with her stomach. afterward. There was a burning sensation in the abdomen, fulness and distress, no vomiting, belching and a large amount of flatus. She had slight vertigo at times.. There was progressive loss of weight.

Physical Examination.—She had a faint mitral murmur and abdominal arteriosclerosis. The Ewald test breakfast showed gastric hypermotility, total acidity of 60; no free hydrochloric acid; no lactic acid .

Treatment.—This was similar to that given to the other patients. She improved nicely, and at the time of this writing Dr. Moore tells me that his patient has gained in weight and is enjoying good health.

The conditions of the gastric functions in four of those cases were: motility increased in three; normal in one; free hydrochloric acid, a trace in one, absent in two and normal in one; absence of lactic acid in all four, and no Oppler-Boas bacilli found. Peptic digestion was not determined in those cases; but I made an analysis in one other case recently and found peptic digestion to be normal, although hydrochloric acid was absent. In one (Case 3) no gastric analysis was made. Weakness and loss of weight are prominent symptoms in some cases. The abdominal aorta was tender in all the cases. The association of pharyngitis in two cases is of interest, as its symptoms had been misleading. Gastroptosis or visceroptosis was present in only one case. In some of the cases nitroglycerin or the other nitrites give relief when other remedies are of no benefit. All of these patients had been dieted and drugged for dyspepsia without relief.

Arteriosclerosis is frequently a cause of gastrointestinal symptoms in elderly people and the treatment usually gives gratifying results.

1934 Chestnut Street.

LOCAL AND SYSTEMIC CONDITIONS DUE TO NASAL OBSTRUCTION *

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DETROIT

There is a disposition on the part of many physicians to attribute throat affections to the moist, changeable climate of our northern states. We often hear it stated that every one has "catarrh" in Michigan. As a matter of fact, catarrhal affections are no more frequent in Michigan than in most sections of the country. It is true that certain forms of catarrh are better in the dry, warm climate of the southwest, or in the steady cold of the northwest, but the study of climate alone does not offer a sufficient explanation of the prevalence of throat affections. It is also true that many individuals are comparatively free in any climate. Even if we admit that climate is an important factor we must face the practical problem of how best to adapt ourselves to the climate in which we are compelled to live.

It is my purpose to point out the underlying factors which render these patients particularly susceptible to repeated colds, and to suggest the proper line of treatment for their permanent relief. The unsatisfactory results which are obtained in the treatment of catarrh encourage us to search more carefully for the reason why permanent relief is obtained so seldom from the usual methods of treatment. It is a common observation that children affected with adenoids and adults with marked nasal obstruction are especially susceptible to colds, and also suffer from many general and local symptoms. This fact led me to study more closely normal nasal respiration. and to ascertain what effect, if any, a moderate degree of obstruction has on the resistance of the patient, and also to try to find out whether or not there is any relation between diseases of the respiratory tract and improper breathing.

We should determine, first, whether the nose is the organ through which the current of air normally passes in breathing, and, second, whether a moderate degree of mouth breathing is injurious to the organism. Four methods have been used to ascertain these points: first, study of the anatomy of the nose and throat of animals; second, histologic study of the organs; third, study of the effect of artificial closure of the nostrils in animals; and, fourth, clinical study on patients. In the lower animals the nasal passages are more nearly in a straight line with the larynx and trachea than in man. The larynx is placed higher in the throat, the epiglottis reaches to, or up in front of, the soft palate. The soft palate is more horizontal, and with the epiglottis it forms a curtain which closes the buccal from the nasopharyngeal cavity. These anatomic differences make mouth breathing more difficult than in man. The histologic structure of the passages in animals and man shows their use for respiratory purposes. The nasal passages are arranged to warm, moisten and filter the air before its entrance into the lungs. The mucous membrane of the whole tract is lined by columnar, ciliated epithelium, while the buccal cavity is lined by flat epithelium; it can be seen, therefore, that the respiratory tract is specially fitted for its peculiar function, while the mouth is in no way adapted for respiratory purposes.

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* Read before the Wayne County Medical Society, Nov. 23, 1908.

In laboratory research during the past year I have studied experimentally the effect of obstructed nasal breathing on about seventy-five animals—guinea-pigs, rabbits and dogs. A detailed report of the work will be published elsewhere, but the following results may be noted here: Complete closure of the nostrils of guinea-pigs is followed by death in from twenty-four to forty-eight hours. Partial closure is followed by death in from a few days to several weeks, according to the degree of obstruction, the age and the resistance of the animal. Rabbits with one nostril closed died after losing about one-half in weight. In a series of ten the average duration of life was forty-three and six-tenths days.

Partial closure of the nostrils of dogs is followed by symptoms resembling asthma and emphysema. The resistance of the younger dogs is lowered to such an extent that they die from infection, and the lungs were found to be diseased in every case examined. The changes in the hair are constant and peculiar. The hair becomes shorter, thinner and lighter in color, and a peculiar wrinkling of the skin is observed. Puppies born of a mother with obstructed nasal respiration showed lowered vitality, loss of hair, and wrinkling of the skin, and soon died. The anatomic differences between the throats of animals and man should be considered before transferring the results obtained from these experiments, but a careful study of my patients, over a number of years, has led me to the conclusion that the nose of man, as of the lower animals, is the organ through which the current of air should pass, and that even a moderate degree of obstruction to free nasal breathing is injurious.

It would be desirable, if possible, to determine the amount of nasal space necessary for normal respiration by some accurate method of measurement, but normal breathing is affected by so many factors that it is difficult to measure the current of air. In trying to ascertain the breathing space of a given individual certain facts should be borne in mind. We must remember that the total breathing space of the nose is measured by its narrowest part, that the current of air passes normally in a curved direction, upward and backward to the nasopharynx. An obstruction in the upper portion of the nose, such as an enlarged turbinal or a small adenoid mass in the nasopharynx, will obstruct normal breathing even though it does not prevent forced breathing. When patients are asked if they have free nasal breathing we often notice that they will hold one nostril and draw vigorously through the other one. This test is of no value, as the current of air is forcibly drawn through the inferior meatus, a portion of the nose not used in normal breathing. Seldom are the lower passages obstructed.

I insist that the test of nasal breathing be made while the individual is breathing quietly. The respiratory function is under the influence of the will and is affected by so many conditions that it is not always easy to determine the normal breathing for a given individual.

This point seems so important to me that an outline of the method of examination will be given. The breathing of the patient should be carefully watched before making an examination of the nose. To have the observation of any value the patient should be quiet and perfectly unconscious that he is being watched. If the lips are parted one can be reasonably certain that some air is inspired through the mouth. It is not necessary that the mouth be widely opened. Sometimes it will be noticed that the individual will breathe through the nose a portion of the time, but will occasionally open his mouth for an extra supply of air. In other instances, after a few shallow inspirations, the patient will take a deeper, sighing inspiration to supply the lack of air felt by the organism. The condition of true "air hunger" exists in these individuals, and is relieved by breathing partially through the mouth. In the majority of instances these patients are unconscious of the fact that they are breathing through the mouth.

It is always wise to try to convince the patient himself that he is a mouth breather. This can usually be done by giving him the following directions: Ask him to notice when he is reading or working if he can not catch himself breathing more or less through the mouth; also whether he notices occasionally that he takes in an extra breath through the mouth. Have him observe whether when walking along the street and breathing with the lips closed he does not find it necessary, or at least comfortable, to open his lips occasionally to draw in an extra supply of air. In a large majority of instances one or two days' observation on the part of the patient will convince him that he breathes more through the mouth than he has suspected.

The condensation test is of some value in estimating the amount of breathing space. The test is as follows: A polished, nickeled plate is used. It is more convenient if the surface be divided into inch squares. The plate is held perpendicularly in front of the patient's face, about an inch from his lips. He is directed to close his lips and breathe naturally through his nose. The moisture condenses on the cold surface and quickly evaporates. By noting the condensation from the nostrils the relative space in each nostril can be determined, and the amount of condensation is a rough test of the total breathing capacity. In order to have this test of any value the respirations should be as nearly normal as possible. An ordinary mirror can be used in the same way.

The examination of the nose should be carried on in a systematic and definite manner. Observe whether the alæ collapse with each inspiration, then whether there is an unusually heavy growth of vibrissæ at the entrance of the nostrils. By tilting the tip of the nose upward, the vestibule and the anterior portion of the nose can be observed, and the condition of the cartilaginous septum and the anterior ends of the inferior turbinals can be studied. Afterward the same structures can be better observed with the aid of the speculum. The application of a 4 per cent. solution of cocain in adrenalin, on a pledget of cotton, to the forward portion of the nose will give further information. If the inferior turbinal is swollen a shrinking will take place, but if there is hypertrophy of the structures the little shrinking that will follow will simply be the action on the vessels, as the hypertrophied tissue will be but little affected.

After the effects of the cocain and the adrenalin on the forward portion of the nose have been noted, the middle turbinal and the bony septum can be inspected. The condensation test can then be used to ascertain whether or not there is any gain in the breathing space. As the middle turbinal often narrows the space it should be carefully studied. It will often be found that it touches, or nearly touches, the septum. Cocain applied to this portion will usually not cause sufficient shrinking to give free breathing. With the rhinoscopic mirror the posterior ends of the turbinals can be observed and the nasopharynx studied. After a routine examination, as outlined above, it is usually possible to decide whether or not a given individual has proper breathing space.

The next point to determine is the effect of a moderate degree of obstruction on the health of the individual. Two methods are open to us: first, deductions from experiments on animals; second, clinical study of the symptoms of patients and the relief experienced after the obstruction is corrected.

From the study of artificially induced nasal obstruction in a large number of animals, I feel justified in concluding that the resistance of the animal is lowered and the respiratory tract becomes more susceptible to acute infections. Even partial closure of the nose leads to changes in the lungs. While we are not justified in transferring the results obtained with animals to man without certain reservations, the facts are interesting, and, to a large extent, are in harmony with clinical experience, and at least these results warrant further experimentation. There is no difference of opinion as to the injurious effect on the general health and local organs of marked nasal obstruction. We see it illustrated in children with adenoids and in adults with one or both nostrils completely blocked. I wish to emphasize that in like manner, though usually to a lesser degree, a similar train of symptoms occur in individuals who have a moderate degree of obstruction.

The direct effect of nasal obstruction, both generally and locally, is best illustrated by patients with free nasal breathing, suddenly obstructed by injury, as illustrated in the following cases:

Case 1.—A boy, aged 14, was referred to me with the following history: he was a healthy, well-developed lad, with free nasal breathing until two weeks before coming under observation, when he was struck just above the tip of the nose by a baseball. There was free bleeding and the nose at once became swollen. As the swelling subsided it was noticed that the bridge of the nose was depressed, and both nostrils badly bstructed. There at once developed husky voice and dry hroat with accumulation of mucus. The obstruction was reieved by raising the bridge and replacing the dislocated parts. Vithin a week after the packing was removed the voice was ormal and the dryness and accumulation of mucus was reieved.

Case 2.—A man had his nose crushed by a falling building. Ie was removed to a hospital where his wounds were dressed, ut no attempt was made to raise his depressed nose. Four onths after the injury he was referred to me. Since leaving he hospital he had lost flesh, his voice was husky, and his hroat dry and he was subject to frequent colds. Several perations were necessary before the depressed bones could be aised and free nasal breathing obtained. As a result of his mproved breathing he gained in weight, his voice became clear nd he was not subject to colds.

The symptoms in these acute cases are very evident, ut when the obstruction develops gradually the patient becomes accustomed to the impaired breathing, and, though the symptoms are similar, they do not stand out prominently, nor does the cause appear so evident.

There is a group of symptoms present in patients who have "catarrh" which is characteristic of impaired nasal breathing. A history of frequent colds starting in the nose or throat should make the physician think at once of nasal obstruction. Individuals with free nasal passages do not catch cold easily. A dry throat, more especially in the morning, or on waking in the night, is usually due to mouth breathing. Rarely it may be due to certain general conditions, as diabetes, or to that rare nervous affection, xerostomia. Impaired vocal function is common. The voice is often husky and is easily fatigued. Dropping of mucus into the nasopharynx, sighing respiration and frequent yawning are common symptoms. Bronchial asthma may be due to, or at least aggravated by, impaired nasal breathing. Besides the above group of local symptoms there are indefinite general symptoms that seem to depend partly or entirely on lack of proper breathing space. These patients are often under weight, easily fatigued, poorly nourished and may suffer from insomnia. Their breathing is shallow, and auscultation of the upper portion of the lungs show diminished breathing — the condition expressively designated "lazy lung." Dyspnea, palpitation of the heart and nervous symptoms have been noticed in my patients. These varied symptoms of air hunger are due to improper breathing. The proof lies in the fact that after the correction of the nasal obstruction the general condition will improve and many and sometimes all the symptoms will disappear. I have records of cases in which the general health greatly improved after obstructed breathing was relieved. A gain in weight of from five to twenty pounds has often been noted, and such symptoms as insomnia, dyspnea and palpitation of the heart have disappeared. All who are below par, who catch cold easily, or who have catarrhal symptoms, should have the nasal passages studied carefully. In considering the general symptoms other sources of irritation should be eliminated, and no nose should be operated on unless there exists in the nose itself reasons for such an operation. If even partial mouth breathing exists we are justified in advising such an operation, providing operative measures are feasible.

Patients naturally wish to know what they may expect from an operation. They can be assured that operations on the nose are not dangerous, can be performed under local anesthesia, at the physician's office, without much pain and with but little loss of time from daily routine duties. The patients will promptly feel the sense of comfort and well-being that comes from free nasal breathing. The dryness of the throat will be relieved in proportion as the individuals breathe with the mouth closed. The mucus in the nose and the nasopharynx will be temporarily increased, then gradually decreased. The ultimate disappearance of the catarrhal discharge will depend on several factors; in a general way it will depend on the length of time that the mucous membrane has been affected. The younger patients are usually cured sooner than the older ones. Those with sinus disease are relieved much more slowly, and some direct treatment of the sinuses may be necessary. As a rule, after the first week or ten days the only treatment necessary is daily douching of the nose, which can be done by the patient. Enlarged tonsils, adenoids and other lesions of the throat should be corrected as far as possible. If the general symptoms are dependent on air hunger they will gradually disappear. Advice as to fresh air, proper diet and personal hygiene is always indicated.

I have tried to emphasize very strongly in this paper that the cause of many of the prevalent catarrhal conditions is improper breathing, and that we can not hope to improve our patients permanently unless we correct the manner of breathing.

There are certain individual peculiarities that make it difficult to give a patient proper breathing space. Some persons naturally have so narrow a nose that the usual operative measures are of little avail. The judicious removal of a small portion of one or both middle turbinals will sometimes gain enough room to relieve the condition to some extent. A marked convexity of the upper cervical vertebræ lessens the anteroposterior diameter of the nasopharynx. A high arched palate encroaches on the nasal cavity. Long-continued mouth breathing, especially in the young, is usually accompanied by changes in the shape of the jaws. These conditions should be considered before a prognosis is given or the proper line of treatment decided on.

Any condition which lowers vitality naturally makes the mucous membrane of the respiratory tract sensitive. Our artificial manner of living in close, badly-ventilated houses; the use of tobacco, alcohol and rich foods, especially if coupled with a sedentary life, aggravate catarrhal conditions. Constipation and gastrointestinal diseases are frequent complications.

If the observations which I have made are correct, the proper treatment consists in giving the patient free nasal breathing. The obstructions are usually due to deviated septa, enlarged turbinals—especially the middle—and nasal polypi. Rarer conditions are occasionally found. The above conditions are not permanently benefited by sprays or applications. Sprays are used altogether too much by the profession, as the curative value is exceedingly limited. If cleansing of the passages is desired the nasal douche is much more efficient.

Surgery offers accurate, safe and prompt relief for nasal obstruction. Under modern methods various obstructions can be corrected with a nicety unknown a score of years ago. We can hold out to the large majority of our patients the hope of permanent relief.

CONCLUSIONS

The evidence derived from the study of histology, comparative anatomy, experiments on animals and clinical observations shows that the nose is the organ through which the current of air should pass in normal breathing.

Nasal obstruction in animals is followed by dyspnea, lessened resistance and changes in the lungs.

Impaired nasal breathing, even of moderate degree, is the important etiologic factor in the causation of catarrh.

Lowered vitality, accompanied by a variety of general symptoms, is often due to nasal obstruction.

The aim of treatment is to obtain free nasal breathing. This can be accomplished in the majority of instances only by surgical measures.

606 Washington Arcade.

Hospitals for the Congo.—It is reported that the Belgian minister for the colonies has ordered the establishment of six lazarettos for patients suffering from sleeping sickness; they will be under the charge of Belgian physicians.

Clinical Notes

THE TECHNIC OF EXAMINATION FOR THE PALE SPIROCHETE BY DARK-FIELD ILLUMINATION

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The *Spirochæta pallida* in syphilis, despite the fact that it can not be cultivated on artificial media and hence does not fulfill all the requirements of the four rules of Koch as regards its etiologic connection with the disease, has become during the past two or three years an organism of relatively great importance in biologic and bacteriologic literature. The organism has been found so constantly by most observers in all stages of syphilis, from the primary to the tertiary lesion, that practically all authorities are convinced of its definite etiologic relationship. Its recognition by the ordinary methods in vogue has been a more or less difficult and time-consuming procedure. In so prevalent and protean a disease as syphilis any means of improved examination leading to early diagnosis should be welcomed by those whose duties frequently make it necessary for them to decide as to the specific or non-specific nature of a suspicious lesion.

The various staining methods outlined by Giemsa and by Goldhorn for secretion smears, and by Levaditi for tissues, for the most part have proven satisfactory. In some cases it may be possible to demonstrate the organism unstained by means of the oil immersion with or without compensation ocular, in hanging drop or simply on an inverted cover glass. Such a method requires much practice on the part of the observer, and is, on the whole, difficult and liable to inaccuracy because of the feeble refractive power of the organism.

The dark-field illuminating condenser for the examination of fresh unstained material from mucous patch, condyloma, indurated glands or the suspected primary lesion, leaves little to be desired in the way of convenience and for clearness of definition of the organism. The Rev. J. B. Reade of England first described in 1837 the principle of illumination involved in this condenser. By means of this apparatus ultramicroscopic particles or organisms of feeble refractive power are made visible in much the same way that particles of dust are visible against a dark background when the particles themselves are illuminated by rays of sunlight. The method was practically lost sight of until 1904-05, when Zsigmondy and Siedentopf made use of the principle in an apparatus for the demonstration of ultramicroscopic particles. Since that time various European optical firms have perfected the instrument under the name "Dunkelfeld-Spiegelkondensor."

This condenser, which in most forms can be attached to any microscopic stage, differs from the ordinary Abbe condenser in that only indirect reflected rays are admitted around a central diaphragm for the illumination of the object. The diaphragm itself serves as a dark background and it is in this contrast that the definition of the intensely illuminated object becomes more clearly outlined. The Abbe condenser, on the other hand, admits direct rays of light for the illumination of the object, the field as well as object being illuminated. In the dark-field condenser the object only is illuminated while the field is dark. In using the dark-field condenser, the Abbe condenser should be removed from the microscope, and a light of comparatively great intensity should be used. In my own work I have found the Nernst 32 Watt 110 volt direct current lamp, which gives about 160 candle power, satisfactory. For general convenience, however, an ordinary inverted Welsbach gas lamp which gives from 100 to 125 candle power is sufficient. The rays of light from the lamp may be concentrated on the microscope mirror (the plain side only of the microscope mirror should be used in this work) by interposing between lamp and mirror an ordinary convex magnifying glass of about 12 cm. diameter. This utilizes all available rays emanating from the source of light.

Concerning the choice of the various dark-field condensers now on the market, the Leitz instrument, which has a numerical value for the inner aperture of 1.10, gives in my experience good results if a light of greater power, such as the small arc lamp, is used. The Reichert latest type instrument (type Fb.)[1] gives a range of values for the inner aperture from 0.85 to 1.45 on a revolving disc, and, in addition, a miniature Abbe condenser which can be instantly revolved into position without removing the instrument from the microscope stage, for the examination of stained tissues, urinary sediments, etc. The low value for the inner aperture of 0.85 in this instrument makes it possible to utilize as source of light a lamp of less candle power, such as the inverted Welsbach. When it is convenient to use a small arc lamp, the apertures having a greater value than 1.0, such as in the Reichert instrument, 1.10, 1.20 or 1.45, should be used, as in this way greater contrast between the illuminated object and the dark background may be secured. The greater convenience of the Reichert instrument of this type lies in the fact that after being once centered on the microscope stage, it becomes a permanent part of it, there being no necessity for its removal for other routine work in the laboratory. The other instruments with which I am familiar make it necessary, when one wishes to examine stained bacteria, stained tissues or urinary sediments, to remove the dark-field condenser and replace the Abbe condenser.

TECHNIC

From a suspected primary lesion a smear is made ifter cleansing with a cotton swab, securing if possible some of the serum which exudes as a result of irritaion with a small curette or the platinum wire. A drop f warm normal salt solution is placed on a thin slide. The secretion obtained by curette or wire is mixed with he drop and a clean cover glass inverted over it. Or ne of the enlarged inguinal glands is seized between he fingers and its center punctured with a hypodermic yringe, through which a drop or two of gland juice is spirated. A smear is prepared in much the same way rom a mucous patch, bulla or condyloma latum. A rop of cedar oil is interposed between slide and conenser, not between cover glass and lens. The No. 7 eitz dry objective with No. 3 ocular, or, as I have ound best in my work, the No. 8 or No. 12 compensatng ocular, is used. The No. 7 objective with compenating ocular No. 12 or No. 18, while requiring more ntense illumination, gives better results, since the size f the organism is at least doubled, i. e., a magnification equal to a combination of 1/12 oil immersion and No. 3 ocular. If the oil immersion 1/12 is to be used with the dark-field condenser the lens should be returned to the manufacturer to be fitted with a diaphragm which has been found necessary for this work.

The spirochetes if present are seen as illuminated spiral-like organisms moving in wave-like motion across the field. In some preparations they are very abundant, while in others some search is necessary to find them. A little practice will serve in differentiating the pale spirochete from other organisms present in the specimen. In mouth lesions, tonsillar plaques and tongue fissures one must differentiate it from the *S. buccalis* and *S. dentium*. In fresh smears kept warm by allowing a little warm salt solution to flow under the edge of the cover glass from time to time, the motility of all these forms can be preserved for an hour or two. As a rule, however, the *Spirochæta pallida* loses its power of locomotion sooner than the others.

In a fresh specimen the organism is active, the spiral windings very thin and sharp, well differentiated and regular. The flagellum at the end of the *Spirochæta pallida* is very thin in proportion to the thickness of the body, while the end of the body is thicker than in most of the other forms. The flagellum is also longer, as a rule, than in other forms. The characteristic spiral movement of the *Spirochæta pallida* is forward and backward and when it attaches itself to a leucocyte it remains quiet often for a considerable time, even in fresh preparations. Hoffmann has stated that the other forms attach themselves less often to cells present in the smears. At times the *Spirochæta pallida* has a distinct sideway pendulum movement. It is more feebly refractive than the other forms commonly found and the windings or spirals are more acutely bent. The other spirochetes encountered most commonly are *Spirochæta balantidis* and *Spirochæta refringens*.

If one is careful to cleanse the lesion with a pledget of cotton wound on an applicator before obtaining the material on a sterile wire, and especially if the lesion is irritated with the wire after such cleansing, so as to secure an exudation of "irritation serum" from the deeper layers of tissue, the commoner forms of spirochetes are less seldom found. As a matter of fact, in the past few months I have examined the secretion from a considerable number of unclean mouths, from so-called canker sores, stomatitis, and from lesions of the gums, pyorrhea alveolaris, and the secretion of the glands about the glans penis, from small ulcers about the cervix and cervical lacerations, without in any instance finding an organism closely resembling the *Spirochæta pallida*. The *Spirochæta balantidis* and *Spirochæta refringens* will more or less frequently be found in the secretion obtained from the glans penis, vulva or vagina, but the differentiation of these organisms is not as a rule difficult.

THE EARLY DIAGNOSIS OF SYPHILIS

Hoffmann has shown by inoculation experiments that *Spirochætæ pallidæ* were present in the blood three weeks before the manifestation of the roseola; in fact, by the time the primary lesion has developed sufficiently to become noticable, the infection has already reached the lymph channels of the skin papillæ with free access to the larger lymph streams. Neisser has shown by excision experiments on apes that infection of the lymph channels of the skin papillæ probably occurs within eight or ten hours after the contamination of the area, which later through necrosis of superficial and deeper connective tissue cells we recognize as the primary lesion.

---

[1] This dark-field condenser costs in Vienna $20.

Probably the first changes that result locally after the invasion of the lymph channels are in the form of a lymphangitis and perilymphangitis with obstruction of lymph flow and edema. Necrosis of the connective tissue cells is a concomitant part of the process with an abundant emigration of lymphocytes into and about the area of infiltration. The characteristic hardness of the initial lesion is in part due to the swelling of the surrounding lymph vessels as a result of the obstructive lymphangitis, in part as the result of edema and the filling of the tissue spaces with lymphocytes. The organisms probably do not reach the blood streams until somewhat later; that is, about the end of the period of incubation, when through the inflammatory process set up by them in the walls of the small veins and capillaries an obstructive endophlebitis and arteriolitis results with migration of the organisms through the delicate vessel walls.

The swelling of the neighboring lymph glands, so far as present knowledge goes, probably is merely the result of a protective hyperplasia against the invasion of the organism and its poison; not because the glands serve as particular breeding grounds for multiplication. The adjacent glands do, however, contain the *Spirochæta pallidæ* in large numbers coincidental with the development of the primary lesion.

IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT

Since we now have a method at our disposal by means of which an early diagnosis can be made from any suspicious genital, lip or mouth lesion, it goes without saying that such a method should be utilized in every case before passing judgment as to the harmlessness of the process. Negative findings do not of necessity mean that the process is not luetic, any more than one or two negative sputum examinations for tubercle bacilli indicates that the case may not be tuberculous.

Positive findings, however, at once make clear the nature of the condition and a large percentage of primary sores, mucous patches, condylomata lata and indurated lymph glands adjacent to the primary lesion will show the *Spirochæta pallida* by the method outlined above. Multiple lesions occurring from ten days to four or five weeks after exposure, while misleading because of their multiple character, should put one on guard and search for the organism should be at once instituted. In single lip or tongue lesions search should be made to ascertain their true character without waiting for so-called developments.

Neisser, Hoffmann and others have recommended with much wisdom the excision of the primary lesions as soon as the *Spirochæta pallida* is found, with the idea in view that at least an important focus of spread to others and to the general circulation of the patient himself will be eradicated. In view of the fact that the spread from the primary lesion to the lymph circulation takes place comparatively early in the ulcerative process of the primary sore, such excision if practicable should be done early. In many cases we may not be able to see that excision is carried out with the removal of a fair amount of healthy surrounding tissue. The next best thing to do will be thorough actual cauterization, preferably under an anesthetic, followed by application of a mercurial ointment. When such a procedure can not be carried out, the use of a mercurial ointment, such as a 10 per cent. white precipitate ointment or a 10 per cent. calomel ointment, may be recommended. The patient should also be brought under the constitutional effect of mercury as soon as possible. It is no longer necessary to wait for development of so-called secondary symptoms, since by getting the patient as early as possible under treatment the rapid multiplication of the organism can be controlled and the development of secondary symptoms ameliorated.

CASE OF VINCENT'S ANGINA

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An examination of the American literature for the past year shows very few reported cases of this disease. Undoubtedly, however, Vincent's angina is not so rare as this fact might lead one to think, and I have no doubt but that a positive diagnosis of this condition would be made much more frequently if, in addition to cultures, microscopic smears were made directly from the pseudomembrane. The well-known difficulty of making cultures of the two symbiotic organisms which are found in the lesions of this disease are sufficient cause for lack of reports. Positive diagnosis of Vincent's angina can not be made without a microscopic examination of smears made from tonsillar exudates. According to descriptions of this disease, the case to be reported is typical of the diphtheroid type:

History.—The patient, a woman of 22, a bank stenographer by occupation, had had diphtheria once, seven years before the present attack and had always been subject to sore throat until four years before the present illness, when she had parts of the tonsils and adenoids removed. The operation was not completed on account of severe hemorrhage.

Present Illness.—This began with sudden onset, the day previous to the patient's first visit. At that time she complained of sore throat, with considerable difficulty in swallowing, and with swelling of the neck due to enlarged glands at the angle of the jaw on the left side. She was not feverish but complained of loss of appetite and bad breath.

Clinical Examination.—The throat presented the following appearance: The remains of the right tonsil with soft palate and pharynx showed nothing abnormal. The upper half of the left tonsil, which had been left from the previous operation, was considerably reddened and presented a shallow ulcer about 1 cm. in diameter. Its base was rough and covered with a thin grayish membrane which stripped with some difficulty and left bleeding points. The edge of the ulcer was definite and fairly regular but not overhanging. Several glands at the left angle of the jaw were enlarged to the size of beans and were tender. The temperature was 99.2 and pulse 80.

Bacteriologic Examination.—A smear was taken from the floor of the ulcer and stained with Loeffler's methylene blue. The microscope showed enormous numbers of the characteristic spirochetes with moderate numbers of the accompanying fusiform bacillus. Only a few staphylococci were present in the smear. A culture made on blood serum showed at the end of twelve hours many colonies of *Staphylococcus albus*, some of the pneumococcus, but none of the diphtheria bacillus or the organisms found in the smear.

Course of Disease.—The ulcer was not affected by local applications or by cleansing sprays, but promptly improved under the internal administration of potassium chlorate. At the end of two weeks the throat was normal in appearance and the enlarged glands could no longer be felt.

139 Park Street.

PERSISTENT OMPHALOMESENTERIC DUCT WITH ACCESSORY PANCREAS

W. W. ROBLEE, M.D.
RIVERSIDE, CAL.

Patient.—T. P., male, aged 2½ years, was brought to me January 6, 1908, the mother stating that the baby's umbilicus was sore and constantly moistened by a watery discharge. The birth had been a normal one, the cord came off within a week, and the navel was apparently normal until at the age of 20 months, the mother noticed a drop of blood coming from it.

Examination.—Some very small granulations appeared to be present at this time, but no tumor growth, and from that time on the navel remained red and moist.

History.—The granulations were cauterized several times with silver nitrate, and in December, 1907, shortly before they came to California it was curetted by their physician, Dr. Watkins, in Washington. After they came to me, on two different occasions I touched what appeared to be two small red granulations, with chromic acid, but the discharge continued. In March, 1908, the child was attacked by an acute infection, probably influenza. He was seriously ill, and then before he fully recovered an attack of pertussis developed. During this time, about six weeks, the mother paid but little attention to the navel, and on her return from a stay at the seashore she brought the child to my office. On inspection I found that since seeing the patient about a month previous, a small tumor mass had developed outside of, but connected by a pedicle to the umbilicus. This was one-half inch in diameter, round, red in color and very firm in consistency.

Treatment.—After excluding hernia in diagnosis I recommended its excision. This I did under chloroform anesthesia, and followed the excision by a thorough cauterization of its base by the electrocautery.

Result.—At this date, eight months after the performance of the operation, it has healed completely and no more moisture occurs at the umbilicus. Whether the result will be permanent or not, I am unable to say, but I judge from the histologic findings that there will be no more trouble.

Examination of Tumors.—A vertical section through the tumor mass shows the following condition: The tumor is solid, the outer covering is composed of a layer of intestinal glands. Below this is a layer of connective tissue, then comes the central portion of the tumor, which is composed of typical pancreatic tissue, lobes, lobules, acini and characteristic islands of Langerhans. No excretory duct can be found; but one was undoubtedly present, and through it the moisture came which caused so much annoyance. Forming the base of the tumor there is another layer of connective tissue and some unstriped muscle fibres.

The explanation of the histologic findings has been lifficult to arrive at, and I have been unable to find any ase reports showing a like condition.

The layer of intestinal mucous membrane evidently s due to a persistence of the omphalomesenteric duct; he pancreatic tissue is a so-called accessory pancreas, vhich evidently became displaced in early embryologic ife. I find no records of an accessory pancreas having ncreased in size so rapidly as did this one; in fact, the argest gland I find a record of, reported by Thorel, is aid to be the size of a two-mark piece. The usual size s from 1 to 2 cm. in diameter. The age of the child peaks against carcinoma.

Warthin, Bize and Ellis all report cases of accessory ancreas in which malignancy appears to be established, nd all lay stress on the possibility of such an occurence. In this case the growth can perhaps be otherwise xplained. The pancreatic nodule probably was situted under the umbilicus, and it was forced out by the aroxysms of coughing during the attack of whooping ough from which the child suffered.

I report this case because of its unusual features, in rder that it may be of record; only about seventy cases of accessory pancreas have been reported up to date and none in connection with a persistent omphalomesenteric duct.

A NEW DOUCHE PAN TO BE USED FOR IRRIGATIONS AFTER SUPRAPUBIC CYSTOSTOMY

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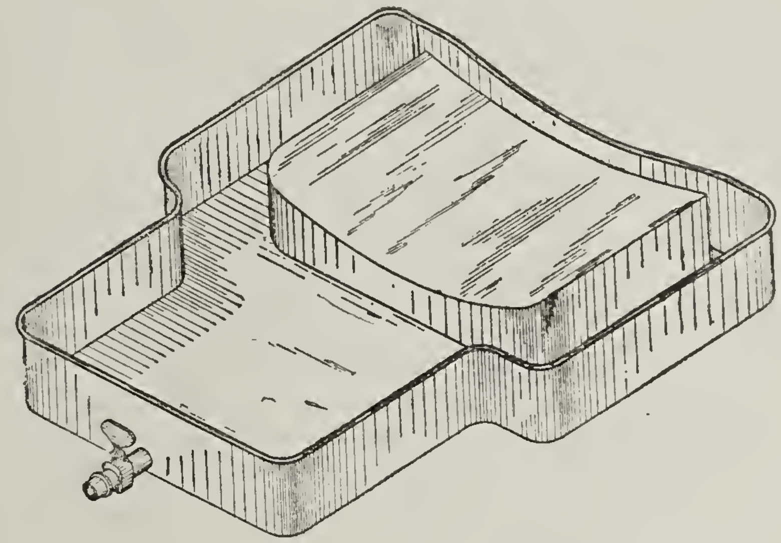
The illustration shows a douche pan which facilitates irrigation of the bladder after suprapubic section. It is an every-day experience that as the fluid comes out of the wound it runs in all directions and wets patient, bed and clothing. This basin has two lateral wings, which catch the fluid as it runs down over the sides of the patient, the remainder being caught by the middle portion. The part on which the back rests is separated from the posterior rim, so that any fluid which may run to it from around the patient's body will pass into the pan.



This basin has some decided advantages over the rubber pad: First, the patient does not lie in the fluid while he is being irrigated; second, it is more easily adjusted and can be removed more readily; third, it is made out of agateware or tin and is less expensive and more durable.

A somewhat extended use of this pan in my own practice has shown it to have a very definite value.

SPLENIC ANEMIA IN A FIVE-YEAR-OLD BOY

VAN BUREN KNOTT, M.D.
SIOUX CITY, IOWA

As the literature on splenic anemia or Banti's disease during the past five years has been both voluminous and contradictory, I shall make no effort to burden it still further with conjectures or with unverified opinions. It is my desire to place on record a case occurring in a child of 5 years, which is, so far as the literature at my command reveals, the earliest age at which the condition has been noticed.

History.—The patient, G. C., aged 5, male, was of American parentage and of negative family history. He began to walk when fourteen months old. Four months later he became unable to walk for some unknown reason, and at the same time developed squint in both eyes, recovering completely from both difficulties in six weeks. The following year he contracted measles and whooping cough, but recovered completely with no sequelæ.

Present Illness.—About June 1, 1908, the child began having attacks of severe abdominal pain, which usually appeared at night. These attacks came on nearly every night, were invariably accompanied by vomiting and would persist for a time, varying from ten minutes to several hours. A physician who was called at this time noticed an enlargement of the patient's spleen. His mother noticed a steady and progressive loss in weight and strength.

Physical Examination.—The child presented an extreme degree of anemia, was poorly nourished and complained of feeling tired. The spleen was found to be very much enlarged and tender to the touch. All other organs were normal. The child was unusually bright and intelligent.

Blood Examination.—Nov. 12, 1908: Hemoglobin, 32 per cent.; reds, 1,762,400; whites, 5,890; neutrophiles, 78 per cent.; large lymphocytes, 4 per cent.; small lymphocytes, 17 per cent.; myelocytes, 1 per cent.

On these findings a diagnosis of splenic anemia was made and splenectomy performed November 14.

Blood Examination.—November 19: Hemoglobin, 60 per cent.; reds, 2,336,000; whites, 4,560; neutrophiles, 70 per cent.; large lymphocytes, 6 per cent.; small lymphocytes, 19 per cent; myelocytes, 3 per cent.

November 24: Hemoglobin, 70 per cent.; reds, 3,760,000; whites, 3,800; neutrophiles, 63 per cent.; large lymphocytes, 70 per cent.; small lymphocytes, 28 per cent.; myelocytes, 2 per cent.

December 3: Hemoglobin, 82 per cent.; reds, 4,240,300; whites, 4,250; neutrophiles, 62 per cent.; large lymphocytes, 8 per cent.; small lymphocytes, 28 per cent.; myelocytes, 1 per cent.

As may be gathered from the above-recorded blood counts, the boy's improvement following the operation was most rapid and gratifying. He rapidly regained his strength, his appetite became ravenous and on the fourteenth day he was up playing around the hospital. It was thought advisable to keep him under observation a few days longer and he was not permitted to leave until December 4, twenty days after the operation.

Rarely have I seen a patient improve so rapidly as did this boy, and while it is much too early to consider this improvement as permanent, the prospects are most gratifying.

The points to which I desire to call particular attention are the following:

1. The tender age of the patient.
2. The steady and progressive nature of the illness and the disability occasioned by it.
3. The rapid convalescence and marked improvement both in appearance and in conduct after the splenectomy.

PATHOLOGIC REPORT BY DR. E. W. MEIS.

The spleen was 17.1 cm. in length, 9 cm. in width and 4 cm. thick; weight 500 gm; purplish in appearance and had not the triangular basal surface, but was long, resembling the pancreas in outline. On the cut surface the pulp manifested unusual pallor. Microscopic examination showed striking increase of connective tissue throughout the entire organ. This tissue extended deep into the pulp and enclosed large numbers of white cells. The connective tissue around the vessels of the spleen was uniformly increased. No other departures from the normal were noted.

Therapeutics

GONORRHEA IN THE MALE

The treatment of this disease has been recently presented in this department, but it is of such importance, and Dr. Max Hühner, New York, has recently presented (*New York Medical Journal,* Jan. 23, Jan. 30, and Feb. 6, 1909) so many valuable suggestions and urged so strongly the irrigation treatment, that we feel justified in again discussing the subject.

Hühner's discussion of the prophylaxis of this disease is most opportune and sensible. He shows beyond question that the consensus of the best opinion is that sexual intercourse is not necessary for the health of the individual. It is illogical to consider the sexual glands as allied to the other glands of the body, and, therefore, their specific activities, except that of their internal secretions, is physiologically intermittent, and prolonged or continued inactivity of their specific functions does not militate against their subsequent ability to perform their normal functions at any time during life. This declaration of what seems to be a fact shows that there is no necessity for illicit intercourse. Consequently, there is no necessity for acquiring gonorrhea.

There is no physical or microscopic examination that will positively determine that gonococci are not present in the glands or tissues adjacent to the vagina. Consequently, even if repeated examinations of vaginal discharges or secretions discovered no gonococci, the inability to infect could still not be guaranteed.

Hühner sums up his treatment of acute gonorrhea in the male as follows: If the patient is seen within thirty-six hours of the beginning of the discharge he tries to abort the disease by the administration of three injections of a 10 per cent. solution of protargol, at intervals of twelve hours, the first two injections to be held fifteen minutes, and the last one five During this period he would administer an alkaline mixture so long as there was pain on urination, and this pain is always more severe in a first gonorrhea than in subsequent attacks. He suggests the use of Professor Taylor's alkaline mixture as follows:

℞.	gm. or c.c.		
Potassii bicarbonatis	30		℥i
Tincturæ hyoscyami	15	or	fl.℥ss
Aquæ, ad	250		ad, fl.℥viii

M. et Sig.: A tablespoonful, in half a glass of water, every three or four hours.

If there is any local swelling he uses both hot and cold applications. He does not say which he prefers. The hot sitz bath seems to be the best treatment.

After using the above injection as directed, Hühner then advises a 0.5 per cent. solution of zinc sulphate as an injection, as:

℞.	gm. or c.c.		
Zinci sulphatis	50	or	gr. x
Aquæ	100		fl.℥iv

M. et Sig.: Use externally, as directed.

If the patient comes too late for the disease to be aborted, or if the abortive treatment is unsuccessful, he would begin deep urethral irrigations with potassium permanganate, 1 to 5,000, every day for the first two or three days, the solution being passed only with sufficient pressure to reach the deep constrictor muscle. After these two or three days he then would use sufficient pressure to pass the fluid into the bladder. Always before allowing the fluid to pass into the bladder he would wash out the anterior urethra with gentle pressure, to prevent the possibility of forcing any anterior urethral discharge into the bladder.

He defends the irrigation method on the theory that the ordinary urination and ordinary injection does not bulge out the urethra sufficiently to clean out the pus and gonococci contained in the folds of the mucous membrane, and this he believes irrigation does without injuring the mucous membrane.

On the third or fourth day he begins the vesical irrigations with the irrigator at a height of four and one-half feet above the bladder, and gradually increases the strength of the solution to 1 to 3,000. The irrigations are done daily until the discharge has entirely ceased, then every other day, and later the interval is further increased.

If there is a tendency to continuation of the morning drop, or if there is a large amount of discharge, after two weeks' treatment, he changes to silver nitrate injections and starts with 1 to 20,000 for the first day and increases the strength of the solution day by day until by the sixteenth day he has reached 1 part in 8,000. On the seventeenth day he again begins the use of potassium permanganate 1 part to 10,000, and then, daily, 1 part to 3,000. If at any time the solution appears too strong, as shown by too much reaction, he keeps the strength the same until the patient and the tissues are accustomed to it. "It is not wise to stop the irrigation treatment as soon as the discharge ceases, or even to stop increasing the strength of the solution."

Sometimes Hühner uses protargol solutions for intravesical irrigation, and with satisfactory results. He begins with 1 part in 16,000 and gradually increases the strength to 1 per cent., but he believes potassium permanganate to be the best irrigation solution.

If the patient can not come to the office to receive the irrigation treatment, he advises the use of protargol solution with the ordinary urethral syringe, but insists that the solution should be kept in the urethra from ten to fifteen minutes, actual time, and would have the injections used every four hours by day, and if convenient, once during the night. Such treatment will often cause a disappearance of the gonococci within a few days. The protargol solution may be increased to 1.5 per cent. and then to 2 per cent., depending on the pain that it causes. At the end of ten days he would have the protargol solution used three times a day, and a 1 per cent. solution of zinc sulphate used once a day.

A patient is never considered cured of gonorrhea until there is absolutely no discharge, after holding the urine for twelve hours, and this on several examinations. Hühner believes that any continuation of discharge whatsoever shows that the disease is not eradicated. Holding the urine for twelve hours seems a very long time, but Hühner states that it can be done without difficulty.

For its analgesic and soothing effect on the urethra Hühner at times uses adrenalin chlorid solution, 1 to 1,000, in place of nitrate of silver, especially in deep urethral congestion. He also advises its use in endoscopic work, especially if there is any oozing of blood, and he would even treat localized granulations and ulcerations in the urethra with the solution. He advises pouring into the endoscope from fifteen to thirty drops of a solution of the above strength, and states that he has used as much as a fluidram without noticing any bad or poisonous effects. The use of such amounts of he active principle of suprarenal on absorbent surfaces like mucous membranes is certainly dangerous, as death as been reported to have followed the injection of 10 minims into the urethra. Consequently, it would seem nadvisable to use more than a few drops of adrenalin hlorid, or other solution of suprarenal, in the urethra t one time.

Hühner treats chordee with a prescription which he ttributes to Taylor. It is as follows:

℞.

	gm. or c.c.		
xtracti belladonnæ foliorum	20		gr. iii
xtracti opii	60	or	gr. x
lei theobromatis	15		℥ss

M. et fac suppositoras, 10.
Sig.: Use one at night, as directed.

These suppositories may also be used with advantage when there is acute pain in the prostate, or in the bladder, with tenesmus and frequent urination.

Hühner does not believe that there is any advantage to be gained by the internal administration of methylene blue, and thinks the most useful internal medicaments are phenyl salicylate (salol), sodium salicylate, and hexamethylenamin (urotropin). He thinks that salol is the best drug to use after any kind of instrumentation of the urethra, and gives it as follows:

℞.

	gm.		
Phenylis salicylatis	6	or	ʒiss

Fac capsulas, 20.
Sig.: One capsule every two hours, until four or five are taken.

He administers the above after every passage of an instrument into the urethra, and believes that it prevents urethral chill, fever, and epididymitis.

If epididymitis occurs, he administers sodium salicylate as follows:

℞.

	gm.		
Sodii salicylatis	20	or	ʒv

Fac chartulas, 20.
Sig.: One powder, in water, every two hours, as directed.

He stops these powders as soon as any symptoms of salicylism appear, which must of necessity be soon when the salicylate is given in such doses at such short intervals. He does not state what local treatment he uses for epididymitis.

While he believes hexamethylenamin is of value as a urinary antiseptic, he does not believe that it has any effect, "either good or bad, in gonorrhea, either anterior or posterior, acute or chronic."

Hühner states his belief in the utter uselessness of oil of santal or any of its preparations in gonorrhea, but does advise the use of what he terms the Lafayette mixture, which would seem to be most intensely disagreeable to take and must soon cause digestive disturbances. He begins the use of this mixture in the third week of gonorrhea. It is as follows:

℞.

	gm. or c.c.		
Copaibæ	30		fl.℥i
Liquoris potassii hydroxidi	8		fl.ʒii
Extracti glycyrrhizæ	15	or	fl.℥ss
Spiritus etheris nitrosi	30		fl.℥i
Syrupi acaciæ	180		fl.℥vi
Olei gaultheriæ	1		gtt. xvi

M. et Sig.: A dessertspoonful, in water, four times a day.

[There can be no excuse in this age of therapeutic simplicity and pharmacal elegance for the perpetration of such a parody on both as is the above prescription.]

Hühner believes that a person recovering from gonorrhea is not cured so long as there is any discharge from the meatus. He would never pronounce a patient cured, until all treatment having been stopped for at least a week, the patient on his regular diet shows no discharge, stickiness or agglutination of the lips of the meatus, as noted by several examinations, held twelve hours after the last urination. He does not believe that the genito-urinary organs can harbor gonococci for any length of time without producing symptoms. He does not believe in gonorrheal relapses, but that the disease was there all the time, and uncured.

He states that an enlargement or tenderness of the prostate is not caused by instrumentation or by proper vesical irrigations, since he finds this condition of the prostate present even in a simple anterior gonorrheal urethritis. Therefore, he concludes such prostatic congestion as reflex or sympathetic

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 20, 1909

THE BACTERIOLOGY OF THE FEMALE GENITAL TRACT BEFORE AND AFTER CHILDBIRTH

The question as to the part played by autoinfection in puerperal fever has received much attention during the last twenty years or so. The many and extensive investigations devoted to the solution of the question indicate at once the difficulty of its solution and the significance attached to it. Naturally, the object in view has been and is the establishment of a rational prophylaxis of puerperal fever.

It appears to be agreed that puerperal fever may arise from autoinfection, but opinions differ as to the precise meaning of the word autoinfection in this case. Some would limit autoinfection to infection with microbes present in the vagina during birth. For many years Ahlfeld has urged that puerperal autoinfection should include all those cases of puerperal infection in which hands, instruments, dressings, have no part, the infecting germs coming either from the external or internal genitalia or from foci present before birth and in the neighborhood of the genital organs. The special peculiarity of this comprehensive definition is the insistence on the possibility of pathogenic germs in the external genitalia spontaneously going up into the genital canal and thus causing puerperal fever. Inasmuch as all the earlier views on puerperal autoinfection accepted the occurrence in the vagina of bacteria capable of causing infection, the vaginal flora has been extensively studied, particularly with reference to streptococci and staphylococci and to the question of vaginal sterilization. Among the investigators in this field may be mentioned Döderlein, Krönig and Menge, and, in this country, Williams. The controversies and changes of views that have marked the progress of this investigation need not be reviewed at this time. At present it seems to be quite commonly accepted that pathogenic bacteria, especially streptococci, may occur in the vagina, but that the importance of these bacteria in causing puerperal fever does not warrant any efforts at disinfection of the vagina before or during birth, and more particularly in view of the great difficulties in the way of a really effective disinfection. As to the other parts of the genital tract, it may be said that the bacteriology of the vulva, which it is known often harbors pathogenic germs, has received relatively less attention and that recent studies have revealed that during the normal puerperium immigration of bacteria into the uterus seems to occur in the majority of the cases without any necessary disturbance of the normal course of events, even though forms pathogenic for animals occur among the invaders.

In order to furnish a still broader basis for the consideration of puerperal autoinfection Natvig[1] undertook to make comprehensive bacteriologic examination and analysis of the parts involved before and after birth in the same case. In the series of ten cases studied systematically in this way under quite ideal conditions special attention was given to the occurrence of streptococci, and, in what seems to be a fully satisfactory manner, he could demonstrate the occasional spontaneous ascent of streptococci from the vulva into the vagina and even the uterus during the puerperium. More recently, and in order especially to study the spontaneous changes in the bacterial flora of the genital tract in the puerperium, Wegelius[2] studied a second series of ten cases according to Natvig's plan. His results show that before and during birth there is, as a rule, a sharp difference between the vulvar and vaginal flora. While the vulvar bacteria include numerous varieties, aërobic as well as anaërobic, the vaginal secretion contains principally the so-called vaginal bacilli. But during the puerperium the conditions in the vagina change completely owing to a gradual ascent of obligate and facultative anaërobes from the vagina. On the fourth day after birth the uterus contains, as a rule, a few bacteria of the kinds found in the vulva before birth; on the ninth day the number of bacteria is usually increased. In one case he found the vulvar and vaginal flora to be much alike before birth. Further studies are necessary to determine the number and the special causes for cases like this, which now would seem to be exceptional. No virulent streptococci were found in this series. As there did not occur a single fatal case of puerperal fever among the patients in the clinic, over 3,000 during the two years occupied by this study, it may be that there was no general dissemination of virulent streptococci at this time. Natvig's research, on the other hand, was carried out at a time when severe streptococcal infections were common.

Taking the chief results of Natvig's and Wegelius' painstaking and laborious studies together, it may be concluded that streptococci, as well as other bacteria, during the puerperium, may pass up from the vulva to the uterus spontaneously and that in suitable cases infection may arise in consequence of such passage either from the vagina through tears or from the uterus. The results speak directly in favor of the possibility of an autoinfection in Ahlfeld's sense, i. e., infection with germs in any portion of the genital tract, including the

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1. Arch. f. Gynäk., 1905, lxxvi, 701.
2. Bakteriologiska Undersökningar af de Kvinliga Genitalsekreten under Förlossningen och Barnsängen med Särskild Hänsyn till Frågan om den Puerperala Autoinfektionen. Af Valter Wegelius. Med. Lic. Paper. Pp. 226, with illustrations. Helsingfors, 1908.

external parts. The direct practical deduction from these results would be, as pointed out by Wegelius, to the effect that special care be given to disinfection of the external genitalia before and during birth.

THE CLINICAL IMPORTANCE OF HYPERSUSCEPTIBILITY

The phenomena which we now describe under the term hypersusceptibility or anaphylaxis were noted by Arloing in 1888, and described by Koch as early as 1890, but their significance was not appreciated at that time. During the course of the experiments which led to the introduction of tuberculin, Koch noted that guinea-pigs which had once been inoculated with living tubercle bacilli acted differently from normal guinea-pigs when a suspension of dead tubercle bacilli was injected beneath the skin. Whereas the normal guinea-pigs often developed a local suppuration, the tuberculous animals often died in the course of a few hours, or if they did not die, developed extensive necrosis at the point of inoculation. This hypersusceptibility was the basis of the diagnostic use of tuberculin as proposed by Koch, and is the basis of the other more recent methods of tuberculin diagnosis. Similar observations have since been made in diseases other than tuberculosis, and the introduction of serum treatment and of the use of bacterial vaccines has made the subject one of great importance.

A fatal reaction due to hypersusceptibility may occur during the administration of any protein material, and is seen in its most typical form after the injection of egg albumin into the guinea-pig. The hypersensitiveness does not readily develop during the time such injections are being administered if they are given at short intervals, but it may develop some time after they are stopped. Usually an incubation period of from seven to fifteen days is necessary to develop the changed behavior to a subsequent injection. In man the most serious results of hypersusceptibility have been seen in connection with the use of diphtheria antitoxin. Under its administration as ordinarily practiced, horse serum, with its alien proteins, is introduced into the system, and if the injections be far enough apart, or the individual unduly sensitive, fatal results, due purely to hypersusceptibility to the alien proteins and their selective action on the respiratory centers, may occur. There is little doubt that many of the fatal results following the administration of antitoxin have been due to hypersusceptibility produced by earlier doses. The studies of von Pirquet and Shick on the serum disease show that the minor manifestations of serum poisoning, the urticarias and other skin eruptions, the arthralgias, etc., are minor manifestations of hypersusceptibility. In tuberculosis a careful study of hypersusceptibility by Baldwin[1] shows that actual tubercle formation is generally necessary to develop a hypersusceptibility to tuberculin, though the continued presence of tubercle bacilli without tubercles, such as occurs in children occasionally, may lead to it.

The significance of hypersusceptibility has been overlooked in the past and still needs much elucidation. It is, without doubt, an attempt on the part of the body to resist infection. The fact that it is sometimes fatal does not militate against this conclusion. Natural methods of protection are by no means so invariably beneficial as they were once thought to be. Are not, indeed, the symptoms of most diseases merely the outward evidences of the battle which is raging within between the invaded body and the invaders? To what extent the symptoms in various infections are evidences of hypersusceptibility is yet problematical. The fact that many bacterial diseases have long periods of incubation is suggestive in this connection, as incubation is also needed for the development of anaphylaxis. Possibly future interpreters of the infections will be able, as our knowledge advances, to bring out satisfactorily the relation which exists between symptoms and susceptibility.

SCHOOL DIPHTHERIA AND THE GERM-CARRIER

The well-known susceptibility of the young or immature organism to various kinds of infection makes the proper safeguarding of school children one of the primary duties of school hygiene. By far the greatest number of all deaths from diphtheria occur in young children. A speaker at the Third Congress of the School Hygiene Association, recently held in Chicago, pointed out that during the nine years, 1900 to 1908, 22 per cent. of the population of Chicago (that part under 10 years of age) furnished 91 per cent. of the total deaths from diphtheria.

The discovery of the importance of the living germ-carrier in disseminating diphtheritic infection is comparatively recent. At least four types of diphtheria-carriers can be distinguished: (1) the mild or unrecognized cases; (2) the convalescents released prematurely from quarantine; (3) certain nurses, physicians and members of the family who have been in more or less close contact with the patient or germ-carrying convalescent (this class is currently denominated "contacts"), and, finally (4) those persons who have never shown signs of illness and, so far as can be discovered, have had no recent contact with a germ-carrier, but who, nevertheless, harbor the specific germ.

The existence of Types 1 and 2 has been recognized for some time and medical school inspection has taken into account the importance of control. The danger from, or even the existence of, the other two types of diphtheria-carriers is not yet so widely known. It is unfortunately not yet the general practice to quarantine all the children of a family in which diphtheria is present and to release them only after two successive negative examinations of nose and throat, *whether the children have had the disease or not.* And yet many epidemics of school diphtheria have been traced to such "contacts." The effect of prophylactic doses of antitoxin in masking the presence of germ-carriers has not received the attention it deserves. When diphtheria appears in a family and all "contacts" are given a prophylactic injection of antitoxin, the antitoxin will prevent the development of acute diphtheria, but will not necessarily cause the disappearance of diphtheria bacilli from the throat. In certain individuals a kind of biologic toleration seems to be established between the bacillus and the human organism, so that the child becomes a chronic diphtheria-carrier, although remaining entirely well. In others an attack of diphtheria follows the wearing-off of the effects of the antitoxin.

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[1] Yale Med. Jour., February, 1909.

The fourth type of carrier, in whom no history of disease or of contact can be secured, is naturally more difficult to detect and control. In default of a routine bacterial examination of the throat and nose of all school children, the presence of germ-carriers of this class will usually come to light only when cases of disease due to their agency appear in a school or institution. The existence of such germ-carriers makes it imperative to trace to its source, so far as is practicable, every case of diphtheria developing in a school.

The danger from diphtheria-carriers is not an imaginary one. There is considerable evidence showing that diphtheria in schools is largely produced and kept alive through the agency of carriers. In an interesting description of a school epidemic of diphtheria in California, Ward and Henderson[1] demonstrated that it was possible to stop epidemic diphtheria in a public school through regulation of attendance by bacteriologic findings. In this instance no attempt was made to disinfect the school at any time during the epidemic, isolation of the demonstrated carriers proving quite sufficient. British health officers have reported many examples of the overwhelming importance of germ-carriers in spreading diphtheria. Crowley[2] has reported one case in which forty-two children out of ninety-three were acting as carriers of the bacillus. Vervoort[3] investigated the occurrence of diphtheria in a school in Amsterdam where quarantine of active cases, temporary closing and disinfecting of the school and other similar measures had failed to eradicate the disease. Bacterial examination of the ninety-seven persons attending the school showed that six were diphtheria-carriers; they were quarantined, the others were readmitted to the school and no new cases developed. In the United States M. Solis-Cohen[4] and Fisher[5] have recently recorded a number of diphtheria cases, attributable to the agency of carriers, in institutions, schools and private houses.

On the legal side, the relation of school and other public authorities to healthy germ-carriers does not seem to be clearly defined. Professor Moore states that in one such case in Ithaca, N. Y., the defendant secured competent legal advice that quarantine could not lawfully be maintained if the throat showed macroscopically no signs of disease; and this opinion was acquiesced in by the commissioner of the State Board of Health to whom the matter was referred.[6]

PUBLIC HEALTH LEGISLATION

The attempt to prevent disease by legislative enactment implies so modern an attitude of mind that one is a little surprised to discover the existence of such a wealth of historical and legal lore as that summarized in a recent study of public health legislation in the states of New York and Massachusetts.*

The earliest colonists in this country appear to have taken vigorous, although, as the event proved, pathetically futile, measures against the great pandemics of yellow fever, cholera and smallpox. These diseases swept over the feeble pioneer settlements with a devastating force that we of this sheltered generation can hardly realize. There were at least ten distinct epidemics of yellow fever in New York in the eighteenth century; there were over 4,000 deaths from yellow fever in Philadelphia in 1793 in a population of less than 60,000; over 8,000 persons in Boston in a population of about 19,000 contracted smallpox in a single year, practically all the rest of the population having had the disease previously.

It is worth while to have traced for us step by step the stumbling attempts to ward off epidemic invasion through quarantine, control of "noxious trades," improved methods of garbage disposal and other measures of doubtful efficacy up to the rigidly scientific, farseeing and highly efficient modes of safeguarding the public health practiced, for example, by the present State Board of Health of Massachusetts.

The student of public health affairs will find in the monograph just cited the most comprehensive and accurate study yet made of the progress of sanitary legislation in the United States. Dr. Peabody points out that in New York legislation in regard to health matters shows three distinct phases of growth, each occupying roughly a period of fifty years. The legislation of the first period consists almost wholly of attempts to keep out infectious diseases, chiefly yellow fever, by the method of quarantine; the second period is marked by the rise of the idea of local control of local health matters, especially "nuisances," and its extension to all cities and villages throughout the state; while the third period is characterized by provision for scientific inves-

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1. Calif. State Jour. Med., August, 1907.
2. Jour. Roy. Sanit. Inst., 1908, xxix, 226.
3. Hyg. Rundsch., 1908, xviii, 1459.
4. The Journal, Jan. 9, 1909, p. 111.
5. The Journal, Feb. 6, 1909, p. 439.
6. N. Y. State Jour. Med., February, 1901.

* Peabody, S. W.: Historical Study of Legislation Regarding Public Health in the States of New York and Massachusetts, pp. 158, Suppl. 4, Jour. Infect. Dis., February, 1909.

tigation and by the growth of centralization and increased efficiency of administrative machinery. Dr. Peabody also calls attention to the way in which much of the early legislation was directly instigated by great epidemics of a few specific diseases, notably yellow fever, cholera and smallpox. The breaking out of an epidemic seemed to be the signal for an effort to prevent by law the recurrence of another visitation. A remarkable table, showing the sequence of epidemics and resulting legislation, is given in an appendix to the monograph.

Legislation in Massachusetts does not, as in New York, lend itself to grouping into distinct periods. The New England form of local government was so soon established and the habit of local control early became so ingrained that health legislation from the beginning was primarily a matter of local concern. Other states of the Union have, as a rule, followed the lead of either Massachusetts or New York, the laws in some cases being copied verbatim.

One of the noteworthy facts brought out in the important study under consideration is the strong tendency toward centralization of public health interests and responsibility. This has been especially manifest in the case of New York, where there has been a steady trend toward increased dependence of the local boards on the state authorities. Even in Massachusetts, with its compelling traditions of local government, recent health legislation has shown a radical departure. The Massachusetts law of 1907 provided for the division of the entire commonwealth by the state board of health into fifteen health districts. For each district the governor and council are to appoint a state inspector for a term of five years. "The duties of these state inspectors are: to gather information concerning the sanitary conditions of their districts, especially in regard to tuberculosis; to disseminate knowledge of the best methods of preventing that and other diseases; to take steps for their eradication after consultation with state and local authorities; to keep themselves informed as to the health of minors employed in factories, and, if necessary, to call the attention of parents and employers to cases of physical unfitness; to enforce the laws for ventilation and cleanliness of factories, and perform other duties that formerly came under the jurisdiction of the inspection department of the district police." These sanitary inspectors are all under the direct supervision of the state board of health.

A highly centralized system of health administration exists in South Carolina. The board itself is selected by an unusual method, being composed of the members of the state medical association and acting through an executive committee recommended by the association and appointed by the governor, together with the state's attorney and the controller general *ex-officio*. The South Carolina board was empowered in 1901 to remove members of local boards on refusal or neglect to obey its orders.

The present strong and widespread movement toward vesting greater authority over health matters in the Federal Government is therefore only another manifestation of a tendency already active in the individual states toward the greater centralization of responsibility and authority in all hygienic and sanitary affairs. Much is to be said in favor of the contention that, just as no citizen in a thickly settled community is allowed to maintain an open privy in his back yard, so no important commercial and manufacturing center like Pittsburg or Philadelphia should be allowed to be a distributing center for typhoid fever, and no state like California permitted to become a breeding-ground for the plague. Restriction of the liberty of a part may be necessary to conserve the welfare of the whole.

One other topic relating to this important subject of health legislation may be briefly touched on. This has been frequently referred to in other connections in The Journal and its significance is sufficiently obvious. We refer to the growing importance of preventive medicine and sanitation. The development of modern conceptions of preventive and educative methods is reflected in a striking way in the character of recent legislation. This is not the place for a detailed consideration of this theme; it is amply illustrated and emphasized in the monograph under consideration.

THE NATIONAL NEGRO ANTITUBERCULOSIS LEAGUE

An example of the watchful service rendered to the sanitary well-being of the community by the Public Health and Marine-Hospital Service of the United States is afforded in the movement recently inaugurated at Savannah by the establishment of the National Negro Antituberculosis League. Advantage was taken of the opportunity afforded by the meeting of the State Agricultural College at Thunderbolt, Ga., to have Dr. C. P. Wertenbaker address the more intelligent colored people on the subject of tuberculosis and other infectious diseases, particularly as affecting their race. It is well known that whereas before the Civil War tuberculosis was rare among the colored people, it is now at least four times as prevalent among them as among the whites. In former times they lived a healthy out-door life, and, if for no other reason, in the commercial interests of their owners they were well fed, clothed and lodged. In the last half-century, however, they have left their open-air life and gravitated into the cities, without any one to overlook their physical well-being. Their happy-go-lucky disposition has led them to ignore all principles of sanitation—even if they had an opportunity of becoming acquainted with them—and this in the face of more confining work, harder in character, and for longer hours, while their pay does not enable them to live so well or so comfortably as under the old régime. Add to this the facility of access to a cheap grade of inferior liquor, which poisons the system and lowers the vital resistance, and the existing conditions appear merely a natural consequence. An organization which shall bring them together on the basis of instruction in sanitation and right living will surely aid in checking the advancing scourge of tuberculosis among them. The importance of this matter, however, extends far beyond the confines of the colored race itself. It must be remembered that under present conditions the colored people are thrown into close relationship with those of the white race. They act as house servants and cooks, take charge of children, etc., so that the spread of tuberculosis among them threatens to become a focus for the serious increase of the disease among the whites. It is to be hoped, therefore, that the white people themselves, in the south particularly, will realize the importance of supporting this movement in every possible way. It may be, even, that by directing their attention to the means of combating this scourge among their colored dependents a reflected advantage may ensue to themselves, through the unconscious personal adoption of many hygienic principles and practices at present only lightly regarded even by many of the more educated whites. The movement is a statesmanlike one and deserves wide support.

ANOTHER MARTYR TO MEDICAL SCIENCE

The time has passed when apology need be offered for bringing to the attention of the medical profession the fruits of investigations in comparative pathology. One has but to review mentally recent progress in medical research to recognize how intimately the fields of the biologist and pathologist have become amalgamated, or to recall the flood of light shed on the problems of human pathology through the agency of biologic and comparative pathologic studies. Among the contributions to biology and comparative pathology which have directly or indirectly influenced medicine, comparatively few have emanated from the United States. It is, therefore, more than an ordinary pleasure to note that among the series of excellent reports indicating the ever-increasing scientific productivity of the Hygienic Laboratory of the Public Health and Marine-Hospital Service is one dealing with a subject in comparative parasitology, and which, for painstaking accuracy, is a model of its kind. We have already reviewed[1] this report. Aside from its merits as a report of scientific research reflecting great credit on its author for his patient thoroughness, a melancholy interest attaches itself to this publication. It appears that Dr. William Whitfield Miller, whose promise for the highest grade of original scientific investigation was so brilliantly foreshadowed by the work under consideration, died shortly after its completion, of typhoid fever, apparently contracted while he was actively engaged in studying the origin and prevalence of typhoid fever in the District of Columbia—a task to which the Hygienic Laboratory had addressed itself on the suggestion of President Roosevelt. Thus came to an untimely end a career of much promise to American medicine, and another physician's name is added to the list of martyrs to science and to the cause of humanity.

A JUDGE'S IDEA OF THE DIAGNOSIS OF PERITONITIS

Judicial opinion has usually inclined to recognize the expert character of the physician, over the whole range of medical science, and this has often resulted in the admission of evidence by men whose opinions are justly entitled to little weight. But a recent decision by the Supreme Court of Minnesota[1] seems to go to the other extreme. In this case the court says: "The plaintiff's experts testified that peritonitis was present almost immediately after the railway accident; but it was all pure conjecture. No postmortem examination was held, and no attempt was made at any time to discover the kind of germs which were at work. The fact that a person is a practicing physician or surgeon generally qualifies him to testify as an expert, but in a matter of this kind the absence of special qualification may greatly affect the value of the evidence." The court was probably led by a consideration of the exactness of laboratory methods to overlook the fact that proof of the existence of disease must often depend on clinical rather than laboratory evidence. If any one could produce evidence of the existence of peritonitis shortly after the accident, it must be the attending physician who investigated the living patient, and it seems a strange proposition to say that a clinician can not be an expert in his own field. The diagnosis of peritonitis does not rest on the discovery of germs and can be made with reasonable certainty in advance of the postmortem examination.

Medical News

ILLINOIS

Special Colonies for Epileptics.—If the plan proposed by the State Board of Charities to the present legislature goes into effect and the appropriation of $803,000 sought is granted, three special colonies for epileptics will be established in the state; one at Kankakee, one at Anna, and a third for feeble-minded epileptics at Lincoln.

Personal.—Dr. George A. Zeller, superintendent of the Illinois Hospital for the Incurable Insane, South Bartonville, returned March 3 from a trip of observation and study through Europe.——Dr. Shelley B. Hall has been elected president; Dr. Joseph P. Comegys, vice-president, and Dr. Emily Wright, secretary-treasurer of the medical staff of St. Anthony's Hospital, Rock Island.

Tuberculosis Bill Wins.—By a vote of 140 to 2, the legislature on March 10, passed the Glackin bill, which authorizes cities and villages to levy a special tax of one mill to construct and maintain public tuberculosis sanatoria. The prime object of this bill is to secure for Chicago a sanatorium for tuberculosis, as the mill tax will amount to about $160,000 a year. The question of the issue of bonds will be submitted to voters at the coming election, and will undoubtedly meet with approval, and result in this good work being undertaken.

Chicago

Internes' Examination.—At the examination for internes in the county hospital and the county institutions at Dunning, held March 9-11, 120 applicants appeared.

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[1] Hygienic Laboratory Bull., No. 46; THE JOURNAL, Feb. 13, 1909, p. 586.

[1] Medicolegal Department, this issue, p. 991.

Personal.—Dr. Elmer E. Henderson has been appointed a member of the consulting staff of Cook County Hospital, vice Dr. Daniel R. Brower, deceased.——Dr. and Mrs. Harry S. Gradle sailed for Italy March 15.——Dr. Rosa Engelmann, for nearly fourteen years a medical inspector of the board of health, has resigned.

MASSACHUSETTS

Bequest to Hospital.—By the will of the late Mrs. Isabel M. Fowler, Jamaica Plain, Boston, $15,000 is bequeathed to the Margaret Pillsbury General Hospital, Concord, N. H.

Ask Appropriation for School Inspection.—The board of health of Chicopee has asked for an appropriation of $4,000, $1,000 of which is for the medical inspection of schools. Bu

Laboratory for Serum Diagnosis.—The department of pathology of Harvard Medical School announces the establishment of a laboratory for serum diagnosis, under the direction of Dr. Frederick T. Gay. The new laboratory undertakes to make diagnosis, and in addition offers facilities for research in problems connected with the physiology and pathology of blood serum and tissue fluids.

Personal.—Dr. Thomas Howell, superintendent of the Worcester Hospital, has been elected superintendent of the New York Hospital and House of Relief, Hudson Street, and will assume the duties of his new position May 1.——Dr. Charles P. Bartlett, house physician at the Massachusetts State Sanatorium for the Treatment of Tuberculosis, has been appointed superintendent of the New Hampshire State Hospital for Consumptives, to be erected at Glencliffe.——Dr. George O. Lavallee, Lowell, has resigned as a member of the Municipal Charity Board.——Dr. Raymond A. Kinloch, Springfield, has been elected secretary-treasurer of the Eastern Hampden and Hampshire Medical Association.——Dr. Francis H. Lally has been re-elected secretary of the board of health of Milford.——Dr. Joseph W. Heath has been made chairman of the board of health of Wakefield.——Dr. William J. Collins has been elected chairman of the board of health of Northampton.——Dr. William Y. Fox has been appointed a member of the board of health of Taunton.——Dr. William J. Sullivan has been elected president of the Lawrence Board of Trade.——Dr. Frank C. Granger, Randolph, is taking a trip to Cuba.——Dr. John R. Hobbie has been re-elected chairman of the board of health of North Adams.

MARYLAND

New Department in Academy.—A new department of hygiene and physiology has been formally established at the United States Naval Academy, Annapolis, with Surgeon Charles F. Stokes at its head.

Sanatorium Opened.—The Pine Bluff Sanatorium for the Treatment of Tuberculosis in Wicomico county, on a bluff near the Wicomico river thirty miles from Ocean City, has been opened under the charge of Dr. George W. Todd, Salisbury.

Personal.—Dr. Harry F. Shipley, Granite, is ill with pleurisy at a hospital in Baltimore.——Dr. Alexander D. McConachie, Baltimore, has been appointed eye and ear surgeon of the Union Hospital of Cecil County, Elkton.——Dr. Hugh H. Young, Baltimore, is taking a trip to Jamaica.——Dr. Samuel T. Earle, Baltimore, who has been ill with appendicitis, has recovered.

MISSOURI

Tuberculosis Exhibit Ends.—The exhibit of the National Association for the Study and Prevention of Tuberculosis at Kansas City closed March 4. The attendance during the exhibit exceeded 45,000.

Personal.—Dr. Calvin Atkins has succeeded Dr. Benjamin F. O'Daniel, resigned, as city physician of Independence.——Dr. Jacob Geiger, St. Joseph, has been appointed a member of the board of managers of State Hospital for the Insane No. 2, St. Joseph.——Dr. James A. Waterman, Breckenridge, has been appointed physician at the state penitentiary, Jefferson City.——Dr. Guthrie McConnell has severed his connection with the St. Louis Skin and Cancer Hospital.

Society Organized.—On the call of Dr. Enoch H. Miller, Liberty, physicans of the district met March 2 and organized the Twelfth District Medical Association, comprising the counties of Ray, Platte, Clay, Clinton, Davis and Caldwell. Dr. Robert W. Rea, Plattsburg, was elected president, and Dr. Clarence M. McConkey, Lathrop, secretary-treasurer.——The St. Joseph Medical and Surgical Society, which was organized in 1888, merged March 1 with the St. Joseph-Buchanan County Medical Society.

St. Louis

Superintendent of Medical College Dies.—Peter F. Fining, for more than thirty years superintendent of the old Missouri Medical College, and probably the best known layman to the medical profession in the city, died in St. John's Hospital, March 8, aged 72.

Society Organized.—The Society for Sanitary and Moral Prophylaxis has completed its organization and elected the following officers: President, Rev. George R. Dodson; vice-presidents, Dr. George Homan, and Messrs. Percy Werner and Jacob Firth; secretary, Mr. E. Hildenbrandt, and treasurer, Dr. Archer O'Reilly.

To Fight Optometry Bill.—The ophthalmic section of the St. Louis Medical Society has appointed a committee to combat the bill providing for the establishment of a board of examiners in optometry, recently introduced in the legislature. It is significant that the better class of opticians is opposed to this bill.

Examination for Internes.—The annual examination for interneships in the City Hospital will be held April 5. The position carries no compensation aside from room, board and laundry. All desiring to participate in this examination should register at the office of H. M. Edwards, clerk to the health commissioner and board of health, on April 2 or 3.

Thanks from Society.—The St. Louis Medical Society on March 6 adopted resolutions thanking former councilman August H. Hoffman for his offer to withdraw from the board of freeholders in favor of a physician. The efforts of the allied medical society and the general medical council to secure a physician as a member of the board of freeholders is said to have failed owing to the injection of politics into the question.

MONTANA

Suit Dismissed.—Failure of the state's attorney to produce evidence to show that William Metzger had practiced medicine February 12, without a license, at the time the complaint was made against him, resulted, February 24, in the dismissal of the suit against the defendant in the Anaconda police court.

Elections.—At the annual meeting of Silver Bow County Medical Association, held in Butte February 24, the following officers were elected: Dr. John A. Donovan, president: Dr. Peter Potter, vice-president; Dr. Phoebe A. Ferris, secretary; Dr. Gideon E. Blackburn, treasurer; Drs. Willis V. Kingsbury, John McIntyre, Richard C. Monahan, John A. Donavan and Carl L. Larson, trustees; Drs. Herbert D. Kistler, Cheswell T. Pigot, John Frisbee, William L. Renick, Willis V. Kingsbury and W. Colfax Matthews, delegates to the state association, and Drs. Thomas C. Witherspoon, McCormick Smetters, M. J. Scott, Richard C. Monahan, John M. Scanland, John McIntyre and Alfred Karsted, alternates.——At the meeting of the Yellowstone Valley Medical Association, March 4, Dr. W. H. Johnson, Billings, was elected president; Dr. Leonard M. Line, Columbus, vice-president; Dr. William L. Bishop, Billings, secretary, and Dr. Carl Schulin, Billings, treasurer. The next annual meeting will be held in Billings.

NEW YORK

Founds Scholarship.—By the will of the late Dr. Charles H. Roberts, Highland, five scholarships of $240 each annually, are founded at Cornell University.

Will Appoint Medical Experts.—A bill has been introduced into the legislature which requires the Supreme Court to designate at least ten and not more than sixty physicians in each judicial district as medical expert witnesses to serve when called in any civil or criminal action by the court or either party, for such compensation as the presiding judge at the trial allows, and to be at once paid by the fiscal officer of the district in which the trial is held. The bill does not limit the rights of parties to call other expert witnesses as at present.

New York City

Spitters Arrested.—A general raid was made in Brooklyn and Manhattan February 9, by officers of the sanitary squad, and more than 200 offenders against the anti-expectoration ordinance were arrested and fined.

Lectures on Diseases of the Skin.—The tenth series of clinical lectures on Diseases of the Skin, by Dr. L. Duncan Bulkley, was commenced March 10, in the Out-Patient Hall of the New York Skin and Cancer Hospital, and will continue on successive Wednesday afternoons beginning at 4:15 p. m. The course is free to the medical profession.

Tuberculosis Clinic in Brooklyn.—On March 8, the Bay Ridge Hospital and Dispensary opened a tuberculosis clinic. This is the second clinic for tuberculosis patients in Brooklyn, the other being maintained by the Board of Health. This clinic has been fitted up by the New Utrecht Red Cross Society in connection with the ladies' auxiliary of the hospital.

Personal.—Dr. Alonzo Blauvelt has been assigned to duty by the board of health as assistant superintendent in charge of the Borough Brooklyn.——Dr. Patrick J. McHugh, formerly of Brooklyn, is seriously ill in Fordham Hospital.——The directors and advisory board of the Hospital for Deformities and Joint Diseases gave a dinner March 6, in honor of Drs. Henry W. and Herman C. Frauenthal, at which silver loving cups were presented.——Dr. L. Duncan Bulkley has returned from a trip around the world, in which he visited many hospitals in the different countries in the far east. The lectures on April 21 and 28 of the course elsewhere referred to are to be on "Diseases of the Skin as Observed in the Far East."

Sanitary Science and Public Health Lectures.—This course of lectures given by the College of Physicians and Surgeons of Columbia University announced for March 15 a lecture on "Public Health Problems of the Nation," by Dr. Walter Wyman, Surgeon-General, P. H. and M.-H. Service; on March 17, "Milk Supplies and Public Health," by Dr. Wm. H. Park; on March 22, "Infant Mortality and Its Reduction," by Dr. L. Emmett Holt; on March 24, "The Prevention of Tuberculosis," by Dr. Hermann M. Biggs; on March 29, "School Hygiene and Sanitation," by Dr. John J. Cronin, and March 31, "Street Cleaning, Garbage Collection and Refuse Disposal," by Dr. Walter Bensel.

Buffalo

Unlicensed Practitioner Imprisoned.—Francis J. C. M. Lambert, who plead guilty to an indictment charging him with practicing medicine without a license, is said to have been sentenced February 10, to imprisonment for six months in the penitentiary.

Annual Banquet.—The annual banquet of the Buffalo General Hospital Alumni Association was given at the Hotel Statler February 18. About seventy-five physicians were present. Dr. P. W. Van Peyma acted as toastmaster and Dr. Roswell Park, who recently completed his twenty-fifth year of service on the staff of the hospital, read a paper on "The Next Quarter Century in Surgery."

Communicable Diseases.—The board of health has officially declared scarlet fever epidemic.——There is now a bill before the legislature which will enable Buffalo to bond itself for $200,000 for a hospital for contagious diseases, and also a bill to allow the city to bond itself for the same amount for a hospital for tuberculosis.——The health department has temporarily converted an abandoned school house into a hospital for scarlet fever cases.

Personal.—Dr. Edwin A. Bowerman has been appointed police surgeon, vice Dr. Joseph Fowler, deceased.——Dr. F. Park Lewis will spend several months in travel in Italy.——Dr. James E. King has assumed control of Lexington Heights Hospital.——Dr. and Mrs. Lucien Howe are attending the International Ophthalmologic Congress in Naples.——Dr. Jacob Goldberg has been elected chairman of the board of school examiners.——Dr. Silas Hubbard, said to be the oldest living graduate of the Buffalo Medical College, has contributed $1,000 to the cause of the greater university.

OHIO

Loses Suit.—In the suit for damages brought by Harry Simmerman against Dr. Edna T. Matthews, in which the plaintiff claimed that a knee cap had been hurt in an automobile accident, the jury is said to have rendered a verdict for $275.

Personal.—Dr. James E. Torrence, Hamilton, who has been critically ill at Mercy Hospital, is reported to be convalescent.——Dr. John P. DeWitt has been elected president, Dr. Lawrence E. Flickinger vice-president, Dr. Clare E. Fraunfelter, secretary, and Dr. Thomas H. Shorb, treasurer of the medical staff of Aultman Hospital, Canton.

Postgraduate School.—In November last, Drs. Howard B. Hills, Arba S. Green, Harry McGarvey, Thomas J. Arundel, John W. Veach and Elmer W. Coe incorporated the Youngstown Postgraduate School of Medicine and Surgery. The organization is a corporation not for profit, its primary object being to teach by lectures and demonstrations on the cadaver, and to put the study class in a position to get anatomical material for the purpose of dissections and operative surgery. Dr. Hills is president and professor of diseases of the eye, ear, nose and throat; Dr. Green, vice-president, professor of obstetrics; Dr. Arundel, secretary-treasurer, and professor of materia medica and therapeutics; Dr. McGarvey, professor of anatomy; Dr. H. H. Thier, professor of pathology and bacteriology; Dr. John K. Hamilton, professor of physiology; Dr. John W. Veach, professor of gynecology; Dr. Elmer W. Coe, professor of operative surgery; Dr. Sidney M. McCurdy, demonstrator of anatomy; Dr. Wilbur W. Ryall, professor of diseases of children, and Dr. John W. Shaffer, professor of internal medicine. Two or three times a week lectures are delivered by members of the faculty, and the anatomical room is open in the evening. It is hoped as soon as circumstances permit, to extend the privileges of the school to all practitioners of the city and vicinity.

Cincinnati

Personal.—Drs. J. Louis Ransohoff and Alfred P. Cole have been appointed cystoscopists to the Cincinnati Hospital and Drs. Alfred Friedlander and Frank Lamb have been appointed juniors in the pediatric service of the same institution.——Dr. William H. Strietmann has been appointed curator at the City Hospital, vice Dr. Harry Freudenberger.

Withdraws from Political Activity.—Dr. Charles A. L. Reed has sent a letter to his leading political friends, both physicians and others, in Ohio, in which he states that after having devoted a large amount of his time for twenty years to public affairs, he feels he now has the right of exemption from further service and will hereafter devote himself exclusively to professional work.

Academy Matters.—The Surgical Section of the Cincinnati Academy of Medicine has elected Dr. J. Ambrose Johnston, chairman; Dr. Casper F. Hegner, secretary, and Dr. Robert Carothers, committee on program.——At the meeting of the Academy January 25, the report of the committee on reorganization was adopted. This report provides that the work of the academy shall be divided into three sections, medical, surgical and specialties, each section to have a committee of three on program, whose chairman shall be chairman of the section. The first meeting of each month is to be devoted to the section of specialties; the second to the surgical section, the third to the medical section; the fourth meeting to case reports and presentation of cases and specimens, and the fifth, when it occurs, to some allied general subjects such as medical economics, medical education, etc. The chair is annually to appoint two members from each specialty represented, to organize the various sections and elect their officers. Nominations shall be made at least two weeks before the annual election by a nominating committee or from the floor of the academy; the annual election is to be held on the day of the annual meeting, the polls to be open from 6 to 8 p. m. and no member will be permitted to vote whose dues have not been paid for the previous year.

PENNSYLVANIA

Hospital Examinations.—An examination for six resident physicians for the Mercy Hospital, Pittsburg, will be held in the University of Pennsylvania, Philadelphia, March 27.——The annual examination of candidates for the resident staff of the Presbyterian Hospital, Philadelphia, will be held in the hospital, April 15.

State Farm for Insane and Convicts.—The creation of a central state institution for the maintenance of all charges of the state—insane, feeble-minded and criminal—where a farm can be operated and the institutions be made partially self-supporting, is foreshadowed in a resolution presented in the house March 8. The resolution provides for a commission to inquire into the cost of land, buildings and operation of such an institution and the practicability of the state undertaking the project in the interest of economic administration.

Money for White Haven Sanitarium.—At the annual meeting of the Free Hospital for Poor Consumptives and White Haven Sanitarium Association, March 8, Dr. Lawrence F. Flick announced that Mrs. Henry Phipps, wife of the founder of the Phipps Institute of Philadelphia, had donated $12,000 to the institution for the erection of a memorial cottage to be known as the Henry Phipps, Sr., Cottage. Donations were also announced of $1,000 from the members of the Coxe family; of $500 from Frank G. Thompson, and of $300 from Miss Thompson. These sums are to be applied to the funeral fund of the association.——The report of the sanitarium for 1908 shows that 890 patients were cared for. The disease was arrested in 141 cases, 119 patients were much improved, 291 were improved, 86 were not improved, and 11 died. The average cost of maintenance per patient per week was $7.88. The total amount expended for maintenance was $84.005.30 and the total amount expended during the year. $142.408.69. The institution consumed 218,560 quarts of milk and 438,360 eggs. It was announced that after June 1 the institution will abandon its free beds and charge $7 a week for the beds that had previously been free. The association will refuse to accept the $35,000 which they have received annually from the state and will rely on voluntary contributions for the funds needed for maintenance and for the $20,000 required for the new administration building.

Philadelphia

City's Milk Consumption.—The report of the Philadelphia Milk Exchange for 1908 shows a marked increase in the quantity consumed in the last ten years. The report gives the total of 140,362,996 quarts received at the various receiving stations in this city and Camden, during 1908, as against 94,719,082 quarts in 1898. The largest quantity of milk received in a single month was 12,926,544 quarts in May. The figures in the report cover the registered milk supply.

Personal.—Dr. Ella B. Everitt, professor of gynecology in the Woman's Medical College, has been appointed attending obstetrician to the Philadelphia General Hospital to fill the vacancy caused by the resignation of Dr. Elizabeth L. Peck. ——Dr. Lewis Brinton and Dr. Eugene J. Asnis will conduct a postgraduate course of instruction on diseases of the stomach and intestines at the American Hospital for the Diseases of the Stomach, beginning April 1.——Dr. Lawrence F. Flick has been re-elected president of the White Haven Sanitarium for Poor Consumptives.

Tuberculosis Exhibition.—The International Tuberculosis Exhibition continues to attract thousands of visitors daily, and on March 13 25,817 persons visited the exhibition, making the total number of visits to that date 436.415. By Monday it is estimated that fully 500,000 persons will have witnessed the exposition. This is a little less than one-third of the entire population of the city. In proportion to the population the number of visitors viewing the display has been much greater than when it was held in New York. Councils have appropriated $5,000 toward the expense of the exhibitions.

GENERAL NEWS AND COMMENT

Coming Meetings.—The American Society of Tropical Medicine will hold its sixth annual meeting at the United States Naval Medical School, Washington, D. C., April 10, under the presidency of Dr. James M. Anders, Philadelphia, the subject of whose annual address will be "A Review of the Year's Progress in Tropical Medicine." At the afternoon session there will be a symposium on "Pellagra."——The mid-year meeting of the American Academy of Medicine will be held in the Auditorium Hotel, Chicago, March 25. Among the important subjects for discussion will be "What Constitutes a Liberal Education in the Twentieth Century?"

Sanitation of the Canal Zone.—The report of the department of sanitation of the Canal Zone for December, shows a sick rate of 25.95 per 1,000, which compares favorably with 27.16, the sick rate for November. The deaths for the month show a considerable increase over the previous month, mainly due to the fact that 48.6 per cent. of the total number of deaths during December were from violence, the largest in the history of the work on the Isthmus. Eliminating these deaths, the mortality shows an annual rate of 12.81 per 1.000, which also compares favorably with the record for December, 1907, which was 14.69 per 1,000. Malaria shows a diminution of 214 cases over the previous month. The Panamanian territory shows a death rate of 33.28 per 1.000 per annum, while the Canal Zone for the same period reports a rate of 20.75. No yellow fever, smallpox or plague is reported in the Canal Zone, Panama or Colon.

FOREIGN

International Congress for Pediatrics.—The Paris *Société de Pédiatrie* is agitating the question of a national association of pediatrists and of an international congress. At the meeting January 19, provisional statutes and by-laws for each were discussed and adopted, so that the matter will now be pushed. The committee in charge is headed by Dr. Barbier, and the secretary of the *Société de Pédiatrie* is M. Apert, 14 rue de Marignan, Paris, who is also the editor of the bulletin published by the organization.

Postgraduate Courses in Differentiation of Plague and Cholera.—The Spanish authorities have recently organized a course of lectures at the Madrid Institute for Bacteriology, for training physicians to diagnose plague and cholera. The course is compulsory for all sanitary officers, and medical officials connected with quarantine stations or seaports. The bacteriologic course is given by Professor Mendoza, and the medical officials are detailed in squads to attend the course which he has to repeat about six times in each three months.

Foundation of Radiologic Society at Paris.—The *Société de Radiologie Médicale* has been founded at Paris with 79 members already enrolled and a monthly bulletin of 24 pages distributed. The list of members includes Mme. Curie, Arsonval, S. Leduc, Oudin, Sabouraud, Wickham and Widal and other names well known to science, and 25 additional candidates had applied by the second meeting. Béclère is the president of the new society, which is open to all physicians interested in radiology and endorsed by two members; non-residents pay $3 dues. The secretary's address is Dr. Haret, 8, rue Pierre-Haret, Paris. The first meeting of the new society was devoted to discussion of filters for the Roentgen rays, especially aluminum filters, and the quality of the rays in rapid radiography.

Second International Congress on Industrial Accidents.—The subjects to be discussed at this congress, which convenes at Rome, Italy, May 23 to 29, are the medico-surgical and medicolegal aspects of industrial accidents and their consequences: differentiation and prognosis of neuroses following industrial accidents and estimation of the working capacity of the injured before and after the accident. This latter theme includes study of measures to aid in such estimations, study of the predisposition, preceding affections, sociologic and anthropologic criteria, race, age, sex, criminality, etc., and the influence of examinations, damage suits, etc., on the outcome of the accidents. Statistics are also to be presented in regard to the application to date of the legislation on industrial accidents. The fate of injured joints is also to be investigated. The secretary general, Professor Ascarelli, may be addressed for further particulars, via Bourgognona, Rome, Italy. Professor Ottolenghi, chief of the Institute for Forensic Medicine, at Rome, will preside. The subscription is $4.

LONDON LETTER

(From Our Regular Correspondent)

London, March 6, 1909.

The Polyclinic

A new scheme of work has been adopted at the Polyclinic. Hitherto the morning has been devoted to classes and laboratory work and at 4 p. m. there were clinical demonstrations and consultations, more or less of the character of a lecture, but usually informal and extempore. At 5:15 p. m. there was a lecture on some set subject. In the future these arrangements will be supplemented by additional work. On at least two days in the midweek, the afternoon's work will commence at 3 and the additional hour will be devoted to some special topic. When desirable the topic of the week will be allowed to predominate in some degree on the other days, and especially it may influence the subject of the 5.15 lecture. The arrangements for the weekly special topics will consist in the demonstration of patients, the production of classified portraits, the delivery of short lectures and open discussions. The week's topic April 12 to 16 will be "Prolapsed Kidney." The following arrangements have been already made: April 12, 5:15 p. m., lecture on "Details of Operations for Prolapsed Kidney." April 13, at 3 p. m., lecture on "Anatomic Considerations and Local Consequences of Prolapse of the Kidney," and at 5:15 p. m., lecture on the "Symptoms of Prolapse of the Kidney and Methods of Examination." April 14, discussion on "Certain Special Symptoms Attributed to Prolapse of the Kidney (Pain, Ill-Health, Melancholia and Insanity)." At 5:15, "Details of Operations for Prolapse of the Kidney and Their Results." April 15, at 3 p. m., continued discussion on "Symptoms and Treatment." and at 5:15 p. m., "Are the Results of Operations for Prolapse of the Kidney Lasting?" On April 16, at 3 p. m., there will be a continued discussion. Other lectures will deal with special aspects of the topic in hand, and on the last day a special effort will be made to collect as many examples as can be obtained. For these two objects the Polyclinic possesses unusual advantages. It has an extensive collection of portraits of disease in the Hutchinson Museum and a unique library of books containing extracts on all subjects collected for many years by Sir Jonathan Hutchinson.

Infantile Mortality

An important deputation of the National Conference on Infantile Mortality has been received by the prime minister, accompanied by the president of the local government board, the president of the board of education and the parliamentary secretary to the local government board. Miss Ravenhill of King's College, London, spoke of the need of teachers being trained in subjects dealing with motherhood. Dr. Spotiswood Cameron of Leeds urged that all preparations sold as food or drugs for infants should be certified by government analysis as non-injurious, and that the composition should be set forth on the label. After other members of the deputation had spoken, the prime minister said that it was impossible to conceive any subject of greater importance to the nation than the one laid before him. He congratulated the deputation on having obtained recognition, either by the legislature or by administrative changes, in respect to 11 out of the 14 points with which their body had determined to deal. The president of the board of education said that the board were attempting both in the elementary and secondary schools to devote more attention to domestic subjects. Last year hygiene was made a compulsory subject for teachers. The president of the local government board said that the organization could congratulate itself on the fact that since it was formed, two years ago, 15,000 more children's lives were saved and there were healthier children, too. The death rate under the age of 5 years was 57 in 1900 and had now fallen to 41. With regard to the question of food, he had established a special department to deal with it. The physicians at the head of this department were engaged in an inquiry into the character, quality and composition of infants' foods.

Deaths Under Anesthetics

In his annual report to the corporation, Dr. F. J. Waldo, coroner for the city of London, makes many suggestions of a far-reaching character with regard to the administration of anesthetics. The available data as to deaths under anesthetics are so imperfect as to be useless for the purpose of investigation and it is desirable to arrive at satisfactory conclusions for the safety of the public and the furtherance of science. Dr. Waldo makes the following recommendations with a view to lessening what he regards as unnecessary deaths under anesthetics. No general or local anesthetic should be administered by any but a qualified practitioner save under the most exceptional circumstances, which should be duly reported to some recognized official authority. Full details should be reported by the anesthetist of all administrations of anesthetics, whether in hospital or private practice. A register of all administrations of anesthetics should be kept in all medical charities, poor-law infirmaries and other institutions. So far as possible, skilled anesthetists should be appointed to all hospitals and infirmaries and resident anesthetists should be provided in the large institutions. When administration of an anesthetic is entrusted to a junior qualified man he should be supervised by a skilled anesthetist except when he can produce a certificate of special skill and experience as an administrator or when a skilled anesthetist is not available. Notification should be made to the coroner of all deaths at any stage of general anesthesia. Coroners should be required to hold a public inquiry into all cases of death during anesthesia. A royal commission with advisory powers might, with advantage, be appointed to inquire into the present facts of deaths under anesthesia.

Housing of the Working Class: The Bourneville Lesson

The problem of the housing of the working class has for many years exercised politicians, sanitarians and philanthropists. The small, ill-ventilated, poorly-lighted rooms in which the workers are often crowded in the slums of great cities are a fruitful cause of tuberculosis and other diseases. This evil has greatly developed in the last half century with the "urbanization" of population, which the conversion of this country from an agricultural into a manufacturing one has involved. A movement to check this evil has been begun by the construction of "garden cities." In some suitable part of the country a city is planned out on model lines, allowing plenty of open space and gardens. The object is that such cities should be self-contained, that factories should be transferred to them from the great cities, so that the inhabitants should both work and live in them under ideal conditions. Perhaps the most remarkable example of the garden city is the village of Bourneville, four miles from Birmingham, founded by Mr. George Cadbury, the cocoa manufacturer, as an experiment, in order to try the effect of rural surroundings, ample air space and sunshine on factory and similar workers. The idea on which the village is based is that there shall be no overcrowding of the houses on the land, that each house shall have a garden, that there shall be numerous open spaces and playgrounds, and that there shall be free course on all sides of fresh air and sunshine. The cottages are semi-detached or in blocks of four, each standing on a plot of land averaging 500 square yards in area. There are front gardens gay with flowers and back gardens rich with fruit and vegetables. There are parks, playgrounds and open spaces. The timber has been preserved wherever possible and the roads are tree planted. The rents range from a minimum of $1 a week. No saloon is permitted in the village. Mr. Cadbury handed over the estate and village to trustees, surrendering all interest in the capital value. The deed of the foundation provides for carrying on the scheme in accordance with the ideals of the donor, and enacts that the revenue, after providing for maintenance and repairs shall be employed in the erection of houses and the purchase of land for extending the scheme. Building is steadily going on out of the surplus revenue. At present the area of the estate is 525 acres and there are 700 houses in the village, with a population of 3,000. The demand for cottages is so great that it is impossible to keep pace with it. The result of this experiment on the health of the inhabitants is of great interest. For the five years ending 1907 the death rate per 1,000 inhabitants was 6.3, while that for the district in which Bourneville is situated was 10.3, and for the city of Birmingham 15.4. The infantile mortality per 1,000 live births was 80.2, while that for the district was 100.2, and for Birmingham 131.4. During the last year some interesting measurements were made to ascertain how Bourneville school children compare with children of the same age living under the usual slum conditions in Birmingham. At the age of 6, boys in Bourneville weighed on an average 45 pounds and measured 44.1 inches, against 39.4 pounds and 41.9 inches in Birmingham; at 8 they weighed 52.9 pounds and measured 48.3 inches, against 47.8 pounds and 46.2 inches; at 10, 61.6 pounds and 51.9 inches, against 56.1 pounds and 49.6 inches; at 12, 71.1 pounds and 54.8 inches, against 63.2 pounds and 52.3 inches.

Cancer Research

At the annual meeting of the court of governors of the Middlesex Hospital (the only general hospital in London which has special wards for the reception of patients suffering from cancer, and also cancer research laboratories), Dr. Lazarus Barlow described the work done in the laboratories since their opening in 1900. Here ten highly qualified pathologists are constantly working at cancer research at a cost of $12,500 per annum. The examination of the records of 8,000 cases of cancer of which the hospital had notes showed that there was no evidence that the disease was inherited. From the point of view of life assurance and of allaying a general fear, this was of great utility. Why cancer started at all, why it was sometimes located at one spot, sometimes widely disseminated throughout the body, why it killed, how it killed, were questions to which no positive answer had yet been given.

PARIS LETTER

(From Our Regular Correspondent)

Paris, March 2, 1909.

Epidemics in the Army

For some time an epidemic of typhoid fever has decimated the garrison of Cherbourg; the detailed inquiry undertaken by the military authorities gives no results; the water of the barracks can not be incriminated, for the sterilizers are working perfectly. In the presence of such a state of affairs the war department has ordered all the cafés and saloons of the town and suburbs, where drinks mixed with impure water might aid in the propagation of the disease, to be closed to the troops, both soldiers and sailors. Although this measure is amply justified, the liquor sellers protest none the less energetically against it, and, strange to say, the municipality of Cherbourg has informed them that the police are to take no action against the vendors who continue to serve the soldiers and marines. The préfet maritime, in his capacity as governor of Cherbourg, may confine the troops to barracks and the marines on board ship. The superior commission of military hygiene and epidemiology, the president of which is Dr. Roux, director of the Pasteur Institute, and the superior council of waters in the war department, met on March 1 to discuss the epidemics reported from several garrisons. The two commissions unanimously approved the measure taken by the war department at Cherbourg. A subcommittee was appointed to meet at Cherbourg and study the means of overcoming the epidemic, the question of the water supply and the sanitary condition of Cherbourg in general.

An epidemic of cerebrospinal meningitis exists in the garrison of Evreux, the capital of the department of Eure.

Application of the Law for Old Age and Infirmity Pensions

From the inquiry recently instituted by the minister of the interior it transpires that on the 31st of December last the number of aged, infirm and incurables admitted to the benefit of the law of July 14, 1905, regarding compulsory relief (*assistance obligatoire*) had risen to 534,965, of whom 49,589 are cared for in public institutions and 485,376 are given assistance at their homes. Among those receiving home relief, about 60 per cent. were at least 70 years of age, while 40 per cent. were admitted by reason, not of their age, but of infirmity. It is interesting to learn in what ratio the number of those receiving home relief has increased. The two preceding inquiries were made on March 31, 1908, and Sept. 30, 1908. On the 31st of March the number was 406.503, and on the 30th of September it was 470.340, which gives for the half year an increase of about 64,000, while for the last three months of 1908 the increase has been only about 15,000. There is, therefore, a notable falling off in the increase of the number of beneficiaries, which will doubtless be still further marked in the first three months of 1909. It will be yet further accentuated as the prefects, according to formal instructions from the premier, have instituted a local and general control to prevent abuses. There is consequently reason to suppose that towards the end of 1909 the law regarding compulsory relief will have attained a state of equilibrium, the number of new admissions being henceforth almost exactly balanced by the number of deaths.

A Monument to E. J. Marey

The International Association of the Marey Institute has taken the initiative in opening a subscription to erect at the Marey Institute a monument to the great physiologist, the inventor of the graphic method, who, by his researches on the flight of birds, was the forerunner of aerial navigation. A great deal of support has already been received from abroad. In France a committee has been formed under the honorary presidency of the minister of education with Professor Chauveau as actual president, to make an appeal to the old friends, pupils and admirers of Marey, and to collect subscriptions to assure to the lamented savant a testimony of esteem and regard worthy of his works, which have added luster to French science.

Apprenticing of French Hospital Nurses in London

As I mentioned in a previous letter, a training school for nurses has been recently organized at the Salpêtrière Hospital. n the course of a recent visit to London, M. Mesureur, directors of the *Assistance Publique*, made arrangements with he authorities of St. Bartholomew's Hospital to send to this nstitution a certain number of pupil nurses from the Salpêtrière training school to learn English methods of hospital nursing.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 26, 1909.

The Chair of Hygiene at Königsberg

It is reported that Prof. Kruse, of Bonn, is to succeed feiffer. Kruse is a pupil of Prof. Finkler and has made a eputation by a number of excellent works on bacteriology.

Haeckel

A few days ago Haeckel, who recently celebrated his sevnty-fifth birthday, gave his final lecture at the close of his fe work as a teacher. Although the noted scientist will remain connected with the Jena university, he will not lecture ny more. Unfortunately his retirement has not been enrely harmonious, and he who has come off successful in any battles in the past has become involved in a strife in which is in the wrong. In an article which appeared about two ears ago, entitled "The Problem of Man and the Noble Anials of Linné ("*Das Menschenproblem und die Herrentiere von inné*"), and in other places he has given illustrations of embryos, to prove the theory of descent, and a zoologist, Dr. Brass, has publicly accused him of falsifying some of these pictures. Haeckel answered in a Berlin newspaper that a small part of his numerous pictures of embryos had indeed been artificially changed. This had been necessary with some pictures as the existing material for observation was insufficient, so that it was necessary, in order to exhibit a consistent chain of development, to fill up the gaps with hypotheses and to construct the missing link by synthesis from comparison. Haeckel expressed the opinion that a large majority of all the embryologic figures which are found in the best text-books deserve equally this charge of having been tampered with. Naturally a greater sensation was created by this admission than by the charge made by Dr. Brass, and the numerous opponents of Haeckel eagerly seized the opportunity to attack him. In consequence of this, the *Deutsche medizinische Wochenschrift* requested Keibel, professor of anatomy at Freiburg, to give his opinion on the matter, and Keibel condemns the method and assumptions of Haeckel. He is compelled to characterize Haeckel's action as thoroughly unscientific and he contends that nothing like this is found in good text-books. He does not like to apply the term "falsifying" to these artificial changes, as in his opinion Haeckel undoubtedly acted in good faith. The investigations of Keibel had also the additional interest that they showed that the accuser, Dr. Brass, had not always been exactly careful with scientific truth, and that errors could be shown in pictures contained in his writings, and that further even his scientific statements are in part erroneous. Keibel concludes his important article with the opinion: "Haeckel and Brass both misconstrue in the same way the character and range of scientific investigation. Science has nothing to say about value and purpose; her business is to establish facts and the causal connection between facts. She assumes the value of truth, without being able to demonstrate it by her methods." We are interested to learn whether the two scientists thus condemned will reply to this impressive criticism and, if so, what their answer will be.

The Secretary of State and the Medical Profession

On the occasion of a debate in the Reichstag, the secretary of state, von Bethmann-Hollweg, discussed the principles of the bill for reforming insurance legislation, which has been for a long time in preparation and is finally ready for adoption. In connection with this he commented on the conflicts of physicians with the *Krankenkassen* and especially on the trouble at Cologne. His remarks have raised a storm of indignation throughout the entire medical profession. The secretary accused physicians of exaggerating the principle of combination and set forth the damage which might in this way ensue to the suffering public. The boycotting of a patient or of a dying person, to which such a conflict might lead, would be a return to the worst unsocial conditions. In his opinion the majority of German physicians would not approve of such practices, but they would be held together by the iron clamp of organized union under the threat of proceedings in the tribunal of honor. The entire medical press has given clear expression to its disapproval of these remarks which undoubtedly indicate an insufficient knowledge of the matter on the part of the secretary of state, and which, especially in the present state of the conflict at Cologne, were very inappropriate. Many counterarguments have been presented in the Reichstag, especially by medical members, and the president of the *Leipziger Verband* has written an open letter in which he points out the mistaken judgment of the secretary of state and shows how the entire struggle of the physicians was brought on by the management of the insurance societies. The secretary of state has now published an answer to this open letter in the official *Norddeutsche Allgemeine Zeitung* which is written in a very conciliatory tone and indicates that the secretary of state is convinced of the impropriety of his remarks. He assures us that the imperial government will give the medical profession the greatest possible protection. He appreciates the share that German physicians must have in this solution of social problems, and the services which they have performed in this respect. He admits that now as heretofore the German medical profession recognizes as the principal object of its calling the free application of science to the benefit of suffering mankind. But he believes that physicians have developed a keenness in promoting their material interests, which have been brought more into question than hitherto in consequence of the industrial legislation, and that this obscures the ideal conception of their profession. He hopes that in this respect a change for the better will set in. With reference to the proposed reform he expresses the hope that it will be possible to harmonize the consideration of professional and economic necessities with the ideal high position of the medical profession. Let us hope that the legislature will succeed in eliminating the evils that the medical profession has had to suffer through the industrial insurance legislation which failed to take their interests sufficiently into account.

The Spread of Cerebrospinal Meningitis in Prussia

During 1907, 2,551 cases of epidemic cerebrospinal meningitis occurred in Prussia, affecting especially the provinces of Posen, Silesia, the Rhine provinces, particularly Westphalia. The largest number of cases occurred in March, April and May, while in autumn the fewest occurred. Of those attacked 79.7 per cent. were under 15 years of age, and 48.4 per cent. were children under 5 years; 63 per cent. died and 52.2 per cent. of the 1,266 deaths occurred in the first week of the disease.

Pharmacology

OLEOZONE—OXYDASE—COWLES INSTITUTE

The Passing of Hydrocine and the Commercial Possibilities of the Sugar "Cure" for Tuberculosis

A little over a year ago[1] we gave space to a fake cure for tuberculosis called Hydrocine, a product promoted by a Dr. C. S. Roberts. Hydrocine was advertised to be a "hyper-oxidized hydro-carbon," whatever that may be. An imposing analytic report of the product by a New York chemist was given, which, as we said at the time, read more like "a testimonial prepared at the request of the manufacturer."

HYDROCINE NINETY-FIVE PER CENT. SUGAR

As will be remembered, when examined in the laboratory of the American Medical Association, this "hyper-oxidized hydro-carbon" was found to be 95 per cent. *sugar!* To quote from the Association's laboratory report: "Each 29.5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin."

Hydrocine is no more, but the commercial possibilities in sugar as a therapeutic agent are still recognized. Phoenix-like, there have arisen from the ashes of Hydrocine two other "hyper-oxidized hydro-carbons"—Oxydase and Oleozone. In fact, there seems to be at present no fewer than three concerns which are "curing" tuberculosis by means of sugar *plus* various incidentals.

HYDROCINE—OLEOZONE—OXYDASE

Before Dr. Roberts "gave up a practice that was yielding . . . [him] an income of over $10,000.00 a year" to sell odoriferous sugar at $8.00 a pound, Hydrocine seems to have been manufactured by a Mr. E. C. Getsinger. It now seems that Getsinger and Roberts have parted company, for the country is being flooded with letters from Roberts in which he says:

> "In view of the fact that the party [Getsinger?] who formerly manufactured the old product for me . . . is now attempting to market it himself, I wish to avoid the danger arising from anyone confusing it with my improved treatment. For this reason I have adopted a new name, Oleozone (oil and oxygen), and under this title my new and vastly improved product will be marketed."

On the other hand Mr. Getsinger, who signs himself proprietor of the "Oxydase Company," and who, apparently, *is* the Oxydase Company, has attempted to checkmate Dr. Roberts by means of post-cards and other advertising matter. He says:

> "The chemical name of the compound is 'oxydized hydro-carbon' and later it was named 'Hydrocine.' In the present perfected form we present it to the profession under the name 'Oxydase'."

That there may be no mistake, the Oxydase Company sends out a printed post-card which begins:

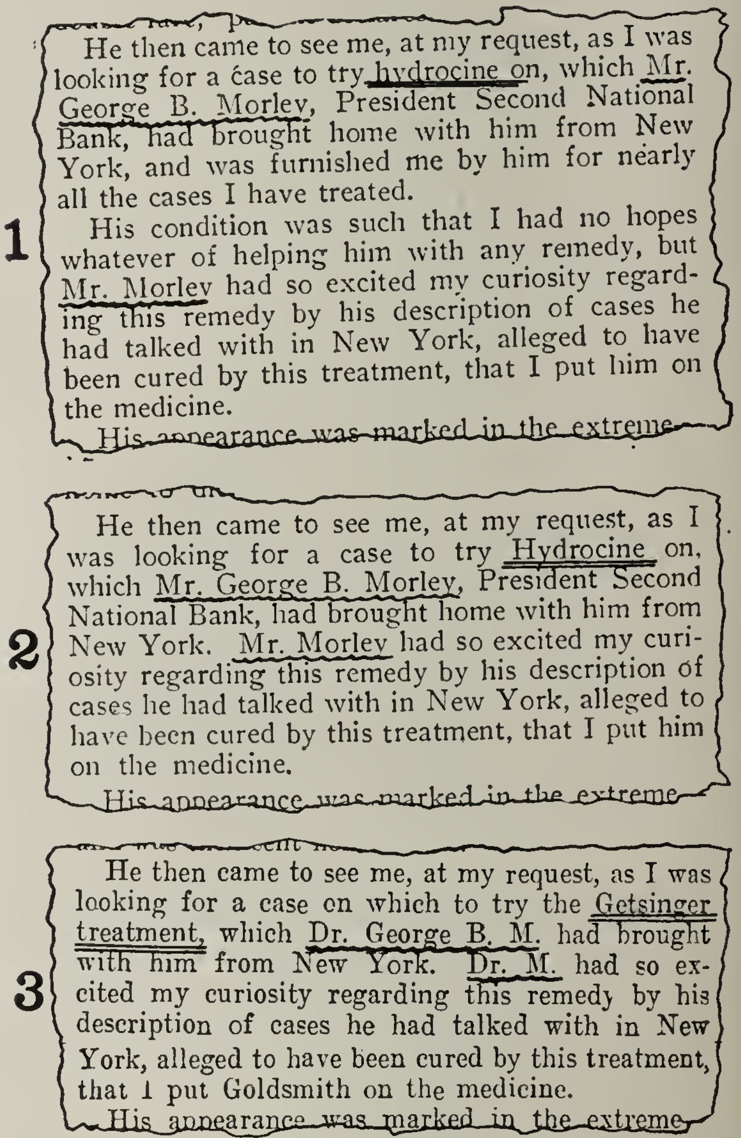
> "Dear Doctor:—This informs you that Dr. C. S. Roberts of New York is no longer the sales agent for Hydrocine."

BRINGING TESTIMONIALS UP TO DATE

The advertising "literature," including testimonials of the apparently defunct Hydrocine Company, seems to have reverted to Mr. Getsinger, as the Oxydase Company's pamphlets are practically a re-hash of the old Hydrocine matter. In this connection, it is interesting to note how testimonials are overworked. One of the most imposing testimonials in the old Hydrocine pamphlet was that accredited to Dr. O. P. Barber of Saginaw, Mich. In this testimonial, Dr. Barber was quoted as saying:

> "I was looking for a case to try Hydrocine on, which Mr. George B. Morley, President Second National Bank, had brought home with him from New York, and was furnished me by him for nearly all the cases I have treated."

We called attention in our previous article to the somewhat unusual course of a physician administering a remedy of whose virtues he learned from the layman who furnished it. This objection can not be raised, however, to this same testimonial of Dr. Barber's as it now appears in the Oxydase "literature." While it is used practically verbatim, except for the substitution of the term "Getsinger treatment" where "Hydrocine" used to appear, we find that the erstwhile bank president has assumed a professional *rôle*, and that "Mr. George B. Morley" has become "Dr. George B. M." We are loth to believe that a bank president would give up his highly reputable and not unlucrative business for the purpose of developing the therapeutic possibilities of rock candy—even though there may be money in it. Knowing what we do of testimonials and their value, it seems more reasonable to suppose that the transformation of the banker into a physician is merely an artistic touch on the part of those who adapted the Hydrocine advertisements to the Oxydase product.



1

He then came to see me, at my request, as I was looking for a case to try hydrocine on, which Mr. George B. Morley, President Second National Bank, had brought home with him from New York, and was furnished me by him for nearly all the cases I have treated.

His condition was such that I had no hopes whatever of helping him with any remedy, but Mr. Morley had so excited my curiosity regarding this remedy by his description of cases he had talked with in New York, alleged to have been cured by this treatment, that I put him on the medicine.

His appearance was marked in the extreme

2

He then came to see me, at my request, as I was looking for a case to try Hydrocine on, which Mr. George B. Morley, President Second National Bank, had brought home with him from New York. Mr. Morley had so excited my curiosity regarding this remedy by his description of cases he had talked with in New York, alleged to have been cured by this treatment, that I put him on the medicine.

His appearance was marked in the extreme

3

He then came to see me, at my request, as I was looking for a case on which to try the Getsinger treatment, which Dr. George B. M. had brought with him from New York. Dr. M. had so excited my curiosity regarding this remedy by his description of cases he had talked with in New York, alleged to have been cured by this treatment, that I put Goldsmith on the medicine.

His appearance was marked in the extreme

The evolution of a testimonial. From the Goldsmith Case credited to Dr. O. P. Barber: 1, As it appeared in the earlier hydrocine pamphlets; 2, from the later hydrocine "literature"; 3, as it is now in the oxydase pamphlet.

THE NEW CHEMISTRY

Much stress is laid by the Oxydase Company on the statement that while their tablet is super-oxidized, the substitute

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1. The Journal A. M. A., Aug. 17, 1907, and Feb. 15, 1908.

tablet [Oleozone?] "is not oxidized." To prove (?) their point, the Oxydase Company says:

> "Place the tablet between tweezers, ignite with a match, then observe the *oxygen blue flame.* The sputtering is the *explosion of small quantities of Oxygen* as it is rapidly liberated. There is no smoke, *nor odor,* proving complete combustion." [Italics ours.—Ed.]

This test, both from theoretical and practical considerations, deserves notice. Theoretically, because oxygen being, in air, an incombustible gas, can neither explode nor burn with a blue or any other kind of flame; practically, because, the statement to the contrary notwithstanding, there *was* some smoke and a distinct odor of burning sugar when a sample Oxydase tablet was ignited.

The "oxygenating" power of Oxydase and its varied therapeutic indications are set forth in the following weirdly constructed sentence:

> "With 20 remedial impulses in septemia within ten hours, or longer on the same dosage, is a formidable weapon in the hands of a physician—in cases of Typhoid Fever, and other sudden invasions of disease; in Croup, Pneumonia, Diphtheria, Asthma, Abscesses, Bronchitis, etc., Oxydase will give you surprising results."

OLEOZONE "STRICTLY ETHICAL"

In calling attention to his "improved Hydrocine," Dr. Roberts emphasizes that he is "distributing this remedy along strictly ethical lines only." In fact, he "will not even place it in drug stores, unless to accommodate a physician at his request." This course is somewhat of a departure from that which he followed in exploiting Hydrocine.

THE "COWLES INSTITUTE"

But Dr. Roberts and Mr. Getsinger are apparently not the only ones who dispense "oxygenated products." We have received letters from various parts of the country inquiring about a New York concern calling itself the "Cowles Institute." A pamphlet sent out by this "institute" has printed on the cover a red double-cross—a misuse of the international emblem of the campaign against tuberculosis that is as unwarranted as it should be illegal. On the title page we read:

> "Established for the treatment of tuberculosis in its various forms by entirely new and special methods of medication complying with the highest ethical standards, by which full recoveries in uncomplicated cases of tuberculosis are generally made in from six to nine months without the necessity of changing climate or enforcing severe or rigid hygienic-dietetic rules."

A SUBTLE REMEDY

The "entirely new and special methods of medication" is "by means of an easily digested specially oxygenated product that by regular process of assimilation conveys Atomic Oxygen in proper combination direct to the circulation. . . ." This wonderful remedy is far too subtle a product to distribute indiscriminately to the medical profession, much as the Cowles Institute would like to do so,

> "but owing to the necessity of keeping it under fixed conditions of light and temperature and of using it within a very limited period of time in order to obtain the proper results, it is manifestly impossible to do this."

We find, however, that the "treatment" is not to be entirely "cornered," as letters are sent to physicians stating that it is the desire of the "institute" to place the "oxygenated product" in the "hands of at least one competent physician in every community of consequence." To those physicians who have a tuberculous patient under their care, they would "be glad to send a sufficient quantity to demonstrate its value without any expense except express charges." As to what may be expected from this "treatment," the modest claim is made:

> ". . . .practically 90 per cent. of the cases we take in the first and second stages of tuberculosis make a complete and apparently permanent recovery."

We have, then, apparently three concerns "curing" tuberculosis by means of sugar and essential oils, two of them operated by laymen. The similarity of the claims made, and of the methods pursued, by this trio of "consumption cures" is best shown by the quotations we have taken from the "literature" and correspondence of the three concerns and arranged in parallel columns.

We offer no apology for giving space to what may, at first thought, appear to be an insignificant matter. Reading between the lines in some of the letters of enquiry we have received regarding these "cures," there seems little doubt that at least some of these physicians have been "almost persuaded" to use them. There are now at least three concerns, where there was originally only one, engaged in exploiting "sugar and essential oils" as a cure for tuberculosis. This in itself proves that physicians are using these "cures" and making them commercially profitable, for so far as we know, they are advertised only to the medical profession.

COMPARISON OF CLAIMS OF THE TRIO OF CONSUMPTION "CURES"

COWLES TREATMENT	GETSINGER TREATMENT (OXYDASE)	ROBERTS TREATMENT (OLEOZONE)
". . . composed of a base of *saccharum* and two enzymes, one gastric and the other *pancreatic.* To this . . . is added the *highly oxygenated* active principal [sic] of the essential oils of *thymus, terebinthina* and eucalyptus with chlorophyl and aromatics."	"Oxydase tablets contain Oils of Wintergreen, *Cinnamon, Peppermint, Conin,* Sassafras, *Thyme* and *Turpentine* and *Sugar,* all *highly oxidized.*"	"Oleozone is prepared from the oxygenated principles of the oil of *cassia, conin, peppermint,* spruce, myrtle, myrrh, marrubium, *turpentine* and *thymol* . . . combined with rock candy, *sugar* and *pancreatin.* . ."
". . . a safe, feasible method of rapidly furnishing the blood with the necessary oxygen properly combined. . ."	"Oxydase is . . . a prolific oxygenating agent in medicine. . ."	"It purveys a constant supply of oxygen to the blood. . ."
"It is *non-toxic.* . ."	". . . *no toxic* dose possible. . ."	". . . a harmless compound . . . positively not injurious from prolonged use."
"Instruct patient to *avoid taking water* within *fifteen minutes before or after taking* a tablet, as water in some cases, combined with the oils in the tablets, produce slight nausea."	"Have patients drink milk at any time, *but not so with water,* which decomposes the tablet . . . causing cumulation and nausea."	"*Drink no water within fifteen minutes before or after taking* the tablets, as water disturbs the oils in the tablet."
". . . during the first week of treatment . . . the sputum may be *tinged with blood* and the patient complain of slight *shooting pains* or *tingling sensations* throughout the infected area."	"Twenty days thereafter . . . dull, *twinging pains* over infiltrated *areas; tinges of blood in sputum.*"	"Soon *twinges of pain* and great soreness in the chest may be noticed, with perhaps *tinges of blood in the sputum.*"
". . . full recoveries in uncomplicated cases of tuberculosis are gnerally made in from *six to nine months.* . ."	"Course of treatment lasts from *six to twelve weeks.*"	". . . this new treatment requires only *six to sixteen weeks* to perfect a permanent cure. . ."
". . . the oxygenated products employed in our treatment . . . are unobtainable elsewhere. . . Neither are they similar in characteristics or action to any other so-called oxygenated products that may be on the market."	"There are substitute hydro-carbon treatments now being exploited which are not an oxidized product."	". . . the party who formerly manufactured the old product for me . . . is now attempting to market it himself. I wish to avoid the danger arising from anyone confusing it with my improved treatment."
"In Pneumonia we find this tablet undoubtedly a specific for this disease."	"in . . . Pneumonia . . . Oxydase will give you surprising results."	"in cases of acute Pneumonia it will cure them so quick that it will surprise you."

Correspondence

Benzoate of Soda in Foods

To the Editor:—The position which The Journal has taken on the benzoate of soda question should be commended by every advocate of pure food and in the interests of the public. The letter in last week's issue from Dr. E. E. Smith puts the question perfectly clear. It is obvious that the only excuse for the use of the benzoate is to permit of careless handling of the raw material. That it is entirely unnecessary for the preservation of catsup every housewife knows. Those manufacturers who use no preservative should be so patronized by the public. that their competitors who use the drug should either be driven out of business or forced to mend their ways.

There is one point in connection with the finding of the referee board which I have not seen brought out and which, I think. should be clearly stated. It has to deal with the decision of the board that benzoate is harmless. I hesitate to express an opinion divergent from that of my colleagues who are men of such high standing and who have made a special study of the problem, but I can not help thinking that they have done an injury to the cause of pure food. Their decision should be, and it was undoubtedly their intention to make it, in strict accord with the facts. That is, the conclusion should not go one particle beyond the facts. Unfortunately, however, the conclusions as stated seem not to have been confined to the facts investigated. They appear, judging from the published report, to have unintentionally fallen into the error of drawing positive conclusions from negative evidence, always a most dangerous proceeding and, in investigations of this character, doubly dangerous. Positive results in such investigations are clear cut and certain. That is, if derangements of health are apparent and clearly due to the drug, there is no doubt about the conclusions. But where the results are negative, as in this case they are reported to be, the conclusions should have been, it seems to me, simply the statement of this fact, for that is all that they observed. One never knows whether, in the case of a negative result, the harm was there and overlooked, or whether it was not there. It is a fact that at the present time our methods of investigation of the internal processes of the body are so crude, we know so little of the internal workings of the machine, that we can detect none but gross changes in it. The examination of the urine only gives the end products of metabolism; it does not show us the finer changes in the body at all. When we put a drug into the body, if it produces a large change it can be seen, but if the change is small it can not be detected. We are in the same position, in this regard, that astronomers were before they had telescopes. If they examined Jupiter, they saw no moons; if, therefore, they concluded that there were no moons, they would have been in error. It appears to me that something very like this is what the referee board may have done in drawing a positive conclusion from negative evidence. It may be, of course, that the board really has some other evidence than that, a summary of which has been given to the country. But on the face of their statement of the facts and the conclusions they have drawn from these facts, they have, I think, laid themselves open to serious criticism for, not having detected derangements of health, they have concluded that there were none, and not only that there were none in such individuals as those examined, but that there would be none, whatever the state of health or age of the individual taking the germicide.

Investigations of this kind, confined as they are to healthy men in the prime of life, are of little use in determining whether a bacterial poison, or germicide, such as sodium benzoate, is or is not harmful to the community made up of infants, children, invalids and the aged, as well as the young and vigorous. Every one knows the difference between the sensitiveness of the stomach mucosa in children and adults. The conclusions of the referee board, if drawn from experiments on healthy young men only, should have been stated to apply only to such a class. It may be that the board have experimented also on infants, children and on those wavering between life and death and have found that the addition of sodium benzoate is harmless, but if they have tried such experiments they have not said so in their summary. If they have not tried such experiments, what excuse can they offer for having extended to all members of a community conclusions which were the result of an investigation of a selected group only? As the referee board is composed of eminent scientific men, I should conclude that they have tried such experiments and said nothing about them, were it not that they state that the observations were made on healthy young men.

Whatever the final decision of this question of the effect on health of sodium benzoate, wise men will continue to regard germicides, such as sodium benzoate, as highly suspicious constituents of our foods and, as far as possible, purchase foods which are preserved in a cleanly and healthy manner, free from such germicides. We should also express in some way to Dr. Wiley our appreciation of the splendid fight he has made in behalf of all the people against the adulteraters and poisoners of our food supplies.

Albert P. Mathews, Chicago.

The Tariff and Medicine

To the Editor:—Now that Congress is considering a partial revision of the tariff with a view of reducing some of our excessive and burdensome duties, I think that it would be an excellent time for medical men to get together and show how unjustly their interests are affected by the present tariff schedules. Medicine being the only cosmopolitan industry in the world, it continually happens that articles necessary to the prosecution of medical research are made better in one country than in another, and for this reason it often becomes necessary to import in considerable quantities into other countries instruments or appliances made under the supervision of the inventor. I have found the tariff on radium excessively burdensome, and I am sure that it is a serious hindrance to the cause of original investigation in this country in the field of therapeutics. Physicians in both Germany and England have a far better opportunity than we to determine how far radium will effectually cure malignant diseases on the surface of the body. Few medical men are rich enough to pay hundreds of dollars in tariff to the Government every time they purchase enough radium to cover the head of a pin (ten milligrams).

Again, in the case of the reflecting condensers, now so necessary for the study of living bacteria, with the dark-ground illumination, the enormous tariff simply doubles the price of these simple instruments, so that the electric arc lamp (one of the essentials) which can be purchased in Germany for $8.00, here costs $16.00.

I wish a vigorous protest might be made against this disastrous policy of our government, which is both stupid and suicidal, hurting all the sick and the prospective sick people of our country by taxing medical enterprise.

Howard A. Kelly, Baltimore.

In Behalf of Institutions for Crippled Children

To the Editor:—For the purpose of publishing complete statistics of the institutions in the United States of America devoted wholly or in part to the care of mentally sound crippled children, the object of such institutions being, surgical and medical treatment, education, manual and industrial training, or any one of these features, I earnestly solicit information from persons associated with such institutions or having knowledge or addresses of same, on the receipt of which blanks indicating the information desired will be forwarded. The collected statistics will be published in America and abroad, therefore it is desirous to give America due credit for the efforts being made to benefit and uplift helpless crippled children.

The following is an outline of the information desired: (1) Name and address of institution; (2) date of establishment of institution; (3) how supported; (4) number of pupils; (5) day pupils; (6) resident pupils; (7) provision for surgical care; (8) educational courses; (9) manual training with amount of product; (10) special feature and aim of institution; (11) age at which children are admitted; (12) age at which children are discharged; (13) average length of stay in the institution; (14) list of medical and surgical staff; (15) provision made for children after leaving institution.

William Jackson Merrill, M.D.

1819 Chestnut Street, Philadelphia.

Miscellany

An Idle Challenge from an Antivivisectionist.—We quote the following from the New York *Evening Sun:*

"This characteristic communication comes to us from the president of the Antivivisectionist Society:

"*To the Editor:*—Regarding your editorial attack in the *Evening Sun* of January 27 on a leaflet issued by this society, I would say that I should be glad to have you attempt at our mass meeting (to be held at Carnegie Lyceum, February 3, 8 p. m.) to sustain your assertions against its accuracy. Miss Lind-af-Hageby will be glad to show you that you are in great error.

Diana Belais, New York.

"We have received a similar letter from a woman who says she wrote the leaflet. She shall be nameless. It is typical of the light-hearted irresponsibility of the antivivisectionists that neither the woman who is responsible for the publication of the leaflet nor the woman who boasts of having penned it offers the least defense of her part in the matter. Instead we are told that a certain young woman from England 'will be very pleased to meet any one in debate.' This young woman, we may remark, was joint author of a scandalous publication entitled 'The Shambles of Science,' which the publisher was compelled to withdraw from circulation several years ago, with a public expression of 'sincere regret for having printed and published the book in question.' We have no desire to enter into any controversy with this woman, who confesses that she has some difficulty in finding opponents at debate in the country of her adoption—a circumstance which does not astonish us in the least.

"Mrs. Belais boldly proclaimed the other day that no 'unjustified assumptions or allegations' were published by her precious society. We picked up a leaflet and extracted this single passage: 'Pasteur and his followers increased a very rare disease called rabies, and are making fortunes out of the antirabic virus.' To call this an 'unjustified assumption' is to state the case mildly. It is nothing less than an infamous and malicious lie. And we maintain that it is a disgusting spectacle to see so great a benefactor of the human race as Pasteur treated in this frivolous manner by a parcel of unscrupulous women."

Care of Static Machines.—Dr. C. S. Minnich, Palmer, Neb., writes that any of the modern makes of static machines can be depended on if the case containing the plates is kept dry and free from dust. Many of the cases are made with loosely fitting doors or at best the doors have a packing of felt or cloth only, often no packing or gasket at all about them. The case can, and should be made so tight that only changes of temperature and of barometric pressure will affect the contained air. The physician should see that the glass panes of the top and sides are as tightly in place as putty and wooden strips will make them. Often the putty and strips will be found to be loose and the glass shaky. Cracked glass in the case must be replaced with whole pieces. A few yards of soft "nurser" tubing may be fastened with small tacks to the frame to form a gasket for the doors to be screwed up against so that they will fit practically airtight. Felt or cloth can not be depended on for this purpose like a rubber tube and even the rubber tube must be replaced occasionally as the ozone and nitrous fumes in the case soon harden and crack it. A large earthen or glass dish may be placed in each end of the case and one partly filled with hard pieces of quicklime and a cloth put over it to keep dust from lime from flying; in the other dish are put two or three pounds of fused calcium chlorid. The case is then ready to be closed and should be kept closed, except when it is really necessary to open it. If the plates are dusty they should be cleaned with a soft woolen cloth wrapped about a lath, the cloth being held against the plate as it is slowly revolved. When lime is used in the case it should be changed as soon as it begins to air-slake and bulge up under the cloth. There is no particular advantage in quicklime over calcium chlorid, except that it is very cheap and always available. When the calcium chlorid begins to get moist it should be taken out and baked in a hot oven until dry and then should be put back in the case while it is still warm (not hot). In case the varnish is scaling off the plates, they should be taken out of the case and well cleaned with common lye and water, well washed and dried, given a coat of good transparent coach varnish, and dried in the sun, out of the dust, before being replaced in case. Dr. Minnich has an old machine of standard make that was badly broken in transit. Two of the revolving plates were broken and were replaced by others cut from common, double strength, window glass. As the varnish was scaling off all the revolving plates in spots, they were all cleaned with lye and all revarnished with good coach varnish (two coats) before being replaced in the case. Since the machine was thus put in order it has never failed to give a good current in any kind of weather, and seems as sure to work as any common dynamo; and it is only a 27-inch, 16-plate machine. It is a common experience to get a twelve-inch spark from it.

The Present Position of the Theory of Autoregeneration of Nerves.—Dr. J. Gordon Wilson discusses (*Anat. Rec.*, January, 1909, p. 27) the various theories of the regeneration of nerves after section. Three distinct views are held. The first theory is that the regeneration is altogether from a central source; that is, that the axis cylinder grows out from a central or nutritive cell; and, in connection with it the entire nerve fiber reforms independent of any aid from the degenerated remnant in the peripheral stump. The second is that regeneration of a nerve fiber is entirely peripheral, being renewed from what remains of the old nerve fiber and independent of a central connection. The third view is that the central and the peripheral stumps each play an assisting part in the formation of the new nerve fiber. The term "autoregeneration" is used in a restricted sense. All are agreed that under ordinary circumstances some connection must be made between central and peripheral stumps for a nerve to regain its anatomic and physiologic entirety (a modification to some degree of the third view); that regeneration is preceded by degeneration, the last stage of the latter being essentially a stage of transition into the former; that in adults, separation of the two stumps for a distance of 3 to 5 cm. renders union improbable, if not impossible, and that nerve fibers grow out a greater or less distance from the central stump. Bethe upholds the second view. According to him, in young animals, the peripheral end of a sectioned nerve will regenerate (in three to six months) without any connection with the central nervous system. These peripheral nerves appear normal and respond to stimuli. Such is not the case in adults. Contact with the central stump, however, hastens regeneration. Union is first by the connective tissue sheath. After section, nerve fibrils from both central and peripheral stumps grow out to meet each other. Cajal rather supports the first view. It is maintained that fibrils grow out from the central stump—the stump in connection with the central nervous system; are attracted to the degenerated peripheral stump chemotactically by a substance secreted by the latter; grow down into the sheath of the degenerated nerve, and are partly nourished by its neurolemma. Union does not occur between a motor and a degenerated sensory nerve and vice versa—an argument for specific chemotaxis. From his own work Dr. Wilson thinks that "the brilliant work of Cajal and others is not altogether convincing," and further that in the work of Bethe and his school there remains "ever present the lurking doubt that possibly some source of contamination (connection with other nerves, etc.) had been overlooked."

Shaw and Physicians. According to the Rochester *Post-Express*, George Bernard Shaw has been investigating the literature of medicine and has found a number of untruths in the pages. Consequently, he gets out his supply of epigrams and tilts quixotically at the windmills of error and deceit. He laughs at the disciples of Esculapius, he rails at the followers of Hippocrates, he sneers at the wonders of modern surgery, and belittles the advance that has been made in the practice of medicine. He charges that the modern doctor often performs serious operations, which are not necessary, "simply because they are fashionable," and holds that the physician who "sells his cures by making out a bill for them makes himself as abhorrent as a tradesman." In other words, the doctor is a swindler because his patients are fools, and instead of belonging to the noblest of the professions he is brother to the short-change artist, the dice-cogger, the green-goods gentleman and the hawker of worthless stocks. In his tirade the epigrammatic G. B. S. is not even amusing, says the *Post-Express*. His absurd detraction of the doctors is not worth the cost of cabling to this country, for it only exhibits Mr. Shaw in an unenviable light. Happily, his words will have little effect, for the great majority of people have a profound respect for the men who practice the profession of medicine.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

POLYGLOT DICTIONARY

To the Editor:—Please give me the name of any Italian-English medical dictionary, or any polyglot of medical terms in the Italian, Spanish, French and German languages. M. S.

Answer.—"Terminologia Medica Polyglotta," by Theodore Maxwell (London, J. and A. Churchill, price $3), gives synonyms in seven languages, including Italian, Spanish, French and German. Foster's Medical Dictionary, published by D. Appleton & Co., New York, gives medical terms in English, French, German, Greek and Latin. The National Medical Dictionary, in two volumes, edited by Dr. J. S. Billings, published by Lea & Febiger, Philadelphia, 1890, includes English, French, German, Italian and Latin medical terms in a single alphabetical arrangement. The publishing house of J. A. Barth, Leipsic, issues three small books entitled "Italian for Physicians," "English for Physicians," and "French for Physicians," written in German and the languages of the respective titles, and containing thirty-one conversations between physician and patient on twenty-nine different diseases, lists of medical journals, tables of weights and measures, thermometer readings, etc., and phonetic pronunciation on a German basis. Sample pages will be sent by the publishers on request.

THE INJECTION "CURE" FOR HERNIA

To the Editor:—In the Department of Queries and Minor Notes, January 23, information is requested concerning the injection "cure" for hernia. The following case may help to show its value. Mr. J. had a small inguinal hernia and, seeing the advertisement of a "specialist," telling him to throw away his truss and "be cured without the knife," decided that was what he was looking for. Accordingly he went to St. Louis and put himself in the hands of these "specialists"—there were two of them. They gave him an injection, and apparently with resulting success, but some time after returning to his home he thought he was not quite well and wrote the "doctors" about his condition. They advised him to return and get another treatment. He did so, and states that Immediately on receiving the injection severe burning pains ran down his leg. His suffering was intense and he went to a hospital. The "specialists" disappeared. In less than 24 hours the limb was gangrenous and had to be amputated about the middle of the thigh. The solution had been injected into the femoral artery.

O. W. Rash, Owensboro, Ky.

HIGH TEMPERATURE WITH RECOVERY

To the Editor:—Apropos of the letter on this subject in The Journal, Feb. 27, and your reply, permit me to state that about twelve years ago Dr. A. Jacobi, of New York, reported (Transactions Association of American Physicians) a case in which a temperature of 148 F. was recorded. The case occurred during my interneship at the German Hospital. The patient, a sailor, was admitted for a trivial injury of the cervical spine and developed the high temperature during his stay of several weeks at the hospital. A. V. Moschowitz, M.D., New York.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers for the week ending March 13, 1909:

Gilchrist, H. L., major, granted leave of absence for one month.

Stephenson, Wm., lieut.-col., and Banister, W. B., major, relieved from duty in Philippine division; will sail May 15 from Manila, P. I., for San Francisco for orders.

Little, W. L., capt., relieved from duty with Army of Cuban Pacification; will proceed to Fort Adams, R. I., for duty.

Brooke, Roger, capt., relieved from duty at General Hospital, Fort Bayard, N. Mex., and ordered to duty in the Philippines division; granted leave of absence for four months.

Cole, C. L., capt., relieved from duty at Fort Thomas, Ky., and ordered to Whipple Barracks, Ariz., for duty.

Craig, C. E., capt., relieved from duty at Fort Leavenworth, Kan., and ordered to New York City for duty as attending surgeon.

Shillock, Paul, major, relieved from duty at Fort Robinson, Neb., and ordered to Fort Sheridan, Ill., for duty.

Pierson, R. H., capt., relieved from duty at Fort Niagara, N. Y., and ordered to Fort William Henry Harrison, Mont., for duty.

Ford, J. H., major, relieved from duty at Fort William Henry Harrison, Mont., and ordered to Fort Riley, Kan., for duty.

Brown, H. L., capt., relieved from duty at Fort Riley, Kan., and ordered to Key West Barracks, Fla., for duty.

Heysinger, J. D., capt., relieved from duty at Key West Barracks, Fla., and ordered to Fort Ethan Allen, Vt., for duty.

Winn, R. M., major, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Logan H. Roots, Ark., for duty.

Schmitter, Ferdinand, lieut., relieved from duty at Fort Logan H. Roots, Ark., and ordered to Jefferson Barracks, Mo., for duty.

When, R. J., M. R. C., relieved from duty at Fort Slocum, N. Y., and ordered to proceed to his home and report for further orders; granted leave of absence for 10 days.

Patterson, E. W., M. R. C., relieved from duty at Fort Sam Houston, Texas; will sail April 5 from San Francisco, for duty in the Philippines division.

Graves, L. K., M. R. C., relieved from duty at Whipple Barracks, Ariz., and ordered to his home.

Newton, R. W., M. R. C., relieved from duty at Fort Jay, N. Y., and ordered to Fort Revere, Mass., for duty.

Stockard, J. K., M. R. C., relieved from duty at Fort Revere, Mass., and ordered to his home.

Jackson, T. W., M. R. C., relieved from duty in the Philippines division, and ordered to San Francisco, for further orders.

Chamberlain, G. E., M. R. C., relieved from duty at Fort Walla Walla, Wash., and ordered to his home; granted leave of absence for one month, and then relieved from active duty in the Medical Reserve Corps.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending March 13, 1909:

DeLancy, C. H., P. A. surgeon, placed on the retired list from March 3, 1909, under the provisions of section 153, Revised Statutes.

Phillips, E. L., acting asst.-surgeon, appointed acting asst.-surgeon from March 2, 1909.

May, H. A., P. A. surgeon, ordered to the *Charleston*.

Ely, C. F., P. A. surgeon, detached from the *Charleston* and ordered to the Naval Station, Olongapo, P. I.

Pickrell, O., surgeon, detached from command of the Naval Hospital, Annapolis, Md., and ordered home to wait orders.

Stoops, R. E., P. A. surgeon, detached from the naval recruiting station, Pittsburg, Pa., and ordered to the *Culgoa*.

Olsen, G. M., asst.-surgeon, detached from the *Culgoa* and ordered to the naval recruiting station, Pittsburg, Pa.

Ransdell, R. C., asst.-surgeon, detached from the *Solace* and ordered to the *Texas*.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended March 10, 1909:

McIntosh, W. P., surgeon, directed to proceed to Cambridge, Md., on special temporary duty.

Foster, M. H., P. A. surgeon, granted 2 days' leave of absence from March 1, 1909, on account of sickness.

McClintie, T. B., P. A. surgeon, granted 2 months' leave of absence en route to the United States.

Salmon, Thomas W., P. A. surgeon, granted 7 days' leave of absence from March 1, 1909.

Krulish, Emil, asst.-surgeon, granted 7 days' leave of absence from March 2, 1909, under paragraph 191, Service Regulations.

Krulish, Emil, asst.-surgeon, granted 10 days' leave of absence from March 9, 1909.

Delgado, J. M., acting asst.-surgeon, granted 1 day's leave of absence, Feb. 21, 1909, under paragraph 210, Service Regulations.

Fabian, Jacob J., acting asst.-surgeon, granted 2 days' leave of absence from Feb. 20, 1909, under paragraph 210, Service Regulations.

Markoe, W. W., acting asst.-surgeon, granted 5 days' extension of annual leave from Jan. 31, 1909, on account of sickness.

Stevenson, J. W., acting asst.-surgeon, granted 4 days' leave of absence from March 9, 1909.

Wakefield, H. C., acting asst.-surgeon, granted 6 days' leave of absence from March 1, 1909, under paragraph 210, Service Regulations.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Baltimore, Md., March 5, 1909, for the purpose of conducting a physical examination of four cadet engineers of the U. S. Revenue-Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman: P. A. Surgeon M. K. Gwyn, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 12, 1909:

SMALLPOX—UNITED STATES

California: Los Angeles, Feb. 13-20, 2 cases; San Francisco, 2 cases.

Illinois: Cairo, Feb. 13-27, 9 cases; Danville, Feb. 21-28, 3 cases; Galesburg, Feb. 20-27, 1 case; Jacksonville, Feb. 4-11, 1 case; Waukegan, Feb. 2-20, 3 cases.

Indiana: Indianapolis, Feb. 21-28, 1 case; Lafayette, Feb. 22-March 1, 1 case.

Kansas: Kansas City, Feb. 20-27, 5 cases.

Kentucky: Lexington, Feb. 20-27, 8 cases; Paducah, 9 cases.

Louisiana: New Orleans, Feb. 20-27, 1 case.

Massachusetts: New Bedford, Feb. 20-27, 1 case.

Missouri: Kansas City, Feb. 20-27, 1 case; St. Louis, 4 cases.

New Jersey: Camden, Feb. 20-27, 1 case.

New Hampshire: Lebanon, Jan. 15-Feb. 23, 2 cases.

New York: Buffalo, Feb. 13-20, 1 case.

North Carolina: Seven counties, Jan. 1-31, 47 cases.

Ohio: Cincinnati, Feb. 19-26, 13 cases.

Tennessee: Knoxville, Feb. 20-27, 1 case; Nashville, 11 cases.

Texas: San Antonio, Feb. 6-27, 9 cases.

Washington: Spokane, Feb. 13-20, 1 case.

Wisconsin: La Crosse, Feb. 20-27, 2 cases; Manitowoc, 6 cases; Milwaukee, Feb. 13-27, 18 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, Jan. 9-16, 1 case, 1 death.

SMALLPOX—FOREIGN

Arabia: Aden, Jan. 18-Feb. 1, 14 deaths.

British Honduras: Stann Creek, to Feb. 25, 3 cases, 1 death.

Canada: Winnipeg, Feb. 13-20, 1 case.

Chile: Valparaiso, Dec. 12-19, 1 case.

Egypt: Alexandria, Jan. 7-14, 2 deaths; Cairo, Jan. 21-28, 72 cases, 26 deaths.

France: Paris, Jan. 30-Feb. 6, 3 cases.

Great Britain: Bristol, Feb. 6-13, 1 death.

India: Bombay, Jan. 27-Feb. 2, 19 deaths; Madras, Jan. 23-29, 2 cases; Rangoon, Jan. 16-23, 2 cases.

Italy: General, Feb. 7-14, 7 cases, 1 death; Naples, 7 cases.

Java: Batavia, Jan. 9-16, 3 cases.

Mexico: Acapulco, Jan. 23-31, 2 cases; Guadalajara, Feb. 11-18, 1 death; Monterey, Feb. 14-21, 2 deaths.

Newfoundland: St. Johns, Feb. 6-13, 1 case, from vessel.

Portugal: Lisbon, Jan. 20-Feb. 13, 5 cases.

Russia: Odessa, Jan. 30-Feb. 6, 1 case; St. Petersburg, Jan. 23-30, 10 cases, 2 deaths; Warsaw, Dec. 19-Jan. 2, 13 cases.

YELLOW FEVER

Barbados: Feb. 15-16, 9 cases.

Brazil: Manaos, Jan. 23-30, 2 deaths; Para, Jan. 30-Feb. 6, 3 cases.

Ecuador: Guayaquil, Jan. 30-Feb. 6, 7 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, Jan. 9-16, 245 cases, 159 deaths.

CHOLERA—FOREIGN

India: Bombay, Jan. 27-Feb. 2, 1 death; Rangoon, Jan. 16-23, 3 deaths.

Russia: Jaroslav, Feb. 18, 2 cases; Rubinsk, 22 cases, 8 deaths; St. Petersburg, Feb. 10-16, 142 cases, 43 deaths.

Straits Settlements: Singapore, Jan. 9-23, 16 deaths.

PLAGUE

Brazil: Para, Jan. 30-Feb. 6, 1 case, 1 death.

Ecuador: Guayaquil, to Jan. 28, 26 cases; Jan. 30-Feb. 6, 3 deaths; Tolte, Dec., 1908-Jan. 28, 20 deaths.

Egypt: General, Jan. 1-Feb. 4, 8 cases, 5 deaths.

India: Bombay, Jan. 27-Feb. 2, 27 deaths; Rangoon, Jan. 16-23, 0 cases.

Indo-China: Saigon, Feb. 9-16, 2 cases, 2 deaths.

Turkey: Jiddah, Jan. 30-Feb. 7, 18 cases, 17 deaths.

Medical Economics

HIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

PENDING LEGISLATION

The sessions of the legislatures are drawing to a close in ost of the states. Comparatively little legislation has been acted bearing on medical and public health matters. The ajority of bills introduced remain in committees, as usual.

CALIFORNIA

The interest in this state has centered largely on the medal practice act and the attempts to modify it. Specially ominent has been the effort on the part of the so-called aturopaths" to secure the passage of a law recognizing their "school" and establishing a board of examiners for them. This movement, like the attempt to provide recognition for "chiropractics" in some western states, would seem to be the crowning absurdity of a recognition of "schools" of medicine by the state. There is no probability of the California bill becoming a law. The attacks on the existing medical practice act will probably be futile.

ILLINOIS

The usual osteopathic and optometry bills have been introduced. These bills have been before the legislature for the last three sessions and have always failed to become laws. A most excellent bill, providing for the reorganization of the State Board of Charities and the control of state charitable institutions, has already been discussed in THE JOURNAL. A bill authorizing cities to establish tuberculosis sanatoriums has become a law.

INDIANA

H. B. 44, for the prevention of the pollution of streams, has passed both houses and will probably be signed by the governor. H. B. 308, to regulate the conduct of all buildings in which any article of food is prepared or packed, passed the house with only four dissenting votes and will pass the senate without any opposition. H. B. 510 is to levy a tax of 25 cents on each dog, for the purpose of providing funds to give the Pasteur treatment to all persons suffering from hydrophobia. S. B. 300, to amend the existing State Board of Health Act, would make the secretary of the board the state health commissioner and executive officer of the board, and would make the State Board of Health the superior health board of the state, to which all other health boards would be subordinate. The bill further provides a county health officer for each county, who shall be a legally qualified physician well informed in sanitary science and hygiene. As this bill calls for money for carrying out its provisions, it may encounter some opposition. S. B. 15, to provide for sanitation and the medical inspection of school children, will probably become a law.

IOWA

A bill to authorize counties to levy a tax for the purpose of establishing a county hospital has passed the senate and has been favorably reported on by the committee in the house. A bill to provide for county boards of health and to vest the power to establish quarantine in the county boards has also been introduced.

KANSAS

The food and drugs law has been amended and strengthened materially, providing for a number of additional inspectors and increasing the salaries paid for this work. The water and sewage act has also been strengthened, making it a most comprehensive law. The appropriation for sanitary purposes has been largely increased, enabling the State Board of Health to enlarge its work. The law regarding county health officers has been amended, giving the state board power to remove county health officers for failure or neglect of duty. A law has been enacted making the notification of tuberculosis compulsory, also a strong law for the eradication of tuberculosis in cattle, providing among other things that cities shall have the right to require a tuberculin test on all cows whose milk is sold in the city. A stringent law against expectoration in all public conveyances, buildings and streets has also been adopted. A sum of $10,000 a year for two years has been appropriated for the State Board of Health in inaugurating an educational campaign throughout the state for the suppression and prevention of tuberculosis. Dr. S. J. Crumbine, secretary of the board, says regarding this appropriation: "I believe that Dr. McCormack's talks to the members of the legislature were instrumental in saving the day, for while they had killed the bill once, yet there were enough who had been converted to the idea of 'saving the people' to enable the bill to pass." The only bill advocated by the State Board of Health and the state society which failed to pass was the vital statistics bill, and it is hoped that this may become a law at the next session of the legislature.

MAINE

A bill regulating medical expert testimony has been introduced, which provides that the judge of any court in the state may appoint one or more disinterested medical experts to investigate questions before the court.

MASSACHUSETTS

Two antivaccination bills were introduced, both of which were reported on adversely by the committee. No further action is probable. Two bills providing for the registration of nurses were introduced and later withdrawn. A substitute bill on this subject has passed the house and is now in the senate. Bills prohibiting physicians from dispensing medicines, regulating the moral habits of physicians, and recognizing Eddyism, hypnotism and various other fads and cults, as well as several bills amending the medical practice act, were all withdrawn shortly after introduction. Four bills relating to rabies were introduced and referred to the public health committee, which asked for further investigation of the subject by the State Board of Health. A bill embodying the recommendation of the State Board of Registration in Medicine that a diploma be required of candidates about to take an examination for license and that the practice of medicine be more clearly defined, was withdrawn after being referred to the committee. Osteopathy and optometry bills have been introduced and referred to committees, but no action has yet been taken. The usual antivivisection bills were introduced and are still in committee. A bill consolidating the boards of medicine, dentistry, pharmacy, veterinary medicine and embalming, in accordance with a recommendation of the governor, was reported on adversely by the committee in the senate. No report has yet been made on it in the house.

MISSOURI

Several bills making necessary modifications in the medical practice act have been introduced, as well as a vital statistics bill, providing for the registration of vital statistics in accordance with the model bill of the American Medical Association. An optometry bill has also been introduced.

NEW MEXICO

The following measures are before the territorial legislature: A bill providing for a territorial board of health, consisting of the governor, superintendent of public instruction, attorney general, and the president and secretary of the New Mexico Medical Society, together with the territorial health commissioner, to be appointed by the governor on recommendation of the board of health, such commissioner to be *ex-officio* secretary of the board; a bill providing for the appointment of county health officers by the board of county commissioners on the recommendation of the Territorial Board of Health, also a bill for the control of infectious diseases.

OHIO

A supplementary bill endorsed by the Chamber of Commerce of Cleveland has been adopted, providing that the board of education in each city may, by agreement with the local board of health, provide for medical and sanitary supervision and inspection of the schools.

PENNSYLVANIA

The discussion over the Herbst-Shreve bill, providing for a single board of medical examiners in the state, has occupied the attention of both the profession and the public almost to the exclusion of all other measures. The bill has been endorsed by the Medical Society of the State of Pennsylvania and provides for a single board of medical examiners in place of the triple sectarian boards now in existence. The discussion has been taken up by the newspapers of the state and has been given much space.

UTAH

Bills to regulate itinerant vending of medicines, to amend the state pharmacy law, and to create a state dairy and pure food bureau, are at present before the legislature.

WISCONSIN

A large number of bills along public health lines have been introduced into the legislature, notably bills to regulate the itinerant vending of medicines and nostrums, to regulate bakeries, confectioneries, etc., to regulate the location of slaughter-houses, to establish a state laboratory of hygiene, to regulate the practice of midwifery, to provide standards for food products offered for sale in the state, to provide for the prevention of ophthalmia neonatorum and to provide for the reporting of contagious diseases. A particularly objectionable antivivisection bill, introduced late in the session, is now in the hands of the committee on public health.

Illinois Osteopathic Bill

The judiciary committee of the Illinois House of Representatives gave a hearing last week on House Bill 173, "To Create an Illinois State Board of Osteopaths, and to Regulate the Practice of Osteopathy in the State of Illinois." Several Illinois osteopaths, headed by a spokesman from Missouri, urged the passage of the bill. Dr. J. A. Egan, secretary of the State Board of Health, spoke against the bill. The committee seemed favorably inclined toward the bill, but action was deferred until a later date. As the bill would confer nearly all of the rights and privileges belonging to licensed physicians, at a lower standard of training and qualifications, it should be opposed by physicians as contrary to public policy.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Third Weekly Meeting

"SYSTEM DISEASES"

A. Afferent (Sensory) System

Locomotor Ataxia. Tabes Dorsalis; Posterior Spinal Sclerosis.

Etiology.—Distribution, race, age, sex. Syphilis. Exposure, fatigue, trauma, alcoholism.

Pathology.—Gross changes in membranes, in cord, in posterior columns; initial changes in dorsal, lumbar, cervical regions. Microscopic changes: Dorsal (coarse) root fibers, dorsal ganglia, blood vessels, pial changes, peripheral nerves, Late changes in spinal ganglia, dorsal roots, peripheral nerves, optic nerve. Changes in motor areas and muscles.

Symptoms.—(a) Incipient Stage: Pains, character and location, crises, paresthesiæ. Ocular symptoms, optic atrophy, ptosis, paralysis of eye muscle, Argyll-Robertson pupil, spinal myosis. Bladder symptoms. Trophic changes, loss of reflexes. Duration of this state. (b) Ataxic Stage: Ataxia, Romberg's symptom, gait, station, muscular relaxation. Pains, esthesiæ, retarded pain sense. Reflexes. Crises, gastric, laryngeal, nephric, etc. Trophic changes, skin, nails, ulcerations. Arthropathies, changes in joint. Spontaneous fractures. Cerebral symptoms. (c) Paralytic Stage: Symptoms, duration. Relation of tabes to dementia paralytica. Tabo-paralysis.

B. Efferent (Motor) System

1. Whole System

Progressive (Central) Muscular Atrophy; Amytrophic Lateral Sclerosis. Pathology: Cord changes; ganglion cells and neuroglia of ventral horns, ventral nerve and roots, medullated fibers. Changes in muscles and motor nerves. Gray matter of medulla; white fiber tracts of cord. Symptoms: (a) Atonic or Aran-Duchenne type: Pains; wasting of muscles, beginning and order of involvement. Deformities and contractures resulting. Fibrillation. Sensation, electrical reaction. (b) Tonic type, amyotrophic lateral sclerosis: Spastic paralysis of arms, of legs. Reflexes. Station and gait. Wasting, loss of power. Association of either type with bulbar paralysis.

2. Lower Motor Segment

Acute Anterior Poliomyelitis.

Etiology.—Age, sex, season, epidemic occurrence.

Pathology.—Early changes in ganglion cells, in entire cord, in meninges; arterial changes, branches involved. Later changes in ventral horn, ventro-lateral column, motor nerves, and muscles.

Diagnosis.—Age, onset, flabby paralysis of one limb, wasting, absence of reflexes, electrical reaction. Differentiate from pseudo-paresis of rickets, from multiple neuritis.

Acute Ascending (Landry's) Paralysis.

Etiology.—Age, sex, acute infections.

Symptoms.—Muscles first involved, order of extension, changes occurring. Reflexes, electrical changes, sensory symptoms. Course, terminations.

Marriages

Bruce L. Gilfillan, M.D., to Miss Maude E. Lane, both of Moulton, Iowa, February 24.

Clay E. Griffin, M.D., Boulder, Colo., to Miss Vera Greenman of Cripple Creek, Colo., February 28.

Walter Mitchell Hammett, M.D., Baltimore, Md., to Mrs. Emma Child Peerce, at Baltimore, March 3.

Julian Decatur Maynard, M.D., Rougemont, N. C., to Miss Myra Estelle Berry of Durham, N. C., March 3.

Roades Fayerweather, M.D., Baltimore, Md., to Miss Josephine Kirby-Smith, at Sewanee, Tenn., March 18.

Donald A. Nicholson, M.D., Seattle, Wash., to Miss Anna Archer Irwin of Chicago, at Portland, Ore., February 27.

C. Page Harrison, M.D., Fire Creek, W. Va., to Miss Phoebe Virginia Westwater of Columbus, Ohio, recently.

Deaths

Thaddeus Asbury Reamy, M.D. one of the pioneers in the field of gynecology in the middle west; died in Cincinnati, March 11, aged 79. He was born in Virginia in 1829; graduated from Starling Medical College, Columbus, 1854, and later received the degree of A.M. from Ohio Wesleyan University in 1868; and that of LL.D. from Cornell University in 1889. He began his work as a teacher in the Cincinnati College of Medicine and Surgery in 1858. In 1861 he was elected a member of the general assembly of Ohio and a year later was commissioned surgeon of the One Hundred and Twenty-second Ohio Volunteer Infantry, and later served as surgeon to the Thirteenth Provost Marshal's district; he was professor of diseases of women and children in Starling Medical College, Columbus, from 1863 to 1871; professor of obstetrics, clinical midwifery, and diseases of children from 1871 to 1888 in the Medical College of Ohio; and since that time professor of clinical gynecology in that institution. He was obstetrician and Surgeon to the Good Samaritan Hospital, Cincinnati, obstetrician and gynecologist to the Cincinnati Hospital; consulting surgeon to Christ's and Presbyterian hospitals, Cincinnati; and surgeon to Reamy's Private Hospital for Women from 1878 to 1898. His society membership included the American Medical Association, in which he served as chairman of the Section on Obstetrics and Diseases of Women in 1873; the Ohio State Medical Society, of which he was president in 1871; the American Gynecological Society, of which he was vice-president in 1881 and president in 1885; Cincinnati Academy of Medicine, of which he was president in 1877; Cincinnati Obstetrical Society, of which he was president in 1884, and other learned societies. He was an extensive contributor to the literature of his specialty. For about four years he had suffered with nephritis, and five weeks ago, while in Kansas City, was taken seriously ill and brought to the home of his nephew. Dr. William Gillespie in Cincinnati, where he died March 11.

Edward Andem Whiston, M.D. Harvard Medical School, Boston, 1861; surgeon of the First and Sixteenth regiments, Massachusetts Volunteer Infantry during the Civil War; and for two years thereafter port physician of Boston; for many years a practitioner of Boston; for several years editor of the *New-Church Review;* one of the founders and for a long time active in the management of the Newton Hospital; died at the home of his daughter in Springfield, Mass., February 23, from cerebral hemorrhage, aged 70.

Martin H. Boye, M.D. University of Pennsylvania, Philadelphia, 1844; and a year later elected professor of natural philosophy and chemistry in the Central High School of Philadelphia; a graduate of the University of Copenhagen, Denmark; an eminent geologist, and a pioneer in the experimental making of smokeless powder and the purification of cotton-seed oil; died at his home in Coopersburg, Pa., March 5, from senile debility, aged 97.

Frederick W. Sparling, M.D. University of the Victoria College, Coburg, Ont., 1854; major and surgeon of volunteers during the Civil War; and afterward acting assistant surgeon in the U. S. Army; in 1880 placed in charge of the census of the State of Washington; and later appointed registrar of the land office at Vancouver, quartermaster general of the state, and inspector of immigration; died at his home in Seattle, March 1, aged 83.

Henry Isaac Jones, M.D. L.R.C.S. and L.R.C.P. Edinburgh, 1866; L.F.P.S. Glasgow; Western Reserve University, Cleveland, 1884; a member of the Medical Society of the State of California; during the Civil War assistant surgeon in the Confederate Navy, serving on the cruisers *Florida* and *Georgia;* later surgeon in the British service in India; died at his home in Oakland, March 9, from disease of the liver, aged 64.

Milton Sawyer Woodman, M.D. Dartmouth Medical School, Hanover, N. H., 1889; a member of the New Hampshire Medical Society, New Hampshire Surgical Club; New Hampshire Antituberculosis Society, and New York and New England Railway Surgeons' Association; surgeon for the Concord division of the Boston and Maine Railway; died at his home in West Lebanon, N. H., February 27, aged 58.

Charles Brewer, M.D. University of Maryland, Baltimore, 1855; from 1858 to the outbreak of the Civil War a member of the medical corps of the Army, and during the war a surgeon in the Confederate service; postmaster of Vineland, N. J., under President Cleveland; and resident physician at the State Prison, Trenton, from 1891 to 1896; died at his home in Vineland, March 3, aged 76.

Isaac Ambrose Barber, M.D. Hahnemann Medical College, Philadelphia, 1872; president of the Farmers' and Merchants National Bank of Easton; a member of the state legislature in 1895; and member of congress from the first congressional district of Maryland in 1896; died suddenly at his home in Easton, March 1, from cerebral hemorrhage, aged 57.

Joseph Schmittle, M.D. New Orleans School of Medicine, 1862; a member of the Louisiana State Medical Society; for more than thirty years attending physician to the German Orphan Asylum and Fink Home, New Orleans; one of the most highly esteemed practitioners of New Orleans; died at his home March 5, from disease of the pancreas, aged 80.

James Scribner Brown, M.D. University of Pennsylvania, Philadelphia, 1896; a member of the American Medical Association and Manchester (N. H.) Institute of Arts and Sciences; formerly president of the Manchester Medical Society; surgeon to the Sacred Heart Hospital; died in that institution February 22, from pneumonia, aged 37.

William K. Gatewood, M.D. Medical College of Virginia, Richmond, 1859; a member of the Medical Society of Virginia; Society of Southern Railway Surgeons; surgeon in the Confederate service during the Civil War; health officer of West Point, Va.; died at the home of his daughter in Marion, S. C., March 7, aged 73.

George Washington Beeman, M.D. Detroit (Mich.) College of Medicine, 1899; a member of the Emmet County Medical Society; died at his home in Harber Springs, Mich., February 16, from the effects of carbolic acid, believed to have been self-administered with suicidal intent, while despondent, aged 49.

George Washington Lewman, M.D. Cincinnati College of Medicine and Surgery, 1860; assistant surgeon of the Eleventh Illinois Volunteer Infantry during the Civil War; for many years president of the First National Bank of Louisville, Ky.; died at his home in that city, January 7, from cancer, aged 74.

Alice Gertrude Troy, M.D. Tufts College Medical School, Boston, 1906; a member of the Massachusetts Medical Society; lecturer on gynecology and obstetrics in St. Vincent's Hospital, Worcester; died at her home in that city, from heart disease, February 26, aged 26.

James E. Mattocks, M.D. Metropolitan Medical College (Eclectic), New York City, 1853; contract surgeon in the Army during the Civil War, and for several years surgeon of the police department of Troy, N. Y.; died at his home in Cohoes, March 2, aged 85.

John S. Alvares Cabral, M.D. Hahnemann Hospital Medical College, San Francisco, 1895; of Centerville, Cal.; for the last four years health officer of Alameda county; died suddenly in Hahnemann Hospital, San Francisco, March 4, from cerebral thrombosis, aged 46.

Charles Frank Caverly, Jr., M.D. Dartmouth Medical School, Hanover, N. H., 1897; a noted athlete at Harvard and Dartmouth universities, a member of the staff of the Boston City Hospital; died at his home in Boston from chronic nephritis, March 6, aged 41.

William P. Lindsey, M.D. Kentucky School of Medicine, Louisville, 1871; University of Tennessee, Nashville, 1895; a member of the Monroe County (Ky.) Medical Society; died at his home in Hensonville, February 14, from cerebral hemorrhage, aged 59.

Dempsey Temple Powell, M.D. Memphis (Tenn.) Hospital Medical College, 1881; a member of the American Medical Association, and for six years a member of the State Board of Health of Missouri; died at his home in Thayer, Nov. 18, 1908, aged 58.

William Bullard Cutler, M.D. Harvard Medical School, Boston, 1872; of Boston; a member of the Massachusetts Medical Society; major and surgeon of the Boston Fusiliers; died suddenly March 5, in a café in Boston, from cerebral hemorrhage, aged 63.

Henry Riley, M.D. Missouri Medical College, St. Louis, 1882; formerly of Elk City, Okla.; died in El Reno, Okla., February 16, from the effects of morphin and carbolic acid, believed to have been self-administered with suicidal intent, aged 57.

Elbert W. McAllister, M.D. Long Island College Hospital, Brooklyn, 1886; a member of the St. Joseph County (Ind.) Medical Society; a veteran of the Civil War; died at his home in South Bend, March 5, from cerebral hemorrhage, aged 63.

Arthur Edmund Milligan, M.D. Western Pennsylvania Medical College, Pittsburg, 1903; of Pittsburg; local surgeon of the Pittsburg and Lake Erie Railroad; died at the home of his father near West Newton, Pa., March 5, aged 36.

Joseph H. Leib, M.D. College of Physicians and Surgeons, Baltimore, 1879; a member of the Medical and Chirurgical Faculty of Maryland; died suddenly at his home in Mount Pleasant, March 3, from angina pectoris, aged 57.

William Grant Dunn, M.D. College of Physicians and Surgeons of Indiana, Indianapolis, 1878; for twenty years a practitioner of Omaha; died at his home in Benson, Neb., January 21, from rheumatic endocarditis, aged 74.

John Joseph Hogan, M.D. Long Island Hospital College, Brooklyn, 1871; formerly of Condon, Ore.; died in Mount St. Joseph's Home for the Aged, near Roseburg, Ore., February 16, from cancer of the throat, aged 70.

Robert J. Clark, M.D. Medical College of Ohio, Cincinnati, 1870; a member of the Indiana State Medical Association and a veteran of the Civil War; died at his home in Monticello, Ind., from cancer, March 1, aged 64.

Joseph McD. Lawrence, M.D. Missouri Medical College, St. Louis, 1888; of Willard, Ill.; died in St. Mary's Infirmary, Cairo, Ill., March 7, ten days after an operation for the removal of gall-stones, aged 51.

Samuel Newman, M.D. Medical College of the Pacific, San Francisco, 1879; a member of the Medical Society of the State of California; died suddenly at his home in Santa Barbara, February 4, aged 66.

William Wallace Bruce, M.D. Medical College of Georgia, Augusta, 1846; a member of the Medical Association of Georgia; died at his home in Kingsboro, February 11, from senile debility, aged 90.

Inmon Seeber Lowell, M.D. Albany (N. Y.) Medical College, 1871; of Douglas, Ill.; a member of the American Medical Association; died in Galesburg, Ill., Nov. 19, 1908, from prostatic abscess, aged 66.

Albert E. Luton, M.D. Eclectic Medical Institute, Cincinnati, 1877; formerly city physician of Grand Rapids, Mich., and in 1900 coroner of Kent county; died at his home in Grand Rapids, March 5, aged 57.

George Andrew Barrows, M.D. Hahnemann Medical College, Philadelphia, 1892; a retired practitioner of Seattle, Wash.; died suddenly at his home, February 16, from heart disease, aged 45.

Levi L. Alexander, M.D. New York University, New York City, 1869; a member of the Medical Society of the State of North Carolina; died at his home in Topsail Sound, March 3, aged 60.

Harry Wood Brayton, M.D. College of Physicians and Surgeons, San Francisco, 1905; instructor in anatomy in his alma mater; died at his home in San Francisco, March 2, aged 34.

Harry T. Talbott, M.D. University of Maryland, Baltimore, 1887; formerly resident physician at Bayview Hospital, Baltimore; died at his home in Charlestown, W. Va., February 26, aged 42.

Frank A. Porter, M.D. Hahnemann Medical College, Chicago, 1887; from 1890 to 1892 physician at the Pottawattomie Reservation; died at his home in Pittsburg, Kan., March 5, aged 53.

William S. Lindsey, M.D. University of Arkansas, Little Rock, 1884; a member of the Arkansas Medical Society; died at his home in De Queen, March 2, from heart disease, aged 49.

Carroll Corson, M.D. University of Pennsylvania, Philadelphia, 1881; of Proctor Knott, Minn.; died at his family home in Plymouth Meeting, Pa., February 24, from cancer, aged 48.

William H. Bryan, M.D. Chattanooga (Tenn.) Medical College, 1893; of Rossville, Ga.; was instantly killed in a trolley car accident in East Lake, near Chattanooga, March 3, aged 58.

Henry C. Allen, M.D. St. Joseph (Mo.) Medical College, 1886; for several years chief engineer of St. Joseph; died at his home in that city, March 3, from pneumonia, aged 59.

Adam Kilmer, M.D. Homeopathic Medical College of Missouri, St. Louis, 1891; a veteran of the Civil War; died suddenly at his home in Ludlow, Vt., March 3, aged 61.

Albert Giles Burton Dunn, M.D. Medical College of Virginia, Richmond, 1874, died at his home in Stephenville, Texas, February 26, from interstitial nephritis, aged 72.

Henry Hurlburd Read, M.D. University of Vermont, Burlington, 1864; for thirty years a dentist of Vermont; died February 23, at his home in Shelburne, aged 78.

John Nathaniel Rudd (license, Tenn., 1889); formerly of Sparta, Tenn.; died at the home of his daughter in Quebeck, Tenn., January 31, from senile debility, aged 85.

Seymour A. Johnson, M.D. Hahnemann Medical College, Chicago, 1873; died at his home in Kalkaska, Mich., Nov. 5, 1908, from cancer of the face and neck, aged 60.

Nehemiah H. Perry (license, Conn., 1893); for fifty-six years a practitioner of Connecticut; died at his home in Fairfield, February 27, from pleurisy, aged 81.

Baldwin Mathew Buckner, M.D. Jefferson Medical College, Philadelphia, 1857; died at his home in Wolftown, Va., February 8, from chronic diarrhea, aged 76.

Albert Francis Robbins, M.D. Hahnemann Medical College, Philadelphia, 1870; of Seely Creek, N. Y.; died at his home, February 7, from heart disease, aged 64.

Haskel R. Wood, M.D. Eclectic Medical Institute, Cincinnati, 1872; died at his home in Galesburg, Ill., February 25, from cerebral hemorrhage, aged 76.

Roscoe R. Hodges (license Okla., 1908); formerly mayor of Grant, Okla.; died suddenly at the home of his brother in West Paris, Texas, February 27.

John Sanford (years of practice, Ga.); a hospital steward in the Civil War; died at his home in Towns, from endocarditis, January 22, aged 72.

Pierre Francis Casgrain, M.D. University of the Victoria College, Coburg, Ont., 1875; died at his home in Montreal, February 28, aged 58.

E. Gustave Paquette, M.D. University of the Victoria College, Coburg, Ont., 1884; died at his home in Hull, Que., March 5, aged 49.

E. M. Rust, M.D. Louisville (Ky.) Medical College, 1884; died at his home in Merkel, Texas, February 28, from nephritis, aged 40.

Book Notices

Medical Inspection of Schools. By Luther Halsey Gulick, M.D., Director of Physical Training, New York Public Schools, and Leonard P. Ayres, General Superintendent of Schools of Porto Rico, 1906-1908. Cloth. Pp. 276. Price, $1.00. New York: Charities Publication Committee (Russell Sage Foundation), 1908.

Gulick and Ayres say that the importance of steps looking toward the health of our public school children is indicated by the following facts: 1. The school is the only governmental department that assumes control of children's lives. 2. At least nine out of every ten American children are subject to this control. 3. Such control is maintained (roughly speaking) during the critical years from 7 to 14. The author's effort has been to produce a practically useful and reliable book, not making light of or evading problems and difficulties yet to be solved, but avoiding all dogmatism in theorizing. The nature and aims of medical school inspection are twofold. The first directs attention to steps necessary for the immediate present in the preservation of the community against invasion by contagious disease. The records of this phase of medical school inspection are concerned almost if not entirely with disease or actual deformity. This is the medical viewpoint. The educational view is directed toward the future and deals with the development of the race. The authors point out the complete change that has come over the mode of life of practically the entire civilized world. In past centuries most of the people of the world have been engaged in some form or other of muscular labor for most of their years. The shifting of the burdens of labor from human muscles to the great powers of Nature has affected work and play, the two chief agencies for the development of children into adults having strong vitality and clean morals. For the boy, the all-round farm, where he learned the rudiments of a dozen trades, has been displaced by the specialized farm; for the girl, the multifarious occupations of her mother at home as housewife, which formerly formed her training school, are also distributed where they can be done more effectively and economically. As to play, this is being attacked from three directions; namely, time for play, space for play, and traditions for play. The encroaching school hours are gradually annihilating the first; the growing cities are making inadequate provision for the second; and, with the constant migration, the traditions which in older times passed down from generation to generation, are gradually disappearing. "The justification of the state in assuming the function of education and in making that education compulsory, is to insure its own preservation and efficiency, which will depend on that of its individual members"; but, on the other hand, "this individual efficiency rests not alone on education and intelligence, but is equally dependent on physical health and vigor. Hence, if the state may make mandatory training in intelligence, it may also command training to secure physical soundness and capacity."

After a historical sketch of the rise, development, and present status of medical inspection at home and abroad, Gulick and Ayres discuss the methods adopted in small and large cities for the detection of contagious diseases in schools, describing and giving specimens of the forms used in Brockton, Mass., New York, Providence, R. I., and Chicago. They then discuss the work of the teacher in detecting contagious disease and also the work of the school nurse; physical examination for the detection of non-contagious defects, especially vision and hearing, together with a preliminary test used by teachers regarding vision and hearing. They distinguish four different classes of systems in force in different parts of the United States (1) examination for the detection of physical defects, conducted by teachers and usually limited to vision and hearing; (2) examination by physicians for contagious diseases only; (3) medical inspection by physicians, taking in both contagious diseases and physical defects; and, (4) systems combining the teacher's examinations for defects of vision and hearing, with the physician's examination for detection of contagious diseases and non-contagious physical defects. In discussing the salaries of medical inspectors the authors put their finger on "one of the weak points of all American systems," namely, the using up of the higher paid physician's time in mere clerical labor that could be equally efficiently and much more economically effected by less highly paid clerical assistants. The control of authorities, the legal aspect of medical inspection, the educational economies affected through medical supervision are dealt with in turn. With regard to this last, they conclude that medical inspection and school administration must be more closely related and interlocked than has been the case heretofore.

The book contains an excellent bibliography and some useful appendixes. It is distinguished by the clearness of its type and by the matt surface of the paper and its lightness, so that the book strains neither the eyesight to read nor the muscles to hold. The abominably heavy and glazed paper on which many of our modern books are printed, in itself forms a suitable subject for the consideration of the medical inspectors of schools. The publication of this work is timely; this country is at least rising to an apprehension of the fact that it is lagging behind European countries in this matter. The Charities Publication Committee has done an excellent work in this publication, and we commend it to the earnest attention of all interested in the subject.

Diseases of the Nose, Throat and Ear. By Francis R. Packard, M.D., Professor of Diseases of the Nose and Throat in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine. Cloth. Pp. 369, with illustrations. Price, $3.50. Philadelphia: J. B. Lippincott Co.

This book, comprising 351 pages and 135 illustrations, was primarily written for post-graduate students and practitioners and does not purport to be a complete treatise on the subjects embraced within its scope. The surgery of the nose, throat and ear has made such tremendous strides within the past ten years that the operations usually included in American text-books have failed to represent the true status of this field of surgery. It is to be regretted that the author did not describe all of the operative procedures of accepted value.

Some of the anatomic plates are new and of exceptional merit, while others are old and below the standard. The illustrations of the operative technic are conspicuous by their rarity, and those given are from very poor photographs of work on cadavers. The descriptions of nasal reflexes, grippe, and the eye in relation to the nasal sinuses, are excellent.

The etiology of deviations of the septum is dismissed with the statement that these deviations are often due to traumatism. The unequal development of the bones of the face, a long-recognized cause of deflections, is not mentioned.

The only discussion of direct laryngoscopy and bronchoscopy is comprised in the statement that the instrumentarium is expensive and complicated and that the technic required for its use too difficult to be generally practiced, an opinion with which we do not agree.

The operative technic for cancer of the larynx is not given, while the medicinal and surgical treatment of chronic catarrhal otitis media and adhesive processes in the middle ear is well presented. The surgical diseases of the mastoid are briefly but clearly described, while labyrinthine suppuration is omitted. This is to be deplored, as this phase of otology has recently engaged the liveliest attention, especially as to diagnosis and treatment. The work of Barany, Neumann, Alexander, von Stein and others in showing the clinical significance of nystagmus of vestibular origin has opened a new field in otologic practice, and a modern text-book which fails to give practical deductions from it fails on a crucial point.

While calling attention to some of the elements of weakness in this book, we also recognize its excellent qualities and commend it to the favorable consideration of students and practitioners. The literary style is above the average, and the descriptions of operations are generally lucid and to the point.

A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By Henry S. Munro, M.D., Americus, Ga. Second Edition. Cloth. Pp. 360. Price, $3.00. St. Louis: C. V. Mosby, 1908.

According to the author's preface, "this book is not intended principally or even mainly [*sic*] for neurologists and psychotherapeutists, to whom the constant repetition of what to them are well-known facts must inevitably prove wearisome. It is intended rather to instill into the vast mass of the profession, to whom this entire field is as yet *terra incognita*, those basic principles of physiologic psychology on which the scientific therapeutic application of suggestion in all its forms necessarily depends." Judged from this standpoint the book contains a great deal of useful and practical matter, and the fact that a large edition was exhausted and a second edition called for within nine months seems to indicate that it fills a want.

Dr. Munro writes from practical experience in hypnotic work. The discursiveness of his style, which would probably be a defect in a more pretentiously scientific text-book, may be a virtue in the sight of those readers for whom the book is ostensibly intended, though they will hardly see the necessity probably for so much dragged-in reference to monistic philosophy and the moneron.

From a mechanical point of view the book hardly does justice to the author and is small credit to the publisher. To single out one particularly objectionable instance, the pages are disfigured throughout by blotches of black-faced type, scattered broadcast without any evident object—even of emphasis, for many passages so printed are absolutely devoid of any special significance.

Report of Special Commission Appointed to Investigate Tuberculosis. State of Connecticut. Public Document. Commission Appointed by the General Assembly of 1907. H. J. Resolution No. 426. Paper. Pp. 86. Hartford: Published by the State.

This report of the special commission, appointed in 1907 to investigate tuberculosis, gives a general account of the disease in Connecticut with recommendations as to the duty of the state and as to needed legislation, and the results of an interesting investigation of the prevalence of tuberculosis in rural districts. As there are no large cities in Connecticut, the evil effects of overcrowding are less manifest than in some other states. The counties containing the larger towns show a slightly greater death rate from tuberculosis than those in which there are smaller towns and villages. The report indicates that "human tuberculosis has occurred in all parts of Connecticut—highland and lowland and plains; in city or village. There is considerable evidence to show that in rural Connecticut human tuberculosis occurs most frequently in badly drained districts and in houses with damp cellars. The reports received do not support the view that in rural Connecticut cases of consumption occur frequently in close proximity to insanitary barns or coops." Factory conditions are considered in a separate chapter and the laudable work of the Providence employers in providing a physician to make early diagnoses in the case of employés who cough and lose appetite or weight is noted. In considering the state care of indigent consumptives the establishment of county homes on farms near the larger towns is recommended. The importance of avoiding extravagance in construction and saving money to care for the patients is emphasized. The report concludes with an investigation of the subject of tuberculosis in cattle.

Arsenic Gas Poisoning. By John Glaister, Doctor of Medicine of the University of Glasgow. Cloth. Pp. 279, with illustrations. Price, $1.25. Edinburgh: E. & S. Livingstone, 1908.

Considering the extremely poisonous character of arseniuretted hydrogen, and the varied pursuits in which persons may be exposed to its action, comparatively little attention has been paid to it in works on toxicology and forensic medicine. Glaister has collected 120 reported cases of poisoning by this gas and discusses its properties and sources, and the relation of cases of poisoning to scientific and industrial operation. Chapters on the symptoms and postmortem appearances, diagnosis and treatment, illustrated by cases, follow. The relation of arsenical poisoning from wall paper, through the liberation of arsenic-containing gases by the growth of the molds, is taken up. The monograph closes with a synoptical account of the recorded cases of poisoning by arseniuretted hydrogen and chapters on analytical methods for the detection of arsenic. This little book will prove of great value to those at all interested in the subject.

Soured Milk and Pure Cultures of Lactic Acid Bacilli in the Treatment of Disease. By George Herschell, M.D., Lond., Fellow of the Royal Society of Medicine. Cloth. Pp. 32, with illustrations. Price, 1 shilling 6 pence. London: Henry J. Glaisher. Chicago: W. T. Keener & Co., 1909.

This book contains a short discussion of intestinal putrefaction, taken largely from Herter's book on "The Common Bacterial Infection of the Digestive Tract," and of the natural defenses of the intestinal tract. This is followed by some directions for making simple chemical tests to diagnose putrefactive conditions. Too much stress is laid on the microscopic appearance of gram-stained preparations of the feces, as it is not an easy matter to obtain representative samples and to interpret the appearance correctly. A good deal is said about acclimatization of the Bulgarian bacillus, a matter which has not been determined in a sufficiently accurate manner to be above criticism. Different commercial preparations for the home manufacture of fermented milks are discussed. The advice is given to use only those preparations which contain the Bulgarian bacillus in pure culture. As a matter of fact, hardly any of the commercial preparations contain this organism at all, and pure cultures are difficult to obtain. The erroneous statement is made that tubercle bacilli are not killed by pasteurization at 60 degrees C. On the whole, the book adds little or nothing to our knowledge of the subject and may possibly mislead by giving too much confidence in the beneficial results following the use of lactic-acid-producing bacteria.

Hernia. By W. McAdams Eccles, M.S. (Lond.), F.R.C.S. (Eng.), Examiner in Surgery to the Society of Apothecaries; Examiner in Anatomy for the Fellowship of the Royal College of Surgeons of England. Third Edition. Cloth. Pp. 234, with illustrations. Price, $2.50. New York: William Wood & Co., 1908.

This edition differs little from its predecessors. Considerable space is devoted to non-operative treatment which Mr. Eccles states is in danger of being neglected, owing to the number of hernia operations in vogue at the present time. The book is well illustrated.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix. April 5-6. Sec., Dr. Ancil Martin.

Arkansas: Three boards, each at Little Rock, April 13. Regular Sec., Dr. F. T. Murphy, Brinkley; Homeopathic Sec., Dr. P. C. Williams, Texarkana; Eclectic Sec., Dr. A. J. Widener, Little Rock.

California: San Francisco, April 6. Sec., Dr. Charles L. Tisdale, Butler Bldg.

Colorado: Denver, April 6. Sec., Dr. S. D. VanMeter, 1723 Tremont St.

District of Columbia: Washington, April 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.

Idaho: Boise, April 6-7. Sec., Dr. W. F. Howard, Pocatello.

Illinois: Northwestern University Bldg., Chicago, April 15-17. Sec., Dr. J. A. Egan, Springfield.

Minnesota: Old Capitol, St. Paul, April 6-9. Sec., Dr. W. S. Fullerton, 214 Am. National Bank Bldg.

Montana: The Capitol, Helena, April 6. Sec., Dr. W. C. Riddell.

North Dakota: Grand Forks, April 6-8. Sec., Dr. H. M. Wheeler.

Oklahoma: Guthrie, April 13. Sec., Dr. Frank P. Davis, End.

Rhode Island: State House, Providence, April 1-2. Sec., Dr. Gardner T. Swarts, 315 State House.

Utah: Salt Lake City, April 5-6. Sec., Dr. R. W. Fisher.

West Virginia: Huntington, April 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Another Innovation in Medical Education

Attention has frequently been called to the rapid progress which has been made during the last few years in medical education, and to several innovations which have been initiated during this development. In Indiana,[1] five medical schools united to form one, the medical department of Indiana University, and in Kentucky,[2] five separate colleges united under the name of the University of Louisville Medical Department. In both these instances one fairly strong college replaced several which were not so strong with the result that they are now receiving considerable financial aid.

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[1] The Journal, Aug. 25, 1906, p. 588.

[2] The Journal, Aug. 15, 1908, p. 610.

Attention was called to the fact that in Cincinnati[3] two colleges united to form one stronger college, the Medical Department of the University of Cincinnati, which will be opened the coming fall with very favorable prospects. This was particularly interesting, since it was the first medical college to be supported by a municipality. The building of the new Cincinnati Hospital, the clinical material of which is to be under the control of the city's new medical school, is a matter of much interest at present.

The arrangement by a number of state universities whereby the first two years of the medical course were given at the seat of the university, while the last two or clinical years were offered in the largest city of the state has also been referred to,[2] resulting in the division of the medical course. At Cornell University and at Indiana University this plan was modified by offering the work of the first two years both at the seat of the university and in the largest city. Now in California we have another modification of this plan whereby the first two years of medicine are offered only at the seat of the university, while the last two years' work may be taken at either one of two large cities. This plan was brought about as follows:[4]

On February 9, the Board of Regents of the University of California accepted from the College of Medicine of the University of Southern California, located at Los Angeles, all the property of the latter institution, and made it the Los Angeles Medical Department of the University of California, a similar medical department having been previously established at San Francisco. Instruction in the first two years will be given at Berkeley, but the medical student may choose either the San Francisco or the Los Angeles departments for his subsequent training.

Another special point of interest in this merger is that it shows a way in which the state may acquire a firmer grip on medical education by having departments of instruction in the two or more cities of the state which may be large enough to warrant the establishment of clinical departments, and may also be an important factor in influencing legislatures to secure the passage of laws establishing fair standards of preliminary and medical education. The example set by California in the matter is certain to be watched with much interest by medical educators throughout the country.

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 8-11.

California, Medical Soc. of State of, San Jose, April 20.
District of Columbia, Medical Assn. of, Washington, April 27.
Florida Medical Association, Pensacola, April 7-9.
Georgia, Medical Association of, Macon, April 21.
Mississippi State Medical Association, Jackson, April 13.
South Carolina Medical Association, Summerville, April 21.
Tennessee State Medical Association, Nashville, April 13-15.
Tropical Medicine, American Society of, Washington, April 10.

CHICAGO MEDICAL SOCIETY

Regular Meeting, held Feb. 17, 1909

The President, Dr. Alfred C. Cotton, in the Chair

SYMPOSIUM ON ACUTE DIFFUSE SUPPURATIVE PERITONITIS

Etiology, Pathology and Diagnosis

Dr. Bertram W. Sippy: The disease is said to be primary when infection of the peritoneum takes place through the medium of the blood or lymph channels, there being no recognizable focus of infection in the abdomen from which infection could spread by continuity. Diffuse peritonitis of hematogenous origin is not rare. The most common origin of diffuse suppurative peritonitis is the appendix. Next in order of frequency are the various disorders of the intestines, including perforating typhoid, ulcer, uremic, dysenteric, stercoral, and simple ulcer; the sloughing of an intestinal neoplasm, strangulation, volvulus intussusception, kinking hernia, infarction, traumatic rupture, perforation of sharp foreign bodies, or by bullets, or from the introduction of a rectal bougie, the nozzle of a syringe, the use of enemas under high pressure, etc. Almost equally as frequent is infection from the stomach and duodenum, chiefly from the perforation of a peptic ulcer, and the sloughing of gastric neoplasms. Infection from the female genital organs stands next in frequency. Diffuse suppurative peritonitis rarely results from pyosalpinx. Disease of the gall bladder and bile tracts is probably next in frequency, after which come disease of the kidney and urinary bladder, including rupture; then suppurative disease of the liver, pancreas, mesenteric glands and spleen. The factors that aid the peritoneum in overcoming the bacterial invasion are: First, the ability of the peritoneum to absorb micro-organisms and pass them on into the lymph channels before they have time to grow and develop toxins and give rise to peritonitis; second, the phagocytic action of the leucocytes and endothelial cells, particularly those proliferated by the omentum; third, the destruction of bacteria and the neutralization of their products by the peritoneal fluid.

Early diagnosis is important. The onset varies so greatly with the cause and character of the infection that the early diagnosis of the disease practically resolves itself into a diagnosis of the various conditions giving rise to it. In acute perforation from gastric or duodenal ulcer the onset of pain is sudden and usually terrific. The pain of diffuse suppurative peritonitis is general, although it may be more marked in the region of the umbilicus or right iliac fossa. Tenderness on pressure is a constant symptom except when the sensitiveness of the patient is blunted by toxemia. Tenderness is likely to be universal, and may be elicited by rectal and vaginal examination. Abdominal rigidity, involving all the muscles of the abdomen, is a valuable sign. The temperature is variable, and is therefore of no great diagnostic value in this disease; it is often subnormal. The pulse is nearly always accelerated; as the disease advances it usually becomes somewhat irregular, very rapid, and rises to 160 or more. A number of conditions simulate the onset of a diffuse suppurative peritonitis. The most accurate conclusions are likely to be based on a thorough understanding of all possible causes and the clinical picture simulating diffuse suppurative peritonitis, together with a careful analysis of the signs and symptoms of the indivdual cases, backed by a wide experience.

Prevention and Inhibition of Diffuse Suppurative Peritonitis

Dr. A. J. Ochsner: Diffuse suppurative peritonitis can be prevented or inhibited most successfully by observing the following conclusions:

1. A careful physical examination should be made in every patient suffering from nausea, vomiting, digestive disturbance, gaseous distension or pain in any portion of the abdomen, so that an early diagnosis can be made and proper treatment instituted at once.

2. A diagnosis of chronic appendicitis, gastric or duodenal ulcer or gallstones should be made through a careful study of the history and physical examination and relieved by proper treatment before a perforation is possible.

3. Patients suffering from intestinal obstruction, whether this be due to strangulated hernia, constriction by bands of adhesive volvulus, intussusception or kinking of the intestine, Meckel's diverticulum, gallstone or carcinoma should be operated on at once, and they should never under any condition receive either cathartics or food by mouth after this condition is even suspected.

4. Gastric lavage should be employed in these cases at once, and again immediately before operation and it is well to leave a stomach tube, preferably the form invented by Kausch, in the stomach to drain out any intestinal fluid which may regurgitate during the operation.

5. Opium in any form should never be given before a diagnosis has been made and never in the presence of any form of peritonitis unless gastric lavage has been made; and the introduction of every form of nourishment and cathartics by mouth is absolutely prohibited. This applies to even the simplest forms of liquids like beef tea or broth and also to the use of champagne and other stimulants.

6. This applies quite to the same extent to postoperative treatment.

7 In military surgery it is most important as a prophylactic measure that soldiers enter the firing line with empty stomachs and intestines.

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[3] The Journal, July 11, 1908, p. 152, and July 18, 1908, p. 229.

[4] The Journal, Feb. 27, 1909, p. 709.

8. Abdominal wounds made during battle with large objects like splinters from shells indicate immediate operation.

9. Abdominal wounds inflicted in battle by small caliber bullets in the absence of hemorrhage should be treated by absolute rest; not even water should be given by mouth.

10. An exception should be made in cases which can be in the hands of the operating surgeon with satisfactory assistants and facilities within two hours after the injury. Under these conditions an immediate abdominal section is indicated.

11. Gastric lavage should be done at once in every patient suffering from any form of peritonitis except from stomach or duodenal perforation, if nausea or vomiting, or gaseous distension is present, no matter what other form of treatment may be contemplated.

12. No food of any kind whatever and no cathartics should ever be given by mouth in the presence of peritonitis, no matter what other form of treatment may be contemplated.

13. Even water by mouth should be prohibited until the patient is well on the way to recovery.

14. Instillation of normal salt solution by the drop method by rectum, introduced by Murphy, is one of the most valuable means of inhibiting peritonitis.

15. In rare cases in which this method can not be employed the normal salt solution should be given subcutaneously in quantities of from 500 to 1,000 c.c.

16. Large enemata, except by the drop method, should never be given in peritonitis.

17. In order to prevent postoperative peritonitis, it is important never to traumatize the intra-abdominal organs unnecessarily during operation.

18. Much less handling of the intestines is necessary if these are not distended with gas, a condition which can best be secured by giving the patient two ounces of castor oil on the day before the operation, but this should never be given in the presence of even the slightest amount of peritonitis of any form.

19. Gastric lavage following abdominal section often prevents incipient peritonitis from progressing by inhibiting peristalsis; it should always be employed in the presence of nausea or vomiting or gaseous distension.

20. In acute appendicitis the appendix should be removed before the infection has extended beyond the organ.

21. In chronic appendicitis the organ should be removed before it has an opportunity to cause an acute attack.

22. In an acute appendicitis case, in which the patient has been carried through the attack without operation, it is well to confine the individual absolutely to a liquid diet until the appendix has been removed.

23. In patients with acute appendicitis, either perforative or gangrenous, who have received some form of food or cathartics after the beginning of the attack, and are consequently suffering from beginning diffuse peritonitis gastric lavage, absolute abstinence from food and cathartics by mouth and the instillation of normal salt solution by the drop method by rectum are indicated.

24. This will result in the increase of resistance against infection to such an extent that 98 per cent. of these patients can later be operated on with safety.

25. Feeding should be entirely by enemata, preferably consisting of one ounce of a concentrated liquid food, dissolved in three ounces of normal salt solution, given slowly every three or four hours, through a small rubber catheter introduced into the rectum not more than three inches.

26. From 10 to 30 drops of deodorized tincture of opium should be added to each rectal feeding until there is no longer any pain.

27. It is important for the general practitioner and the general public to become familiar with the danger of giving any kind of nourishment or cathartics by mouth in the presence of impending peritonitis from any cause.

Treatment of Acute Diffuse Suppurative Peritonitis

Dr. John B. Murphy: The type of peritonitis that comes to the surgeon, as a rule, is the perforative variety. In this variety the peritonitis occurs as the result of gastric or duodenal perforation, perforation of intestinal and typhoid ulcers, appendiceal perforation, sigmoid sinus perforation, and perforations of malignant ulcers of the large intestine. Whenever these perforations occur into the free peritoneal cavity, without the formation of a circumscribed abscess, diffuse or spreading, general peritonitis results. In the traumatic variety of peritonitis from contusions and concussions, and in the chemical variety—a variety which occurs, for instance, from trypsin from the rupture of the pancreas—there rarely is a large accumulation of fluid. These patients are but little improved by opening the abdomen and establishing drainage. Recently I saw a case of the chemical variety which was produced by turpentine, a large quantity of which had been injected into the uterus for the purpose of producing an abortion. The resulting peritonitis involved the lower half of the abdomen. I saw the patient a week after the injection, when the abdomen was enormously distended; the kidneys were suffering severely. She was let alone because the fluctuating mass within the pelvis was due to the pus produced by turpentine, and, as the material was encapsulated, there was no hurry in opening the abdomen. A week or ten days thereafter an opening was made through Douglas' pouch and the pus and turpentine were allowed to escape. The tuberculous type of peritonitis needs entirely different management from the acute septic, perforative type.

In diffuse suppurative peritonitis the surgeon should first learn what not to do. He should know what favors the spread of infective material. He should know that abrasions and fresh surfaces favor the absorption of septic products, and that the constitutional resistance of the patient is not built up or maintained by a prolonged operation or by prolonged anesthesia. In the management of these cases first relieve the pus tension; second, do it in the shortest possible time and without manipulation or handling of the viscera; third, close the opening so as to stop the continuation of the supply of infective material; fourth, continue, so far as possible, to relieve pressure; fifth, increase the elimination of the patient. This can be done by large quantities of water injected into the skin, into the veins, or possibly into the rectum, if slowly administered.

Sequelæ of Acute Diffuse Suppurative Peritonitis

Dr. Charles Davison: Localized abdominal abscess is a rather common sequelæ. A small area either retains the orignal infection in a latent or encapsulated condition or else becomes reinfected from the intestine or blood stream. Whenever there is an insult or injury to any of the peritoneum-covered viscera sufficient to displace or to disintegrate the delicate endothelial covering, the omnipresent omentum makes an attempt to cover the injured surface by protective adhesions. The intestine surrounded and infiltrated by granulation tissue becomes obstructed as the granulation tissue undergoes cicatrical contractions, pinching the intestine in from all directions. Fecal fistula follows acute diffuse suppurative peritonitis when (a) a causative perforation has not been closed or has not healed; (b) when the infection has been so severe that a portion of the bowel wall sloughs; (c) when the inflamed friable gut has received a mechanical injury at the time of operation, either an actual tear or injury sufficient to produce a slough through the wall of the intestine. In the final cleaning-up process of the abdomen by the lymphatics, the retroperitoneal, mediastinal glands become engorged and weakened by septic material and are fertile soil to pick up, arrest and propagate any tubercle bacilli that may have wandered into the peritoneal cavity. Postoperative ventral hernia follows acute diffuse suppurative peritonitis in proportion to the amount of injury to the abdominal wall, to the size of the surgeon's drainage openings, to the length of time of drainage and to the amount of suppuration in the abdominal wall itself.

Discussion on Peritonitis

Dr. Fenton B. Turck: In my research work on peritonitis one of the first things of importance I found was the resistance of the animal to infection. In 1900, I showed that when the peritoneal cavity is in a normal condition one may inject even virulent micro-organisms into it without deleterious effects, but as soon as the viscera is exposed to the air for a certain period of time, by injecting the *Staphylococcus albus* it is possible to produce a general peritonitis, which invariably ends in death. The colon bacillus, which under normal conditions produces no effect when injected into the peritoneal cavity, when the viscera of dogs is exposed, will set up peritonitis, followed by a fatal termination. When the viscera of the animal is exposed for a long time to the air, or by prolonged anesthesia, the serum loses its protective power against the ordinary ferments. I found that trypsin, pepsin and other ferments were inhibited in their action by the serum of these animals under normal conditions, but as soon as infection was allowed to take place, or the viscera exposed to the air for a certain period of time, the serum lost its inhibitory power.

Dr. Victor J. Baccus: I do not think the majority of surgeons would agree to the definition of diffuse suppurative peritonitis as given by Dr. Murphy. I take it, a diffuse suppurative peritonitis is a condition in which the infection has invaded the entire peritoneal cavity. How can one tell when this infection is general or local? A case in point: A patient was seen in the morning with all the evidences of peritonitis lasting twelve hours. A diagnosis of acute general peritonitis secondary to an acute suppurative and gangrenous appendicitis was made, based on the ground that the patient gave a history of previous attacks of appendicitis. He had all the symptoms of a general peritonitis. On opening the abdomen, however, the appendix was found to be normal. There was a leakage of fluid along the ascending colon and the escape of bile. A diagnosis was then made of perforative gastric ulcer or rupture of the gall bladder. Accordingly, an incision was made above and drainage established below, the patient making a beautiful recovery.

NEW YORK ACADEMY OF MEDICINE

SECTION ON OBSTETRICS AND GYNECOLOGY

Regular Meeting, held Feb. 25, 1909

Dr. John O. Polak in the Chair

Tuberculosis and Pregnancy

Dr. Charles C. Trembley, Saranac Lake: The following observations are based on a review of 240 cases, nearly all being between the ages of 25 and 36. There are 113 multiparæ and 127 primiparæ. A positive history of tuberculosis originating after the birth of the child, or during pregnancy, was given in 151, or 63 per cent; 103 showed their first symptoms during the puerperium. Although 42 patients were recorded as having had a miscarriage, in only 3 cases did the history even suspiciously point to this as a starting point. A history irrespective of pregnancy was given in 89, or 37 per cent. Of the 151 patients who showed first symptoms during pregnancy, 44, or 29 per cent., were I-para; 68, or 45 per cent., were II-para; 39, or 26 per cent., were III-para. Of these at present 80, or 53 per cent., are dead, and 71, or 47 per cent., are living. Of the 81 not traced to pregnancy or the puerperium, 30, or 34 per cent., were I-para; 41, or 46 per cent., were II-para; and 18, or 20 per cent., were III-para. Of these at present 36, or 41 per cent., are dead, and 53, or 59 per cent., are living. As regards conditions on arrival in the mountains, the definite cases exhibited 29 per cent. of incipient disease, and 71 per cent. of advanced and far advanced, the indefinite showing 34 per cent. of incipient, and 66 per cent. of advanced and far advanced. The cases definitely traced showed 53 per cent. of deaths, and those not attributable to pregnancy showed only 41 per cent. This large percentage of deaths after pregnancy seems to indicate that in these cases the protective influence noted during pregnancy has been removed, leaving a condition of lowered vitality and resistance to the action of the tubercle bacillus. Pregnancy occurring in the course of an active tuberculous process is a menace to the future health of the woman. The only rational course to pursue when pregnancy occurs in tuberculous women, and when it is recognized in the early months, is the radical method of intervention. The only patients who called for hesitation were (1) those who had been discharged as cured, and had remained absolutely without symptoms for at least one year; (2) patients in the terminal stage with progressive signs; (3) serious dissemination complicating the pulmonary lesions.

The following results are based on a series of 29 cases of therapeutic abortion which have come under my observation and exhibit a striking contrast to the patients allowed to complete the pregnancy. They represent all stages of the disease, and all but one were induced before the fifth month. Of the cases considered, 3 were very active cases of an advanced type; 6 were mildly progressive of an advanced type; 4 were mildly progressive of an early type; 5 were quiescent incipient types, and 11 were quiescent advanced and far advanced. Of these, 11 abortions were induced during the second month, 14 during the third, 3 during the fourth, and 1 during the sixth month. In only one instance was there a relapse as the result of the abortion, and this patient quickly recuperated. Eighteen showed a gain of from 2 to 8 pounds within five weeks afterward; 5 remained stationary, and 6 lost from 1 to 5 pounds. Of the total 8 died, 3 as the result of childbirth. From these cases I formulate the following conclusions:

1. Pregnancy is an etiologic factor to be considered in the tuberculosis problem.
2. During the puerperium the disease shows its greatest activity, although any month of pregnancy may witness its onset.
3. Mortality is greater among women showing their first symptoms during the puerperium than among those showing onset irrespective of pregnancy.
4. Mortality is greater among phthisical women who subsequently pass through labor than among phthisical women in general.
5. A tuberculous woman may conceive during any stage or phase of the disease.
6. Latent, quiescent, or arrested tuberculosis is almost invariably rendered active by a completed pregnancy.
7. Occurring in the course of more or less active tuberculous disease, it almost invariably results in rapid progression, and frequently terminates fatally.
8. Patients should be instructed as to the detrimental results of pregnancy.
9. The offspring of tuberculous women are generally weak and display a strumous diathesis.
10. When a phthisical woman is allowed to complete her pregnancy she should have the benefit of climatic treatment and the child should be separated from the mother at once.
11. Abortion should be performed in every instance when pregnancy is recognized in the early months, since it will enhance the woman's chances of recovery; but in the later months generalization is not feasible; each case must be considered individually.
12. Mortality and percentage of relapses is practically *nil* when abortion is induced before the end of the third month.
13. Premature delivery should not be considered in the later months of pregnancy unless the patient's condition absolutely demands it.
14. Patients apparently cured, having remained without symptoms or signs for at least one year, may be allowed to go to term, but should be under careful supervision.
15. In all patients allowed to complete pregnancy the labor should be terminated rapidly and with as little exertion as possible on the part of the woman.

DISCUSSION

Dr. Charles Jewett, Brooklyn: With few exceptions I believe that pregnancy complicated with tuberculosis should be terminated early in the pregnancy and early in the disease if any benefit is to be expected. Intervention is most urgently necessary in cases of laryngeal tuberculosis. With the exception of certain localized processes, tuberculosis is likely to prove a serious complication of pregnancy. In a large proportion of the cases the disease takes on a more active course in the later months and especially is this true of the puerperium. Lactation is also recognized as a danger period, but this can be eliminated readily. The termination of pregnancy in the later months, with the exception of certain grave complications of the disease, or when demanded in the interest of the child, is, as a rule, useless. It is believed by many that premature labor is not so well-borne as spontaneous labor at term. There is, however, a wide difference of opinion on the question of therapeutic abortion in tuberculous women. Nearly half the recent writers are opposed to it at any period and under any condition. While I recognize the difficulty of formulating rules for all cases, I think that, in most instances, at least of beginning tuberculosis, the interest of the mother will best be served by terminating the pregnancy in the first three months.

Dr. J. Clifton Edgar: I do not believe that such a large collection of cases has ever before been reported as occurring in the experience of one person. Bossi says that he has only been called on to face this question twenty times. There seems to be a difference of opinion as to the course to pursue in these cases. Pinard, of Paris, observed spontaneous resolution of the tuberculosis during pregnancy. On the other hand, Lancereaux claims that non-hereditary cases of tuberculosis have developed as the result of pregnancy and the lowered vitality which occurs with it. Pinard's statement is in line with the superstition and tradition that exists, that pregnancy has a tendency to better the condition of the tuberculous woman. The latent or cured or directly hereditary cases of tuberculosis are more liable to suffer from the effects of pregnancy than the non-tuberculous. If two-thirds of the incipient cases of tuberculosis can be cured by proper environment and hygiene, why not treat the pregnant patients as one would the non-pregnant? I have always taken the stand that pregnancy complicating tuberculosis is a threat and a menace. It is a good plan to give an easier labor by cutting off one or two weeks of gestation. The labor itself should be made as easy as possible by shortening the second stage with the forceps and by the use of anesthesia combined with oxygen.

Dr. Edwin B. Cragin: I have taught for several years that it is best to take the radical ground advocated by Dr. Trembley, so far as tuberculosis and early pregnancy are concerned. If there is an active tuberculous process, pregnancy should be terminated at once. There are a certain number of cases in the later months of pregnancy where, in the interest of the mother, the life of the child should be sacrificed; I have seen cases in which the women were going down hill rapidly, and in which the additional discomfort of increased pressure and disturbance of respiration was apparently sapping her life. I believe that many of these women could be much benefited by inducing labor at eight and a half months, thus lessening the severity of the labor by having a smaller child. While in the early months of pregnancy I make no exception to the advisability of inducing therapeutic abortion in active tuberculosis, in the later months one must use judgment.

Dr. James A. Miller: I believe that Dr. Trembley's position is a perfectly tenable one. Any patient who goes through with pregnancy is probably going through the hardest kind of work and I believe, therefore, that pregnancy should be interrupted at the earliest possible moment in all patients not able to stand such work. There are two classes of cases in which it is difficult to make up one's mind as to what course to pursue: First, the early cases in which the patients are apparently cured; with these I think it would be much safer and better to wait even longer than one year before allowing pregnancy to occur. Second, those cases in which the disease is advanced but has become arrested for a time varying from two to six, or even eight years. There are patients in whom the lesions are very advanced and who give marked signs in the chest and yet may go without symptoms for years. Such women may go to term safely. When tuberculin is used the patients are less liable to have relapses.

Dr. Whitbeck: I think the outlook for the child born of tuberculous parents, especially the advanced cases, should be considered more. The chances of such a child developing tuberculosis is comparatively large.

Dr. S. M. Brickner: I should like to offer a suggestion, based on a purely theoretical basis, that during pregnancy the thyroid gland increases in size and it seems possible that the secretion which is poured out during pregnancy has an inhibitive effect on the development of the tuberculosis during pregnancy, and this effect ceases during the puerperium and the pulmonary disease, therefore, is allowed to proceed with its ravages. It might be well to give thyroid extract, beginning its use at the ninth month. Brown of Saranac Lake has suggested that induced delivery is called for at or near full term. After dilating the cervix sufficiently, forceps is applied and labor terminated as rapidly as possible in order to save the woman as much physical work as possible. I am opposed to this procedure because in primiparæ it is a hazardous undertaking; while in a multiparous woman the second stage of labor is usually short and not so much physical work is involved to cause an increase in the pulmonary disease.

Dr. William S. Stone: One of the best papers on this subject has been written by von Rosthorn who does not take the radical position of Dr. Trembley. In women who have given evidence of a mild tuberculous process prior to pregnancy, or in those in whom the symptoms show a condition localized within a small pulmonary area, it is possible to individualize: in other words, the decision as to what course to pursue should depend on a careful examination made by a medical man rather than by an obstetrician. The worst types of tuberculosis are the laryngeal. The cases with hemorrhage are often not the worst types. It is important, as von Rosthorn says, to do everything to make labor easy and the suggestion of bringing the labor on one or two weeks earlier is worthy of consideration.

Presentation of Cases, Etc.

Dr. S. M. Brickner presented a case of hermaphroditism; Dr. R. T. Frank showed a specimen of colloidal ovarian tissue; and Dr. LeRoy Brown exhibited an electric light operating equipment.

Medicolegal

A Consultation of Physician

The Supreme Court of Oregon says, in the case of Beard vs. Royal Neighbors of America, that the mere fact that a physician was not sought out by Mrs. Beard, with a view of consulting him as a physician, but instead, was met on the street by Mr. Beard, who advised him of his wife's illness, and directed him to go to the house and attend her, did not prevent it from being considered a consultation by her with a physician. She approved and adopted the act of her husband as her own by accepting the services of the physician, advising him of her symptoms, and receiving aid from him, thereby making the act of her husband in summoning the physician her own act, if that were necessary—which the court thinks was not—to constitute a consultation of a physician. The material part of the facts constituting consultation, within the meaning of the contract of insurance under consideration was having an interview with him, acquainting him with the nature of the ailment, and accepting and receiving aid, advice, or assistance from him.

Admissible Opinion Evidence

The Supreme Court of Georgia says that in Seaboard Air Line Railway vs. Maddox, a suit brought by the latter party for a personal injury, a physician examined the injured party on several occasions. On the trial he gave testimony by answers to interrogatories as to the results of his examination, and his opinion in regard to the condition of the plaintiff and of the extent and probable permanent character of the injury. It is held that there was no error in refusing to rule out his entire evidence because on cross-examination he stated that his opinion was based both on a personal examination and a report made to him by another physician accompanied by a sciagraph, the witness also stating that the condition of the spine of the person examined was evidently the result of an injury, and that his opinion was based on personal examination independent of the sciagraph, and was simply confirmed by it and the report of the other physician.

Railroad Company Not Liable for Services Rendered by Surgeon

The Fourth Appellate Division of the Supreme Court of New York had, in the case of Voorhees vs. New York Central and Hudson River Railroad Co., a suit brought by a physician to recover the value of services rendered an injured brakeman at a hospital. The plaintiff was first summoned by the superintendent of the hospital, after failure to find the surgeon representing the railroad company or to get the hospital surgeon on duty.

By the rules of the hospital it was open to any one suffering from personal injuries. If the patient was able to pay, he was charged $1 a day while there. There was no hospital charge for physicians or surgeons. The authorities never assumed any responsibility for the payment of their services. The staff surgeons were not employed by the hospital management. Their services were supposed to be rendered gratuitously, although there did not seem to have been any prohibition against the attending surgeons receiving pay from the inmate he treated.

The claim of the plaintiff against the defendant rested on two grounds: (1) On the contract between it and the hospital; (2) that the case was an extraordinary one, imperatively demanding prompt attention, and the defendant was consequently liable, as the injured man was its servant and was taken to the hospital by one of its employés. But the only semblance of authority in the hospital superintendent to employ a physician on behalf of the defendant was found in testimony that the claim agent of the defendant asked that the defendant's surgeon be "notified when a case was admitted." Whether he was to be "notified" in order to report as to the extent of the injuries, or to render medical service was unimportant, for the authority, at most, was limited to summoning him, and did not include any other surgeon.

There was no authority given the superintendent to employ physicians to attend employés of the defendant who might be in the hospital.

Nor could any liability be founded on the relation of master and servant existing between the defendant and the injured man. The rule is a general one that the employer is not required to provide medical attendance for his employé unless he has agreed so to do. In a few of the states an exception to this rule has obtained in case of emergency treatment rendered by a physician to an employé, and it has been held that an employé present when the emergency arises may summon a physician on the responsibility of the employer. The exception has not prevailed in New York state, so far as the court's research has extended, and the trend seems to be against this invasion of the general rule. The right to recover medical services to a third person must rest on an express contract, or on facts from which the intention to pay may be inferred. The settlement of the defendant with the injured employé may have been an admission of liability for his injuries. That, however, did not inure to the physician's benefit. His right to recover must be founded on contract, either express or implied.

Opinion Evidence on Germ Diseases Without Postmortem or Microscopic Examinations

The Supreme Court of Minnesota holds, in the case of Mageau, administrator, vs. Great Northern Railway Co., that the opinion of a physician that the death of a person was due to one disease, instead of another, both diseases being caused by the action of germs and manifested by similar external symptoms, based on general observation, without a postmortem or microscopic examination, is too conjectural, theoretical, and uncertain, standing alone, to sustain a verdict.

In this case a married woman received, on September 12, in a railroad accident, certain injuries the immediate result of which was the retroversion of the uterus. Some weeks thereafter she was successfully operated on for this trouble. On February 5 she gave birth to a child. During the interval she had suffered from various troubles, and for some time had been in the hospital, where she was treated for bronchitis. The child had to be removed by means of instruments, and was dead when born. Five days after the birth of the child, the woman, it was claimed, died of peritonitis; and the question was whether the railway accident was the proximate cause of her death. The defense was that her death was caused by septicemia, instead of peritonitis, and that the infection occurred at the time of the child-birth. The trial court ordered judgment for the defendant notwithstanding a verdict for the plaintiff, which judgment is here affirmed.

The Supreme Court says that the witnesses agreed that peritonitis and septicemia were due to the activity of germs, but they disagreed as to practically everything else. The plaintiff's experts testified that peritonitis was present almost immediately after the railway accident; but it was all pure conjecture. No postmortem examination was held, and no attempt was made at any time to discover the kind of germs which were at work. The fact that a person is a practicing physician or surgeon generally qualifies him to testify as an expert, but in a matter of this kind the absence of special qualifications on the part of the experts was shown for forming an opinion on these delicate and controverted problems. Expert bacteriologists are not agreed as to such matters, and the court doubts whether any of them would be willing to express a definite opinion without having made a microscopic examination.

The mere opinion of a physician on such a matter, expressed without having made a careful, scientific investigation and examination, will not, alone, sustain a verdict. It is too uncertain and conjectural to form the basis for a verdict which results in the transfer of a large amount of the property of one person to another. The court, however, does not mean to say that expert evidence of this character has not probative value, when it is based on facts which are themselves established.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 4

1 *Renal Diagnosis. C. H. Chetwood, New York.
2 Principles of Mechanotherapy, with Special Reference to the Treatment of Orthopedic Cases. C. H. Bucholz, Boston.
3 The Newer Silver Salts as Compared with Silver Nitrate in Treatment of Ophthalmia Neonatorum. F. E. Cheney, Boston.

1. **Renal Diagnosis.**—Chetwood discusses the rapid development of measures useful in the diagnosis of kidney trouble, and reports a series of illustrative cases. He draws the following conclusions:

1. It is by judicious selection and combination of the various available tests that the best results are obtained and the most satisfactory preliminary diagnosis is accomplished in surgical lesions of the kidney.

2. It is impossible and superfluous to resort to all tests in every instance. Reliable confirmation is what is sought for, as regards, first, the kidney in which the lesion is existing, and, second, the condition of the remaining kidney, especially when nephrectomy is a possibility.

3. When there is an obvious variation from the normal, simple cystoscopic examination may be sufficient to determine in which kidney the lesion is located; and the indigo-carmine or phloridzin test, accompanied by segregation or catheterization of one ureter, will usually furnish the desired information as to the condition of the other kidney.

4. When the ureter of the unsuspected kidney is normal in appearance and the quantity and quality of the urine it secretes are also normal, and when additional evidence is afforded by the positive result obtained with phloridzin or indigo-carmine, there need be no indecision.

5. When the ureteroscopic picture is uncertain, however, and when the result with phloridzin is likewise uncertain, with a possible unfavorable discrimination as regards one kidney, diagnosis is much more difficult, and it becomes necessary to resort to all of the various methods until a net result is sufficiently decisive to warrant conclusions.

6. In reaching a decision in obscure cases, it should be remembered that a diseased kidney may exert restraint upon the functional capacity of the opposite organ, especially in the case of phloridzin glycosuria, when by means of the other differential tests a sufficiently definite net result must be sought to justify a satisfactory diagnosis preparatory to operation.

7. Inasmuch as the progressive development of cystoscopic and functional diagnosis represents so important an element in urological technic, the skillful routine employment of these means is essential to the supremacy of the genitourinary surgeon in this field of surgery.

Medical Record, New York

March 6

4 *The Zoophil-Psychosis. C. L. Dana, New York.
5 Dangers Associated with Removal of the Tonsils and Adenoid Growths. F. C. Ard, Plainfield, N. J.
6 *Thymus Enlargement Associated with Nervous Symptoms. O. Lerch, New Orleans.
7 Prevention of Epidemics. M. J. Synnot, Montclair, N. J.
8 Perithelioma of the Carotid Gland. J. Douglas, New York.
9 Retinitis Due Probably to Acute Lead Poisoning. G. W. Vandergrift, New York.
10 Transfusion of Blood for Pernicious Anemia. R. Lucy, Guelph, Ont.

4. **The Zoophil Psychosis.**—Dana describes cases of exaggerated and morbid sensitiveness in respect of animals. He says that so far as the zoophil psychosis is concerned, it shows itself both in (1) fixed and tormenting ideas, and (2) an emotional hypertrophy which carries a naturally noble sentiment to the point of disease. With both states there are morbid fears and worries.

1. The fixed idea takes usually the form of a kind of quasi delusion that the animal world is constantly suffering from, or in danger of, the brutality of man. To an extent this is true, but not to such an extent as to lead an individual to acts of oppression and feeling of alarm.

2. The hypertrophy of affection leads to a continual state of alarm, jealousy and concern for the object beloved, whether it be a baby, a dog, or the cause of religion. The psychosis is really the expression of a selfish and weak nature.

6. **Enlarged Thymus.**—Lerch briefly reviews what is known of this organ, and says that the gland can be distinctly and sharply outlined by percussion in adults up to extreme old age. He describes the method of percussing. The symptoms of the enlargement of the thymus are the symptoms of the functional neuroses, hysteria, neurasthenia and visceral neuroses, and probably of the forms of functional insanity, mania, melancholia and paranoia. This is so much the case that from the enlarged gland we can predict the severity of the symptoms and from the symptoms the size of the gland; the more pronounced the symptoms the larger the gland, the flatter the dulness, and *vice versa*. Some symptoms may be

considered almost pathognomonic, the dilated pupils and the rapid pulse, changing from 100 beats in the upright position to 80 or less in the recumbent posture, due evidently to stimulation of the sympathetic nerve and the emptying of the gland in the horizontal position. Enteroptosis with nervous symptoms is almost invariably associated with an enlarged thymus. Some enlargement of the thyroid is sometimes seen and occasionally exophthalmos. The symptoms of exophthalmic goiter resemble the symptoms of thymic enlargement. Tachycardia and tremor are prominent symptoms of both. The pulse is small, the arteries may beat visibly, the heart sounds are loud, and the apex heaving. Irritation and irritability of temper, forgetfulness—or rather loss of attention—coupled with hysterical stigmata and the various visceral disturbances, easy fatigue of body and mind associated with normal muscular strength are often found. Hyperidrosis is frequent. Increased urination and palpitation and disturbances of the stomach and intestines are almost always present. After an application of a high-frequency current for five minutes an enlarged gland will diminish considerably around the margin. Specific medication on the lines of thyroid treatment and surgical interference in severe cases may be tried, and rest and hygienic treatment can be carried out to good purpose. The author believes that this affection is an entity, for which he proposes the name "thymokesis." He reports cases.

New York Medical Journal

March 6

11 Affections of the Oral and Nasal Cavities which are Related to Skin Diseases. J. A. Fordyce, New York.
12 *Need for Medical Censorship of the Lay Press. W. H. Palmer, Providence. R. I.
13 General Paralysis of Unusually Long Duration with Report of two Cases, one with Necropsy. M. J. Karpas, New York.
14 *Alimentary Albuminuria. A. C. Croftan, Chicago.
15 Alcohol—Physiologic Action and Therapeutic Indications. E. R. Zemp, Knoxville, Tenn.
16 A Study of Alcoholism. G. B. Lawson, Roanoke, Va.
17 Attempt at Conservatism in Abdominal Surgery. J. W. Kennedy, Philadelphia.
18 Indications for the Drinking of Mineral Waters in Gastrointestinal Diseases. S. Basch, New York.

12. **Medical Censorship of the Lay Press.**—Palmer gives instances of the abuse by newspapers of medical details of various kinds, and says that as all our great newspapers have their sporting and financial editors why should they not have a medical editor, whose province it should be, not to have a particular department appearing as such in the issues of the paper, but to exercise his discrimination about matters such as his article deals with?

14. **Alimentary Albuminuria.**—Croftan points out that, on account of the inadequacy of chemical and physical methods (before the introduction of the biologic method) to identify the urinary albumin as food albumin, albuminuria following the ingestion of albuminous food was interpreted to signify either that abnormal degradation or putrefaction of albumin had occurred in the intestine causing a toxemia with renal irritation and albuminuria, or, more vaguely, that certain circulatory disturbances in the splanchnic area followed overtaxation of the intestinal proteolytic function, with resulting circulatory changes in the kidneys and albuminuria. While either of these possibilities must be taken into consideration, there remains a form of alimentary albuminuria corresponding in a sense to alimentary glycosuria, in which neither of these factors is operative, but in which actually the albumin of the food as such reappears within a short time in the urine. The disorders, therefore, in which alimentary albuminuria according to Croftan's experience, is most apt to occur are: First, motor insufficiency of the stomach of advanced degree particularly if combined with secretory depression (hypochlorhydria and hypochylia). In achylia gastrica combined with motor insufficiency, this form of albuminuria is particularly common. Second, in diarrheic disorders of all kinds and particularly in cases of pancreatic debility with accompanying intestinal dystrypsia. Third, in hepatic insufficiency of various origin. Fourth, after the ingestion of abnormally large quantites of albumin (noted especially in diabetics on a meat-fat diet) and in cases in which large quantities of albuminous food, particularly egg albumin, are injected into the rectum in the form of nutritive enemata. The treatment of this form of albuminuria is exclusively causal, i. e., consists in the correction of the above-indicated morbid states. The comparative frequency of this form of albuminuria should be appreciated. It is essential to recognize that there is a form of albuminuria of rather favorable prognosis that is not primarily due to renal debility, or to nephritis, or to circulatory disturbances in the kidneys as a part phenomenon of general cardiovascular disease (Bright's disease, arteriosclerosis), but that is enterogenous in type and primarily and exclusively a gastrointestinal and hepatic disorder.

Lancet-Clinic, Cincinnati

March 6

19 Postoperative Nasal Hemorrhage. E. Pynchon, Chicago.
20 Interesting Case of Pulmonary Tuberculosis. S. G. Bonney, Denver, Colo.
21 *Problem of Relapse after Apparent Cure in Treatment of Pulmonary Tuberculosis. C. L. Minor, Asheville, N. C.
22 Renal Calculi. D. N. Eisendrath, Chicago.

21. **Relapse in Pulmonary Tuberculosis.**—Minor divides the causes for relapse into those operating through the patient and those for which the physician is responsible. With regard to the first are to be noted: (1) The patient's character—lack of will power, intelligence, purpose, or self-control; (2) certain infectious diseases—grip, measles, typhoid—which are apt to reawaken an incapsulated process; (3) the patient's mode of life, overexertion, underfeeding, unwise diet, dissipation and sanitary surroundings. The causes due to the physician are lack of capacity to train and to teach the patient automatically to do the right thing, and in general, absence of the power to impress and dominate the patient; and too early dismissal of the case. He also cautions against undue reliance on the tuberculin treatment, which, however valuable it may be, can never make up for the necessary hygienic treatment and the thorough teaching of the patient.

Surgery, Gynecology and Obstetrics, Chicago

February

23 *Modern Military Surgery. N. Senn, Chicago.
24 *Immediate Operative Treatment of Certain Fractures. L. Freeman, Denver, Colo.
25 *Tenosynovitis of the Hand (concluded). A. B. Kanavel, Chicago.
26 Remote Results of Implantation of the Ureters into the Bowel for Exstrophy. J. J. Buchanan, Pittsburg, Pa.
27 Localized Necrosis of the Liver. J. A. Hartwell, New York.
28 Tuberculosis of the Cecum. R. O. Rogers, Richmond, Va.
29 Traumatic Subluxation of the Head of the Humerus. R. Russ, San Francisco.
30 Submucous Perineorrhaphy for Complete and Incomplete Lacerations. C. A. Hall, Cleveland, O.
31 Indications for and Technic of Vaginal Cesarean Section. R. Peterson, Ann Arbor.
32 Trolley Treatment in Spondylitis and Locomotor Ataxia. A. C. Wiener, Chicago.

23. **Modern Military Surgery.**—In this posthumous article by the late Dr. Senn, are discussed the recent improvements of firearms, recent experimental studies on gunshot wounds, the character of wounds inflicted by the small caliber mantled bullet, and the principles which govern the modern treatment of gunshot wounds.

24. **Operative Treatment of Fractures.**—Freeman discusses the following propositions:

1. No recent fracture should be operated on that can be successfully treated by other means.
2. No recent fracture should be operated on except under the most favorable surroundings, and by an experienced surgeon who is a master of aseptic technic.
3. The resisting powers of the patient should be taken into careful consideration.
4. The patient's position and duties in life deserve attention.
5. The success of operative intervention depends much on the accessibility of the fracture—the danger varying directly with the amount of manipulation required.
6. It should be recognized that faulty alignment and overlapping of fragments, or even the presence of visible deformity, do not always mean disturbance of function.
7. In estimating the value of an operation the after-treatment deserves consideration; will it be rendered less trying to the patient or give a better result in a shorter space of time?
8. The indications for operation vary greatly with the particular bone which is broken, the character of the break, and its situation in the bone.
9. Admitting the desirability of operating in certain carefully selected cases, it must not be forgotten that there are two important drawbacks—delayed union and sepsis.

Freeman describes the operative technic.

25. **Tenosynovitis of the Hand.**—Kanavel continues his discussion of this subject from the last issue with a consideration of treatment. He summarizes his views as follows:

> Success in the treatment of tendon-sheath infections of the hand depends on early accurate diagnosis, on incisions so made as to drain the proper sites without involving uninfected areas, and on careful after-treatment.
>
> Two types must be recognized, the fulminating and the subacute. The treatment will vary with the type. The most marked symptoms and signs are: Localized excruciating pain over the course of the sheath, pain on extension, especially at the proximal end of the sheath, and characteristic position of the finger.
>
> Infection from the tendon sheath of the index finger will most often extend to the proximal interphalangeal thenar space, lumbrical spaces, and the surface at the proximal end of the sheath.
>
> From the middle finger it most often extends to the proximal interphalangeal joint, the lumbrical spaces, the surface at the proximal end, and the middle palmar space, although it may invade the thenar space.
>
> From the ring finger the extensions are the same, except that it always involves the middle palmar space if extension takes place into the palm.
>
> From the little finger, the most common sites of extension are to the proximal interphalangeal joint (not common), the lumbrical space, the middle palmar space, the surface at the proximal end of the sheath, and the ulnar bursa. From the ulnar bursa it may extend to the middle palmar space, radial bursa, interosseous space below the flexor profundus, and the wrist joint.
>
> From the sheath the flexor longus pollicis to the thenar space, ulnar bursa, wrist joint, and interosseous space above described.
>
> Incisions are best made in the fingers, either on one or both sides of the tendon sheath, over the length of the shaft of the middle and proximal phalanx, avoiding the joints, and into the proximal end of the sheaths or the lumbrical spaces to provide drainage there.
>
> The ulnar bursa is best treated by splitting it throughout its length, cutting on the ulnar side. The anterior annular ligament should generally be cut. This is commonly supplemented by incisions on the radial and ulnar sides of the forearm above the wrist joint, and on the level with the flexor surface of the bones—through and through drainage is then carried out under the flexor profundus tendons. An ulnar incision may be sufficient. If the pus has invaded the forearm, an ulnar incision is made at the middle of the forearm between the flexor carpi ulnaris and the flexor sublimis, or between the flexor carpi ulnaris and the ulna.
>
> Incision of the flexor longus pollicis sheath is made from a finger breadth below the anterior annular ligament to the end of the sheath. Opening may be made above the anterior annular ligament, the upper half of which may be cut, or drainage may be instituted above the wrist by the lateral incision mentioned under ulnar bursal infections.
>
> In the after-treatment the Bier constrictor is used for from 24 to 48 hours, hot moist dressings for from 2 to 4 days, followed by dry dressings, the hand being held in over extension by a splint, and daily manipulation of joints and muscles practiced after immediate danger of systemic infection has ended.

Annals of Surgery, Philadelphia

February

33 Intestinal Obstruction Due to Volvulus or Adhesions of the Sigmoid Colon. J. C. Bloodgood, Baltimore.
34 *Value of the Cammidge Reaction in Diagnosis of Pancreatic Disease. E. H. Goodman, Philadelphia.
35 Prevention of Intestinal Obstruction Following Operation for Appendicitis. F. Hawkes, New York.
36 Accidents in Hernia Operations. J. F. Erdmann, New York.
37 New Cystoscope for Catheterizing the Ureters by the Indirect Method. P. M. Pilcher, Brooklyn.
38 New Indirect Irrigating Observation and Double Catheterizing Cystoscope. L. Buerger, New York.
39 Complete Denudation of the Penis. C. A. Powers, Denver, Colo.
40 Operative Technic of Carcinoma of the Penis. J. H. Nicoll, Glasgow, Scot.
41 *Carbolic-Acid Gangrene of the Finger. J. A. Kelly.

34. Published in *American Journal of Medical Sciences* for January, 1909.

41. **Carbolic-Acid Gangrene.**—Kelly reports, from the Polyclinic Hospital, a case of carbolic-acid gangrene of the finger. A woman, aged 27, applied a solution of carbolic acid (strength unknown) to a punctured wound of the finger. The dressing remained in place from 11 p. m. till 4 a. m., when it was removed on account of intense pain. Kelly advised the patient to have the finger amputated, but she refused. Subsequently she went to another hospital, where the finger was amputated at the metatarsophalangeal joint. He declares that it is surprising that more cases of this kind do not occur, considering the ease with which carbolic acid may be procured and its common use by the laity.

American Journal of Medical Sciences, Philadelphia

February

42 *Gastric Neuroses. J. B. Deaver, Philadelphia.
43 *Treatment of Chronic Bronchitis. F. Forchheimer, Cincinnati, O.
44 *Open-Air and Hyperemic Treatment as Powerful Aids in Management of Complicated Surgical Tuberculosis in Adults. W. Meyer, New York.
45 The Heart in Pulmonary Tuberculosis (continued). L. Brown, Saranac Lake, N. Y.
46 **Bacillus Coli Communis:* Cause of an Infection Clinically Identical with Typhoid Fever. W. Coleman and T. W. Hastings, New York.
47 Acute Syphilitic Diseases of Spinal Cord. J. Collins and C. G. Taylor, New York.
48 *Habitual or Recurrent Anterior Dislocation of Shoulder. T. T. Turner, Philadelphia.
49 Clinical Forms of Pyelonephritis. D. N. Eisendrath, Chicago.
50 Operative Treatment of Deflections of the Nasal Septum. C. W. Richardson, Washington, D. C.
51 Further Report of a Case of Tracheal Scleroma. E. Mayer, New York.
52 Presence of Tubercle Bacilli in Circulating Blood in Tuberculosis. R. C. Rosenberger, Philadelphia.

42. **Gastric Neuroses.**—Deaver discusses particularly that set of gastric symptoms classed grossly as nervous dyspepsia. There are certain disturbances in the gastric function, motor, secretory and sensory, for which the minutest examination discovers no organic basis. Further, they may be classed as conditions of irritation or depression. It may be stated as a fundamental principle that a gastric neurosis without other neurasthenic condition is very rare, and a true gastric neurosis will be found to be one of a train affecting diverse functions and widely separated organs. The author discusses the many organic conditions that are liable to be mistaken for gastric neuroses, among others gastric ulcer, carcinoma in the early stage, gallstones, appendicular trouble, etc. But it must be admitted that there are cases for which the term nervous dyspepsia suffices as a diagnosis, when all possible organic conditions have been eliminated, and in such cases Deaver strongly deprecates any surgical interference. There is no exception, perhaps, to the general statement that gastric neuroses *per se* are not in the province of the surgeon.

43. **Chronic Bronchitis.**—Forchheimer says that causal treatment does not receive sufficient consideration in chronic bronchitis, due to the fact that its etiology is very complex and not always discoverable. He describes the local and remote causes, and discusses the subject of catching cold and the method of "hardening." A patient with bronchitic tendencies is always in a state of insufficient resistance to bacterial invasion and should as much as possible be kept away from exposure to infection. Autoinfection is more common than is supposed. He discusses the methods of removing bacteria from the bronchial mucous membrane, the effect of diseased lymphatics on chronic bronchitis and the nature of climatic treatment. He emphasizes the importance of the removal of secretion and describes the various classes of remedies employed therefor. The remedies are divided into those that act by increasing fluidification of the expectoration, by rousing irritation so that increased efforts are made for its proportion, and by drying up the secretion. In chronic bronchitis it is rarely necessary to employ the second of these three kinds. Of the first group the author prefers ammonium chlorid, ipecac, the alkalies and pilocarpin; of the last group, turpentine, benzoates, creosote and its preparations or derivatives, eucalyptus and tar. The same effects follow inhalations as are produced by medicines. Intratracheal injection seems to be followed by good results. In ordinary cases postural treatment is best for the removal of secretion from the bronchial tubes. He discusses the subject of postural treatment at length. Heroin may be tried in small doses (0.004 to 0.008 gram, 1/16 to ⅛ grain), but it is more toxic than morphin and heroinism does occur. He discusses mineral waters in relation to bronchitis, and endorses Knopf's teaching in regard to proper training in breathing in this condition.

44. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1540.

46. **Bacillus Coli Communis in Typhoid.**—Coleman and Hastings report instances in which cases apparently of clinical typhoid fever appear as the result of blood examination to be due to the colon bacillus. They draw the following conclusions:

> 1. Isolated reactions against *B. coli communis* are without significance in respect to the cause of infection.
> 2. The blood serum in a case of infection by *B. coli communis* may contain agglutinins for certain strains of this group while the infection persists, and not on the patient's return to health.
> 3. The detection of an increment of agglutinins in the blood serum for a particular strain of *B. coli communis* is evidence of a local or general infection with that strain.
> 4. Some strains of *B. coli communis* are capable of causing a disease clinically identical with typhoid fever.

48. **Anterior Dislocation of the Shoulder.**—Thomas discusses this subject well, and as a result comes to the conclusion that the usual anterior, habitual or recurrent dislocation of the shoulder is due to a traumatic, cicatricial, anterior, hernial pouch of the capsule, and that the object of the operation should be to obliterate the hernial protrusion. It would be a simple matter to remove at the same time any free or attached joint body that might be present.

Albany Medical Annals

February

53 What a City Can do to Combat Tuberculosis. J. H. Pryor, Buffalo, N. Y.
54 Favorable Aspects of the Medical Treatment of Pulmonary Tuberculosis. S. B. Ward, Albany.
55 The Tuberculosis Dispensary. A. T. Laird, Albany.
56 How Dangerous is the Consumptive? D. C. Twitchell, Saranac Lake, N. Y.
57 Points Regarding the Diagnosis of Incipient Pulmonary Tuberculosis. A. T. Laird, Albany.
58 Health as a Science. A. Holding, Albany.

Yale Medical Journal, New Haven

February

59 *Hypersusceptibility to Tuberculin in Tuberculosis: Its Physiologic and Clinical Importance. E. R. Baldwin, Saranac Lake, N. Y.
60 *Deformities of Feeble-Minded Children. E. H. Arnold, New Haven, Conn.
61 Report of Four Unusual Cases of Peripheral Venous Thrombosis. G. Blumer, New Haven, Conn.
62 Family Periodic Paralysis. M. Mailhouse, New Haven, Conn.
63 *Acute Pleurisy with Effusion. N. A. Pomeroy, Waterbury, Conn.

59. This article is discussed editorially in The Journal, this issue.

60. **Feeble-Minded Children.**—Arnold discusses the interrelations of mental deficiency and physical deformity, and expresses his conviction that there is a well-defined relation between mentality and habitual deformity that has grown stronger from day to day. Without neglecting surgical or mechanical means for the relief of these deformities, he has paid more and more attention to the educational feature of the treatment. In cases just beginning, and of lesser degree, he finds these measures often suffice. In the cases in which the deformity has lasted a sufficiently long time, and progressed to a degree where contracture of the soft parts and structural changes of the bone have taken place, he has found that educational means supplement mechanical and surgical treatment in a most favorable manner, fortifying him in the position gained by the former. So far as the effect of such treatment on these feeble-minded children is concerned, a great many of them have on their records the remark "motor improvement," which in many cases is synonymous with staying the progress of the deformity, or even improving it. It goes without saying that the inter-relationship of mentality and motor function being so close, improvement in motor function practically always assures improvement in mentality.

63. Abstracted in The Journal, July 25, 1909, p. 339.

American Journal of Urology, New York

February

64 Diagnosis and Treatment of Bilateral Nephrolithiasis. M. Krotoszyner, San Francisco
65 Serodiagnosis of Syphilis. G A. de S. Saxe, New York.
66 Study of 329 Cases of Gonorrhea in the Male, with Particular Reference to the Therapeutic Value of Arhovin. A. L. Wolbarst, New York.
67 Glass Drainage Tubes in Prostatic Surgery. F. Cabot, New York.

Journal of Cutaneous Diseases, New York

February

68 Parapsoriasis: A Resistant Maculopapular Scaly Erythrodermia. W. T. Corlett, Cleveland, O.
69 Chronic Persistent Edema of the Face; Elephantiasis: Elephantiasis Following Dropsy; Result of Excessive *X*-ray Dosage in Treatment of Acne; Mycosis Fungoides. B. Foster, St. Paul.

Interstate Medical Journal, St. Louis

February

70 *Syphilitic Form of Multiple Sclerosis. W. G. Spiller and A. H. Woods, Philadelphia.
71 A Rare Kidney Case. H. Tuholske and W. M. Robertson, St. Louis.
72 *Recent Experiences in Treatment of Uterine Cancer: With a Review of 41 Cases and 27 Operations. F. J. Taussig, St. Louis.
73 Athletics for Health. G. F. Lydston, Chicago.
74 Value of Conservatism in Pelvic Surgery when Dealing with Pyosalpinx. G. A. Beedle, Kansas City, Mo.
75 Apparatus Used by the Greeks and Romans in the Setting of Fractures and the Reduction of Dislocations (continued). J. S. Milne, Hartlepool, Eng.

70. **Syphilitic Multiple Sclerosis.**—Spiller and Woods discuss the pathologic aspect of the study, and endeavor to show that syphilis may cause sclerotic patches in the central nervous system, resembling the degeneration of multiple sclerosis, without necessarily producing the symptoms of the latter disease. They describe a case in point and formulate the following conclusions: Syphilis in rare instances may produce a symptomatology indistinguishable from that of typical multiple sclerosis, and this without the formation of sclerotic plaques, but by the ordinary lesions of syphilis, viz., arteritis and meningitis. Syphilis may produce sclerotic plaques in the spinal cord resembling those of multiple sclerosis, without producing the typical symptoms of this disease. These plaques have not the sharp definition seen in most cases of typical multiple sclerosis, and yet multiple sclerosis may exist without plaques sharply defined from the normal tissue. The syphilitic form of multiple sclerosis presents round-cell infiltration of the pia and thickening of the blood vessels. Thickened vessels with a small amount of perivascular sclerosis will usually be found in certain regions without the formation of plaques, though plaques may be present at other levels of the cord. In some places, slight neuroglia proliferation without thickened vessels may be detected, resembling in no way true plaque formation, but appearing more in the nature of slight diffuse secondary degeneration. Gumma also may occur in the brain. Secondary degeneration is more common in the syphilitic type, but does occur rarely in multiple sclerosis. Nerve fibers are not always completely degenerated in the syphilitic plaques. Careful and thorough examination will almost always, if not always, make a diagnosis possible between the lesions of syphilis and those of multiple sclerosis, even though they may have a decided superficial resemblance.

72. **Uterine Cancer.**—Taussig reviews forty-one cases with twenty-seven operations. He pays special attention in taking the history, to the following points: First of all, how long an interval elapsed between the onset of the first symptoms and the date of the first consultation? Secondly, how many doctors failed to examine the patients at such consultation? Thirdly, how many have failed to recommend immediate radical operation? He finds that ten out of thirty-two women concerning whom accurate data are at hand can, to a large extent, attribute their death to the neglect or ignorance of the attending physician, and reports by contrast one case which, owing to prompt examination of the physician, the performance of radical panhysterectomy while the disease was still in a superficial state, is likely to lead to cure. He summarizes his remarks as follows:

> The blame for the late recognition of uterine cancer rests mostly on the woman herself. In about 90 per cent. of the cases she did not at once consult a physician. In about one-third of the cases the carelessness and ignorance of the physician was partly or wholly responsible for the delay.
>
> Only about 20 per cent. of his cases were operable.
>
> The cystoscope is a valuable aid in determining the question of operability.
>
> The radical panhysterectomy of Wertheim is the best operation for cervical cancer, except in fat women.
>
> Ureteral fistula due to necrosis will usually heal spontaneously.
>
> Postoperative cystitis can usually be prevented by getting patients up early.
>
> Of palliative methods the best, as tested in fourteen cases, is the acetone treatment after excochleation.
>
> Ureteral compression in the late stages sometimes necessitates operative relief.
>
> Death occurs on an average about one year and seven months after the onset of first symptoms.
>
> The autopsies show the most frequent cause of death to be uremia due to ureteral compression.

Texas State Journal of Medicine, Fort Worth

February

76 Causes of Biliary Obstruction. J. E. Thompson, Galveston.
77 Hysteria—An Inquiry into Its True Nature. M. Holliday, Austin.
78 Radical Operation for Inguinal Hernia. E. J. Hamilton, Houston.
79 Puerperal Infection. J. H. McCracken, Mineral Wells.
80 Bier's Hyperemic Treatment of Wounds and Acute Infections. S. E. Hudson, Austin.
81 Prognostic Value of the Blood Count. C. M. Siever, Alvord.
82 Differential Diagnosis in Malingery. J. S. Turner, Fort Worth.

Montreal Medical Journal

February

83 Ulceration of the Cornea. S. H. McKee, Montreal.
84 Pyelonephritis as a Complication of Pregnancy and the Puerperal Period. D. J. Evans, Montreal.
85 Tumor of the Temporosphenoidal Lobe and "Dreamy States." C. K. Russell, Montreal.
86 Paralysis of the Left Recurrent Laryngeal Nerve in Mitral-Valve Disease. W. Osler, Oxford, Eng.
87 Pulmonary Gangrene and Abscess. G. E. Armstrong, Montreal.

Journal Missouri State Medical Association, St. Louis

January

88 *Lupus Erythematosus. J. P. Kanoky, Kansas City.
89 *Danger of Permitting Warts and Moles to Grow Lest They Become Malignant. E. A. Babler, St. Louis.
90 Ways and Means to Overcome the Practice of Prescribing Ready-Made Remedies and Proprietaries. L. E. Sayre, Kansas City, Kans.
91 Conservatism in Medicine. W. L. Brosius, Gallatin.
92 Appendicitis. W. S. Shirk, Kansas City.
93 Primary Cholecystitis from Typhoid Infection. J. D. Brummall, Salisbury.
94 Report of Seven Cases of Vaginal Cesarean Section. J. G. Sheldon, Kansas City.
95 Accidental Vaccination Ophthalmia. A. E. Derwent, Clinton.
96 Echinacea Angustifolia. J. W. Clark, Cartersville.

88. **Lupus Erythematosus.**—Kanoky says that the iodin-quinin or iodin salicin method of treatment, while not infallible, gives excellent results, in a considerable percentage of cases of lupus erythematosus, especially if employed early in the disease. In those cases where the pathologic condition has been present for many years, these agents will often times have to be supplemented by more vigorous measures, he suggests the following as cleanly, efficient, cheap and easily obtained:

R.	gm. or c.c.	
Acidi salicylici	40	ʒx
Acidi pyrogallici	40	or ʒiiss
Collodii	100	℥iii

M. et sig.: Shake and apply at night with a camel's hair brush.

89. **Warts and Moles.**—Babler reports 25 cases of warts and moles, the history of which he considers warrants the following conclusions:

1. Warts and moles, especially when situated in exposed parts of the body or when subjected to frequent irritation, should be excised as soon as possible, lest they become malignant and destroy the life of the individual.
2. Just as soon as a wart or mole begins rapidly to increase in size, it is almost always already a malignant growth.
3. The secret of success lies in the excision of the blemish before malignant changes manifest themselves.
4. When a wart or mole shows evidence of malignant change, the only hope of success in the treatment lies in excision of all the diseased tissues. "Recnrrence" signifies failure to remove the whole of the diseased tissues at the primary operation.

Denver Medical Times and Utah Medical Journal

February

97 The Malingerer. R. G. Walker, Denver, Colo.
98 Treatment of Birth Marks with Carbon Dioxid Snow. F. E. Waxham, Denver.
99 Anesthesia. E. Stuver, Fort Collins, Colo.
100 Obstetric Monstrosities. W. R. Calderwood, Salt Lake City, Utah.
101 Tick or Rocky Mountain Spotted Fever. R. A. Pearse, Brigham City, Utah.

Colorado Medicine, Denver

February

102 Plea for Ethical Prescribing. C. M. Ford, Denver.
103 Present Status of Serotherapy. E. A. Whitmore, Leadville.
104 Acute Articular Rheumatism. W. W. Wilkinson, Silverton.
105 Earache and Its Consequences. J. A. Patterson, Colorado Springs.
106 Should We All be Specialists? W. A. Kickland, Fort Collins.

Medical Herald, St. Joseph, Mo.

February

107 *Mechanical Factors in Cold Taking and Their Therapeutic Interpretations. D. C. Hilton, Lincoln, Nebr.
108 Tuberculosis of the Larynx. E. H. Cary, Dallas, Tex.
109 Dacryoblennorrhea and Dacryocystitis with Special Reference to Nomeuclature and Recent Developments in the Treatment of Lachrymal Sac Diseases. L. Haynes Buxton, Oklahoma City.
110 Treatment of Lobar Pneumonia in Children L. C. Davis, South Milwaukee, Wis.
111 The Opsonic-Index Theory in Relation to Infective Processes. W. H. Birchmore, Brooklyn, N. Y.

107. **Taking Cold.**—Hilton discusses the anatomic peculiarities of the nasal cavity, and says that their pathologic importance in relation to taking cold is that of obstruction to drainage and less frequently to aëration. The conception of the nasal apparatus as a passage—duct, tube—is extremely inadequate if not erroneous. This misconception of nasal morphology goes hand in hand with a mistaken notion of nasal physiology, namely, that the functions of the nasal apparatus are quantitative aëration and olfaction. The term nasal passages should be limited to the anterior and posterior nares, i. e., to the distal and proximal communications of the nasal cavities. The idea that this elaborate mechanism is merely an air passage partly subserving for olfaction leads to misapplied or abortive therapeutics. Cold-taking, from a mechanical point of view, is merely an incident in the history of a poorly drained nasal apparatus. He discusses the various measures for re-establishing drainage, and insists that mere topical applications, sprays, etc., are simply palliative, and should be restricted to that end. The permanent re-establishment of adequate drainage includes (1) chemical cautery; (2) actual cautery and galvanocautery; (3) electrolysis (submucous, unipolar and bipolar); (4) incisions, resections, exsections; (5) écrasement; (6) torsion; (7) dilatation—splints, tents, instruments, dilators, etc.

Ohio State Medical Journal, Columbus

February

112 *Present Status of the Radical Mastoid Operation for the Cure of Chrouic Purulent Otitis Media. W. C. Phillips, New York.
113 Plea for Enforced Examination of Backward School Children and for Treatment of Remedial Conditions. C. A. Hough, Lebanon.
114 Seminal Vesiculitis versus Appendicitis. T. G. Youmans, Columbus.
115 Oidio-Mycosis, with Reference to Dermatitis Coccidioides. A Ravogli, Cincinnati.
116 Normal Labor. W. H. Woodworth, Delaware.
117 Non-Operative Treatment of Squint. C. Lukens, Toledo.
118 Operative Treatment of Squint. C. F. Clark, Columbus.

112. Published in the *Medical Record*, Oct. 10, 1908.

Vermont Medical Monthly, Burlington

February

119 *Surgical Aspect of Inflammation of the Biliary Tract, Whether Accompanied or not by Gallstone. H. C. Tinkham, Burlington, Vt.
120 Value of a Urinary Analysis of the Mixed Urine in Diseases of the Urinary Tract. W. W. Townsend, Rutland, Vt.
121 Differential Diagnosis of Cerebral Hemorrhage and Cerebral Embolism. G. S. Bidwell, Waterbury, Vt.

119. **Inflammation of the Biliary Tract.**—Tinkham thinks that even yet the importance of surgical intervention in inflammatory diseases of the biliary tract, save when the existence of biliary calculus is reasonably certain, is not sufficiently recognized by general practitioners. He reviews the anatomy and physiology of the region, describes the course of infection from the intestinal canal, and discusses the morbid conditions thus arising. He concludes that diseases of the biliary tract are the results of infection, which, in a very large majority of cases, comes from the intestinal canal. All medical treatment directed either to the relief of the inflammatory condition or to the removal of organic results of inflammation has been most diappointing, and we must look to surgical treatment for the relief of this condition. Early surgical intervention is indicated. The mortality of early operations is very much less, the permanence of the cure is greater, and the danger of serious sequelæ is minimized. The danger to the patient is greater in delaying operation in cholecystitis or cholelithiasis than the danger of an early operation.

Iowa Medical Journal, Des Moines

January

122 *Tuberculosis in Cattle and Swine in the State of Iowa. J. W. Kimè, Fort Dodge.
123 Our Profession Needs to Revolutionize Its Business Methods. W. L. Allen, Davenport.

February

124 Conservative Treatment of Chronic Suppurative Otitis Media. H. B. Gratiot, Dubuque.
125 Value of Operative Measures in Chronic Purulent Otitis Media. F. E. V. Shore, Des Moines.
126 *An Unusual Case of Mastoid Abscess. W. J. Bussey, Sioux City.
127 Respiratory Obstruction in Children. A. W. Elmer, Davenport.
128 Asthma in Relation to Nasal and Accessory Sinus Conditions. E. R. Lewis, Dubuque.

129 Foreign Body in the Larynx Causing Death. A. R. Schier, Glenwood.
130 Plea for More Careful Postmortem Werk in Iowa. Autopsies as They are Conducted in Iowa Today. H. J. H. Hoeve, Des Moines.
131 Attitude of the Medical Practitioner Toward the Empiric. W. B. Kirby, Marshalltown.

122. **Bovine and Swine Tuberculosis in Iowa.**—Kime discusses the prevalence, extent, and financial aspects of this subject. He describes the mode of transmission, discusses the identity of bovine and human tuberculosis, admitting the transmissibility of tuberculosis from cow to man, claims the saving of 7,000 infant lives, as a result of the cleaning up of herds during the past eight years, and discusses the method of dealing with the disease. He suggests state legislation prohibiting the sale of milk or cream in Iowa, except from healthy cows. He is opposed to all talk of compensation, for this will stop everything, not a wheel will turn till the money is in sight. We cannot compensate for a part of the animals and not for all of them, or those not compensated will naturally and properly object. It is impossible to talk of paying for the million dollars' worth of diseased cattle in Iowa.

126. **Mastoid Abscess.**—Bussey collects from the literature 13 cases of mastoid abscess of very irregular symptomatology, and adds thereto a case of his own, showing the following remarkable points:

1. The absence of well-marked and definite pain in the ear or in the region of the mastoid.
2. No history of discharge from the ear.
3. The drainage of the pus through the Eustachian tube, without perforation of the tympanic membrane and the normal appearance of the latter.
4. The absence of tenderness over the antrum or mastoid.
5. The unusual point at which the pus made its appearance under the periosteum.

Chicago Medical Recorder

February

132 New Flap in the Radical Operation on the Accessory Sinuses. C. M. Robertson, Chicago.
133 *Acute Traumatic Tetanus Treated by Magnesium Sulphate. A. P. Heineck, Chicago.
134 Twenty Cases of Staphylococcus Infection Treated with Killed Staphylococci. A. C. Soper, Chicago.
135 *Present Status of the Leprosy Problem in Hawaii. W. R. Brinckerhoff, Hawaii.
136 *Some Laws of Heredity. W. E. Castle, New Haven, Conn.
137 Studies of Inheritance in the Evening Primrose. R. R. Gates, Chicago.

133. Published in *Surgery, Gynecology and Obstetrics*, January, 1909.

135. This article was discussed editorially in The Journal, Jan. 23, 1909.

136. **Heredity.**—Castle sums up his conclusions by saying that in all forms of inheritance alike, each parent makes, as regards every separately heritable character, a unit contribution to the offspring. Consequently the offspring are as regards every character, two-fold, or dual organisms. When the offspring in turn reproduce, they transmit the conditions which they received from their parents; they transmit those conditions separately in alternative inheritance, blended in blending inheritance, and partially blended in other forms of inheritance.

Dominion Medical Monthly, Toronto

February

138 Calculus of Ureter Removed *per Vaginum*. W. McKeown, Toronto.
139 Vaccination. G. Elliot, Toronto.

Alabama Medical Journal, Birmingham

February

140 *Herniotomy Without Buried Sutures. E. M. Prince, Birmingham.
141 Dacryocystitis. S. L. Ledbetter, Birmingham, Ala.
142 General and Dietetic Treatment of Diabetes. J. A. Moore, Birmingham.
143 Case of Erysipelas with Many Complications which Resulted Fatally. Z. B. Chamblee, Birmingham.

140. **Herniotomy.**—Prince presents an operation suggested to him by the constant anticipation of suppuration in the wound from buried suture material. What is claimed as a novel point is the manner of placing the sutures and the utilization of the fascia. An incision an inch and a half is made above Poupart's ligament down to the fascia of the external oblique. The external ring is located and an incision through the external oblique is made on a grooved director passed into the external ring, so that the reflected portion of the external oblique above Poupart's ligament will be sufficient to cover the cord. The sac is dealt with in the usual way. The fascia of the external oblique is then dissected up from the internal oblique until its edge can be easily brought down to the edge of the internal oblique and transversalis muscles. Both ends of a suture of strong silkworm gut are threaded in a needle. Each needle is passed through the transversalis and internal oblique muscles, both emerging through fascia of the external oblique. Both needles are now passed under the cord. One needle is passed below, the other above Poupart's ligament to the skin surface. These sutures are then tied over a piece of rubber tubing or a roll of gauze, which brings the two muscles and fascia of the external oblique in contact with Poupart's ligament. This transplants the cord on top of the fascia of the external oblique.

A slit is then made in the fascia of the external oblique to receive the reflected portion of fascia, which is turned back to expose Poupart's ligament. This reflected portion of external oblique fascia is then pulled into the slit, and acts as a covering of the cord. When these sutures are tied the wound is completely closed. They may be made to come out above the wound and tied over a roll of gauze, like the deep sutures, and the wound is then closed by a sub-cuticular stitch.

After completion we have over the weak spot, or what was the hernial opening, skin, subcutaneous fat, fascia of external oblique, cord, fascia of external oblique again, internal oblique and transversalis muscles and peritoneum. We have no buried sutures from which to fear infection, and there is a stronger abdominal wall than normal. The stitches are usually left in for twelve days.

Long Island Medical Journal, Brooklyn

February

144 *Importance of the *X*-Ray in the Treatment of Fractures. J. P. Warbasse, Brooklyn.
145 Treatment of Congenital Talipes Equinovarus. J. C. Rushmore, Brooklyn.
146 Occlusion of the Mesenteric Vessels. E. A. Parker, Brooklyn.
147 Surgery of the Bile Passages with Special Reference to the End Results. J. C. Munro.

144. A similar article by this author appeared in The Journal, March 13, 1909, p. 857.

St. Louis Medical Review

February

148 *Carbolic-Acid Gangrene. W. E. Leighton, St. Louis.
149 Gonorrheal Paraurethritis Causing Frequent Autoinfection. J. L. Boehm, St. Louis.
150 Frequency of Abortion. F. J. Taussig, St. Louis.
151 Hypertrophic Spinal Arthritis. A. O'Reilly, St. Louis.

148. **Carbolic-Acid Gangrene.**—Leighton condemns the sale of carbolic acid to the public, warns the physicians who use carbolic acid in the form of moist compresses that unpleasant results not unfrequently follow its use, and suggests a new factor, possibly two, in the production of carbolic-acid gangrene of the fingers and toes. He cites four cases of carbolic-acid gangrene and presents the two following factors as hitherto unrecognized ones:

1. The mechanical constriction to the circulation due to the contracted and hardened skin, which acts like a tight bandage applied to the part.

2. The possibility of a sclerotic artery, which is not uncommon in the young, playing a part in some of these cases, as it undoubtedly did in the case which he describes.

American Journal of Surgery, New York

February

153 Movable Kidney. E. L. Bell, Plymouth, N. H.
154 Pulmonary Embolism After Injections of Mercury—Salicylate Suspensions. W. S. Gottheil, New York.
155 Borderline Cases in Medicine and Surgery. C. C. Allison, Omaha, Neb.

156 Modified Operation for Ingrowing Toenail. A. M. Lesser, New York.
157 Acute Mastoiditis, Complicated by Sigmoid Sinus Thrombosis, Extradural Abscess, Encephalitis and Meningitis—Operation—Recovery. S. Oppenheimer, New York.
158 Submucous Resection of Nasal Septum; Need of More Conservatism in Selection of Cases. Technic of Operation. G. H. Cocks, New York.
159 Two Atypical Cases of Sinus Thrombosis. S. J. Kopetzky, New York.
160 Diagnosis of Extrauterine Pregnancy, and Report of Case of Primary Ovarian Pregnancy. J. A. MacLeod, Buffalo, N. Y.
161 Excision of the Elbow Joint: Report of Two Cases. G. F. Shields, New York.
162 Case of Extensive Chest Injury—Plastic Operation—Recovery. W. H. Axtell, Bellingham, Wash.

Archives of Pediatrics, New York

February

163 Fresh Air in Treatment of Disease. E. E. Graham, Philadelphia.
164 *Idem. W. P. Northrup, New York.
165 Restoration of Extreme Scoliosis to Perfect Symmetry. W. G. Elmer, Philadelphia.
166 Scarlet Fever Carriers. C. Herman, New York.
167 Scarlet Fever with Complications, Associated with Chicken pox and Whooping Cough. H. M. McClanahan, Omaha, Neb.
168 *Scarlet Fever From a Wound in the Foot. F. Van der Bogert, Schenectady, N. Y.

164. Abstracted in THE JOURNAL, July 11, 1908, p. 157.

168. **Scarlet Fever from Wound.**—Van der Bogert reports the case of a boy, 5 years old, who injured his foot on July 2, by stepping on a rusty nail. The wound apparently healed quickly, and in two weeks the child was running about in bare feet. On July 18, he was seen by Van der Bogert, who found the wound inflamed, with a scarlet areola and lines running from it, and an enlarged inguinal gland. By July 20 "a typical scarlet fever rash had developed, together with the strawberry tongue with a thick white coat at center, congested tonsils, swollen and streaked with a yellowish and brown membrane, a culture from which showed no diphtheria bacilli." On July 21, the urine was albuminous, and examination of the throat caused bleeding, followed by epistaxis. Examination of pus from the foot on July 23, showed a pure culture of streptococci, which were also present in a throat culture next day. On July 25 a younger sister developed scarlet fever, desquamation following. This, the author considers, clinches the diagnosis. His view is that the virus entered the body at the point of injury between the date of the child running about barefoot and his being first seen by the author, that is between July 16 and 18. This would give the incubation period, to the appearance of the rash on July 20, of from two to four days.

Illinois Medical Journal, Springfield

February

169 *Effects of Vaccine Therapy in Joint Tuberculosis. E. H. Ochsner, Chicago.
170 *Motility of the Stomach, a Valuable Factor in Diagnosis of Gallstone Diseases. M. R. Barker, Chicago.
171 Papillary Ovarian Cysts. G. W. Green, Chicago.
172 Hyperplastic Ulcerative Colitis. C. Beck, Chicago.
173 *Treatment of Pneumonia. G. K. Eyster, Rock Island.
174 Left Nephrectomy for Hypernephroma. V. J. Baccus, Chicago.

169. **Joint Tuberculosis.**—Ochsner discusses the effects of vaccine therapy in joint tuberculosis and is convinced that, when properly employed, vaccine has a threefold effect. First it reduces the mortality; second, it hastens convalescence: and third, it improves the ultimate functional result.

170. **Gallstone Diseases.**—Parker has found the following a safe rule by which to be guided: In diseased conditions the symptomatology of which is referred to the stomach, in which the motility of the stomach is normal, and a neurotic tendency can be excluded, we may reject a diagnosis of an intrinsic gastric lesion, and conclude that a pathologic condition exists in some organ more or less remote from the stomach, of which the apparent gastric lesion is only a reflection. If pain is one of the prominent symptoms, especially if it has no relation to the time of the ingestion of food, we should be very suspicious of a gall-bladder or gall-duct lesion due to gallstones. While the motility of the stomach is a valuable factor in the diagnosis of this form of gallstone diseases, it is by no means the only factor. Its only service is its determining influence as to whether or not the lesion or condition is intrinsic or extrinsic to the stomach.

173. **Pneumonia.**—Eyster discusses the hygienic and dietetic treatment of pneumonia. Absolute rest is demanded, the patient should not be raised for food or medicine, and the bedpan should be used from the start. Sponging, etc., should not be carried to the point of annoyance, though its occasional use is agreeable to quiet nervous symptoms and to aid elimination. Water should be drunk freely; an enema of normal saline solution will help the kidneys to act, and has a beneficial effect on the heart. A thorough evacuation at the outset by broken doses of calomel followed by a saline is necessary, but routine purgation is to be condemned. Digestion is slow and imperfect in pneumonia, so that toxins tend to accumulate. The diet should consist mainly of milk, plain or peptonized. Eyster does not believe topical applications have the slightest influence on the course of uncomplicated pneumonia, though they may relieve the pain of an inflamed pleura when present. He suggests that a cotton jacket covered with oiled silk be applied to the chest as a psychical measure. He disapproves of arterial sedatives, and says that aconite and veratrum may have a fatal effect on the heart. As to the question of stimulants, it is a matter of the individual patient, many individuals requiring none at all, others needing them in certain conditions, especially when there is a feeble dicrotic pulse, a dry tongue and a profound asthenic condition. Strychnin, which is most universally used, should be used only at the crucial moment when a sharp quick attack on impending depression is necessary. Then 1/20 gr. (0.003 gm.), 1/15 gr. (0.004 gm.), or even 1/10 gr. (0.006 gm.) may be given. Caffein and camphor are good and reliable heart stimulants; the former as strong black coffee, the latter hypodermically, in ether or sterile olive oil, in doses of from one to two grains every two or three hours. Cyanosis calls for the same stimulation as the heart conditions. The value of oxygen inhalations is disputed. The author dismisses altogether the list of drugs that have been used as specifics in pneumonia.

Journal of Infectious Diseases, Chicago

February

175 *Epithelial Cell Changes in Measles. J. Ewing, New York.
176 *Numerical Relationship of *Treponema pallidum* to Certain Pathologic Types of Congenital Syphilis. O. T. Schultz, Cleveland, O.
177 *Relation of the Opsonic Index to the Leucopenia and Leucocytosis Following Injections of Heated Bacterial Cultures. J. P. Simonds and L. K. Baldauf, St. Louis.
178 *Oral Administration of Antitoxins. C. T. McClintock and W. King, Detroit.
179 *Mechanism of Opsonic Action. L. Hektoen, Chicago.
180 *Opsonins Distinct from Other Antibodies. L. Hektoen, Chicago.
181 Non-Inheritance of Fluctuating Variations Among Bacteria. C. E. A. Winslow and L. T. Walker, Boston.
182 Life History of a Flagellate in the Alimentary Tract of the Sheep Tick. L. D. Swingle, Lincoln, Neb.

Supplement

183 Historical Study of the Legislation Regarding Public Health in the States of New York and Massachusetts. S. W. Peabody, Chicago.

175. **Measles.**—Ewing establishes as essentials in the cutaneous lesions of measles, first, focal neurosis with the formation of small vesicles; second, isolated necrosis of epithelial cells; third, diffuse perinuclear vacuolation of epidermal cells and of dermal glandular structures; fourth, congestion, edema, swelling and proliferation of epithelial cells and marked increase of large round cells. In the mucous membranes of the pharynx and respiratory tract there is an extensive sub-epithelial infiltration with round cells and also focal necrosis. Koplik's spots probably result from focal processes of this kind. Ewing believes that these lesions suggest the activity of a bacterial microbe, rather than of a protozoal one.

176. **Treponema Pallidum and Syphilis.**—Relying on results of routine examination for *Treponema pallidum* in material from a large number of autopsies on infants, Schultz classifies congenital syphilis into two groups. To the first belong cases showing vascular involvement and marked interstitial changes. In this group the organisms are not numerous and death results partly from the anatomical changes and partly from toxemia. In the second group the changes as such are not characteristic, but the organisms are present in overwhelming

numbers, death being probably due to an acute intoxication. As regards germinal syphilis, Schultz holds that infants with congenital syphilis born during the latter half of pregnancy surely can not be the result of germinal infection.

177. **The Opsonic Index.**—Simonds and Baldauf find that in rabbits injection of heated bacteria is followed in from twenty minutes to four hours by leukopenia which is succeeded after two or three days by a marked leukocytosis, the leukocytosis returning to normal in about four days. The opsonic index shows a fall lasting for two to four days and then a gradual rise, the maximum being reached between the fourth to the eighth days. The greatest leukopenia precedes the greatest fall in the opsonin and the greatest leukocytosis precedes the greatest opsonic rise.

178. **Oral Administration of Antitoxins.**—McClintock and King show that inhibition of digestion permits the absorption of toxins and antitoxins from the stomach. By treating children as follows, the oral introduction of antitoxin has given uniform and satisfactory results: When possible no food for at least four hours before administering serum; one hour before giving the serum a glass of 1 per cent. sodium bicarbonate solution is given; and with the antitoxic serum is given one minim of a fluid extract of opium and from four to ten minims of a saturated solution of salol in chloroform. In nineteen children and hundreds of animals treated along these lines serum sickness did not occur. The authors believe that the oral method may be preferred for prophylaxis because of the ease, the absence of danger, and the small cost. For curative purposes, however, the hypodermic method can not yet be replaced. In animals toxins by the mouth may produce a high immunity by absorption of the toxin promoted by the means mentioned.

179 and 180. **Opsonins.**—Hektoen concludes that the opsonic substances in most normal and immune sera are specific and identical, differing only in quantity; furthermore, that the opsonic theory holds good because opsonification is the function of an independent element in the serum, and not the result of the presence of serum as a whole; finally, that opsonins are distinct from other antibodies, particularly because the curves of the various antibodies in the serum of an animal in the course of immunization do not always run parallel.

West Virginia Medical Journal, Wheeling

February

184 Tuberculosis and the Public. L. N. Harris, Mill Creek, W. Va.
185 General Anesthesia. A. O. Albin, Charlestown, W. Va.
186 Non-Surgical Treatment of Gallstones. C. R. Enslow, Huntington, W. Va.
187 Present Status of Serotherapy. H. R. Johnson, Fairmont, W. Va.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 20

1 John Hunter as a Philosopher. H. Morris.
2 *Importance of Early Diagnosis with a View to Successful Treatment. A. W. M. Robson.
3 *Pathology of Syphilis of the Nervous System in Light of Modern Research. F. W. Mott.
4 Early Diagnosis of Cancer of the Tongue and Results of Operation in Such Cases. H. T. Butlin.
5 Unna's Method of Treating Ulcers of the Leg. G. Pernet.

2. **Early Diagnosis.**—Robson asks: Are there not many cases seen by all of us (but especially by those who are acting as the regular medical advisers to their patients) in which the early symptoms, though definite and pronounced enough to enable a diagnosis to be made, are treated by palliative remedies simply for the relief of symptoms; and only at a later stage, when disabling conditions have developed or dangerous complications have ensued, is the importance of radical treatment insisted on? Much of the blame for procrastination, he says, undoubtedly lies in a reliance on the traditions of the past, when means of making a diagnosis were less exact, when more faith was placed in treatment by drugs, and when operation yielded such results that the physician and the general medical attendant were very properly averse to invoking the aid of surgery, either for purposes of diagnosis or for radical treatment. For fear of alarming the patient we are too apt to reserve the use of our new instruments of precision to the later stage of illness—such measures, for instance, as the sigmoidoscope, the *x*-rays, and a thorough examination of the excreta and of the blood by a skilled pathologist. Robson considers in detail the subject of early diagnosis, with a view to radical intervention in duodenal ulcer, cholelithiasis, carcinoma and simple ulcer of the stomach, ovarian tumor, cancer of the uterus, and the diagnosis of the cause of jaundice.

3. **Syphilis.**—In the Morison lectures, Mott discusses in detail the microbiology of syphilis, and dwells on the great similarity of histologic lesions of the nervous tissues in chronic trypanosome infections—for example, sleeping sickness and dourine—to syphilitic and parasyphilitic lesions. The discovery by Castellani in yaws of a spirochete which he terms *Spirochæta pallidula*, is of importance in showing that a spirillary organism, not quite morphologic with that of syphilis, is probably capable of producing a chronic disease in many of its features not unlike syphilis. He puts forward the following hypothesis to explain the phenomena of a gumma appearing spontaneously in the central nervous system long after the primary sore and apparent cure of the disease:

1. The spirochete, or some modified form of it, has remained latent in the tissues at the seat of the lesion, and for some reason, inherent or otherwise, the resistance of the tissues at that particular spot has become lowered, and the organism has exerted again its specific activity—possibly in some not yet discovered intracellular form.
2. The specific organism has remained latent in some other tissue—for example, the marrow of bone, the spleen or glands—and, escaping into the blood or lymph circulation, has, like a new growth, engendered a metastasis, which has developed and increased, producing a hyperplasia of the fixed tissue cell elements, conjunctival and endothelial.
3. There may be varieties of specific spirochetes, one of which may have an elective affinity for the central nervous system, as we know that the *Trypanosoma gambiense* has. If it is difficult to differentiate this trypanosome from other forms by morphologic appearances how much more difficult would it be to differentiate varieties of *Spirochæta pallida?*
4. The invasion of the body by the spirochetes has altered the blood and lymph biochemically, so that the tissue reactions to all causes which would lead to injury may take on the specific character.

In the second lecture Mott discusses the biochemical changes which occur in the tissues and fluids of the body as a result of the entry and persistence of the syphilitic virus in the body, and describes in detail the serodiagnosis of syphilis by the Wassermann method.

Lancet, London

February 20

6 *John Hunter as a Philosopher. H. Morris.
7 *Purulent Encephalitis. C. E. West.
8 Simple Methods of Diagnosis in Diseases of the Stomach. A. E. Barnes.
9 Case of Ship Beriberi Associated with an Erythematous Eruption. T. K. Monro.
10 Interpelvi-Abdominal Amputation. J. H. Pringle.
11 Historical Instance of the Adams-Stokes Syndrome Due to Heart Block. G. A. Gibson and W. T. Ritchie.
12 Henoch's Purpura and Intussusception. H. Lett.
13 Torsion of Pedicle in Fibromyoma of the Broad Ligament. E. C. Bevers.
14 Thrombosis of the Cavernous Sinus. S. Stephenson.

6. Published also in the *British Medical Journal*, Feb. 20, 1909.

7. **Purulent Encephalitis.**—West points out that in septic infections of the brain, just as in septic infection of cellular tissues, we meet not only with localized and clearly delimited abscess—a condition which, while of grave risk, leaves a fair chance for the patient's recovery if correctly diagnosed and suitably operated on early—but also with conditions of diffuse infection, sometimes with, sometimes without pus, but in which the opening up of pus if present, gives but slight relief and has little or no effect on the fate of the patient. The problem, as in all cases of spreading infection, is to give sufficient drainage to enable the process to be cut short. He describes such a case in a boy of 17 years. In such a case it is virtually impossible to drain such a soft tissue by the use of tubes. The holes are plugged up by the soft surrounding

tissue. Drainage can be effected, however, by removal of the overlying brain as was done in the case reported. The apparently normal cortex was exposed, lying on the outer aspect of the sloughing buried area which it was desired to treat. A large Volkmann's spoon was taken and the brain substance was boldly scooped away until the sloughing tissues were widely exposed and in large part removed. The cavity thus formed, which would at first have held the thicker half of a hen's egg quickly filled up by the flowing in, as it were, of the semi-fluid brain, so that it was soon almost entirely obliterated. The surface which had been brought to the level of the surrounding cortex was, however, now the deeper surface of the original area of brain infection, which was thus freely exposed and enabled to drain. No attempt to remove the tissues on the deep aspect of the original abscess was made, for it was felt that the risk of opening the lateral ventricle was too great. The brain rose to the level of the margin of the opening in the dura mater but did not protrude through it. The newly exposed surface was almost entirely covered by sloughs, and the brain substance removed had been chiefly in the same condition and smelled horribly. So far, no serious symptoms have developed.

Clinical Journal, London

February 17

15 Trophoneuroses and Angioneuroses of the Extremities. T. D. Savill.
16 The Importance of Thorough and Rational Examination of the Urinary Organs. R. P. Rowlands.
17 Surgical Treatment of Tuberculosis of the Epididymis and Testicle. C. G. Cumston.

Medical Press and Circular, London

February 17

18 Meningeal Hemorrhage. H. Chauffard.
19 Treatment of Indigestion in Infants. E. Pritchard.
20 Arrest of Mammary Secretion. A. J. Wallace.
21 Pathogeny, Differentiation and Treatment of Gout. S. A. Arany.

Practitioner, London

February

22 *Relation of Some Constitutional Conditions to Local Lesions, Traumatic and Otherwise. Sir W. H. Bennett.
23 Addison's Disease. W. H. White.
24 *Fact and Fiction, or Prognosis in Cases of Fracture. W. A. Lane.
25 Myxedema. G. Rankin.
26 *Pulmonary Embolism and Thrombosis after Laparotomy. L. A. Bidwell.
27 Orthopedic Surgery. A. H. Tubby.
28 Recent Work on Anesthetics. J. Blumfeld.
29 *Action of Drugs on Diseases Caused by Protozoa. W. E. Dixon.
30 Puerperal Pyemia. Vaccine Treatment. J. T. Hewetson.
31 Adulteration of Food. W. S. Tebb.
32 Paroxysmal Tachycardia Occurring in Mother and Daughter. A. W. Falconer.
33 Injuries to Hand with Relation to Insurance. J. A. Mackenzie.

22. **Constitutional Conditions and Local Lesions.**—Bennett points out that it is with an individual with a constitutional defect much as with a dog with a bad name—no matter how good his subsequent behavior may be, it may be impossible to get rid of the stigma. Frequently the existence of some aberration of constitution is allowed to outweigh the local evidence presented by the disease itself. He quotes a number of instances in support of this view and draws the following conclusions:

> 1. In diagnosis, neither the history of the case nor constitutional taint in the patient should be allowed to override the value of local appearances.
> 2. The results of laboratory investigations carry comparatively little independent weight, unless coupled with a very careful consideration of the clinical conditions.
> 3. Objective manifestations of abnormality, occurring in more than one situation at the same time in a person the subject of a constitutional taint—for example, syphilis or tuberculosis—are not necessarily of the same nature.

24. **Fracture.**—Lane, the advocate of operative measures in fracture, in this article supports his position by a flank attack. He drops the question of the good results of operation which he has already sufficiently enforced, and endeavors to show that the vast majority of statements which have been made as to the satisfactory results of treatment by splints and manipulation are not deserving of serious consideration.

26. **Embolism After Laparotomy.**—Bidwell suggests that, excluding cases of oral sepsis, most of the cases of supposed pleurisy and pneumonia occurring within from one to three weeks after a laporotomy, are probably embolic in origin. In treatment, we should remember the conditions favoring thrombosis, and so give plenty of fluids, and avoid milk, calcium salts, and carbonate of magnesia. Aspirin will usually relieve the pain, but morphin may be necessary, and there is no contraindication to its use; stimulants are indicated, and, if the breathing is seriously embarrassed, oxygen is advisable. The patient should be kept quiet for the first twenty-four hours, but after this he should sit up in bed and be allowed to get up as soon as the pain has passed off, and the temperature has become normal. Bidwell has never seen a fatal thrombosis or embolism occur after one of these mild seizures, so the prognosis, in his opinion, is favorable.

29. **Drugs and Protozoal Diseases.**—Dixon mentions five different drugs, all of which have one action in common: they are all general protoplasmic poisons, and their action is primarily on relatively undifferentiated protoplasm such as the leucocytes of the blood and protozoa. Some of them have a selective toxic effect on one form of protozoon and some on another. Quinin is especially toxic to the malaria organism, mercury to the spirochete of syphilis, and antimony to trypanosomes, while the action of arsenic in pernicious anemia and of salicylates in acute rheumatism suggests that these diseases also may be protozoal in origin.

Archives Générales de Chirurgie, Paris

January, III, No. 1, pp. 1-110

34 *Congenital Dislocation of the Wrist. (Luxation congénitale de l'extrémité inférieure du cubitus.) R. Robinson and F. Jaconlet.

34. **Congenital Dislocation of the Wrist.**—Robinson and Jacoulet present an illustrated historical study of "Madelung's deformity," that shows that there is a certain analogy between congenital dislocation of the wrist and congenital dislocation of the hip joint. In both cases the cavity for the reception of the head of the bone is too shallow. In the case of the hip joint the deformity is not noticed until the child begins to walk. At this time the traction from walking aggravates the deformity. The same occurs with the wrist; the joint is defectively formed, predisposed to backward dislocation, but as long as the joint does not have much strain the deformity is not noticed. A trauma, however, even slight, or the use of the arm as the subjects begin to do regular work, at once aggravates the condition. This radius curve is like genu valgum; in both it is only an exaggeration of a normal condition. Surgical intervention has not much chance to improve the conditions. The best treatment is with massage, electricity, and the use of an orthopedic apparatus to hold the wrist in place and to prevent aggravation of the deformity. This does not cure any more than the various surgical measures that have been proposed, but it relieves the patients and allows them to resume work.

Archives de Médecine des Enfants, Paris

January, XII, No. 1, pp. 1-80

35 *Septicemia in the Course of Cutaneous Affections in Young Children. V. Hutinel and L. Rivet.
36 *Familial Infantile Diabetes. G. Lion and C. Moreau.
37 Progressive Atrophy of the Muscles in Children. A. Moussous and F. Carles.

February, No. 2, pp. 81-160

38 *Diphtheric Conjunctivitis Following Measles. E. Weill and G. Mouriquand.
39 Pathogenesis of Tuberculous Infection. J. Roux and P. Josserand.
40 Inversion of Bladder Forming Hernia Through the Urethra in Child of 2. (Hernie de la vessie.) V. Imerwol.

35. **Septicemia in Course of Cutaneous Affections in Children.**—Hutinel and Rivet refer in particular to septicemia occurring in children in the hospital for treatment of some cutaneous affections, and they comment on its fulminating character. They believe that passages through several children confer special virulent properties on certain germs, while the children may be peculiarly susceptible on account of a tendency to anaphylaxis. They describe nine cases in detail and refer to a number of others in French literature.

The infants affected are generally large and fat, with patches of eczema on the face and around the ears, and with confluent impetigo of the scalp. When brought to the crowded hospital an effort was made to isolate them and nothing was done for the skin trouble except possibly to apply an aseptic compress or cover with oiled silk. But during the night the temperature rose to 104 F. and still higher; and the eczema seemed to fade. Pulse and respiration became rapid and irregular, convulsions followed and death ensued after a few hours of extremely high temperature. A too active treatment of the skin affection can not be incriminated as these serious symptoms developed before anything was done, in most cases generally in less than twenty-four hours. In only two of the cases was the interval as long as six days before the symptoms of septicemia developed. The eczema never subsided completely as the general symptoms developed; the lesions looked a little paler, but they persisted otherwise unmodified. The septicemia continued its fatal course unchecked by attempts to induce revulsion. In three of the cases reported the temperature subsided in cold baths and the infants recovered; in two cases recovery ensued after a series of intestinal disturbances and intense diarrhea. In certain other cases on record suppurative otitis or cutaneous abscesses are mentioned. The children who recovered were between fourteen and twenty-four months old; all under ten months succumbed. None of the theories advanced to explain these "eczema deaths" by metastasis, the status lymphaticus, autointoxication, etc., have a solid basis. The assumption of a "hospital infection" is more plausible.

36. **Familial Infantile Diabetes.**—Lion and Moreau have been able to find records of 43 cases of diabetes in children; in 10 a familial tendency was evident. The disease developed between 8 and 12 in 17 out of the 43 children; the youngest patient was not quite 2. An inherited tendency was evident in 62 per cent. of the 18 cases in which the family history is known. The diabetes terminated fatally in 37 out of the 43 cases in from a few weeks to eight months. The prognosis for the family is grave, as, once installed in a family, the disease menaces all the children, but the cases on record in which one or more children have escaped show that this is possible, and that it occurs in three-fourths of all the cases. Treatment is the same in proportion as for an adult.

38. **Diphtheric Conjunctivitis Following Measles.**—The five cases reported show that there are two types of this affection. The tardy form develops ten, twenty or thirty days after the subsidence of the eruption, involving the cornea and causing perforation in some cases, but with complete restitution in a third of the cases and no fatalities in any instance. Serotherapy does not seem to influence the progress of the lesions. The second form is much more serious; it develops during the eruption or just as it is subsiding, and progresses inexorably to perforation of the cornea and death, unmodified by serotherapy or any other measures.

Presse Médicale, Paris

February 10, XVII, No. 12, pp. 97-104

41 New Streptococcus in the Mouth. (Nouveau streptocoque buccal.) H. Roger.
42 Alopecia of Dental Origin. (Les pelades d'origine dentaire.) Rousseau-Decelle.
43 Trephining and Curetting the Maxillary Sinus through the Nose. G. Mahu.

Revue de Gynécologie et de Chirurgie Abdominale, Paris

XII, No. 6, pp. 947-1152. Last indexed Dec. 5, 1908, p. 2007

44 Tuberculosis of the Uterine Cervix. (Tuberculose du col de l'utérus.) Chaton.
45 Technic of Transverse Hypogastric Incision. L. Gernez and E. Papin.
46 Subphrenic Abscess. A. Catz and L. Kendirdjy. Commenced in No. 3.

Semaine Médicale, Paris

February 17, XXIX, No. 7, pp. 73-84

47 *Nasal Crises in Tabes. M. Klippel and J. Lhermitte.
48 *Treatment of Stenosis of the Larynx by Laryngostomy with Dilatation. G. Ruggi.

47. **Nasal Crises in Tabes.**—Klippel and Lhermitte call attention to the differential and prognostic value of the occasional phenomena in the sphere of the sense of smell and of nasal sensation and secretion which are an instructive symptom of incipient tabes or may accompany the advanced phases indicating involvement of the brain in the tabetic process. They describe a number of typical examples of the various forms of these tabetic nasal crises: The subject may suddenly experience a tickling in the nose followed by the sensation of the smell of fish or rotten eggs, or the spasm may occur without any preliminary sensations, merely the strong odor of rotten eggs, sometimes compelling him to leave the table if eating at the time. In other cases there are the sensations of a peculiar odor and taste in the mouth with excessive flow of saliva or nasal discharge. These nasal crises do not seem to be rare in tabes; but their diagnostic importance hitherto has been generally overlooked. They may occur and be pronounced before there is any sign of ataxia. In some cases the crisis may be accompanied by sneezing or a spasmodic cough suggesting whooping cough, with lachrymation and rhinorrhea, or periods of excessive nasal discharge may be the only element of the nasal crisis. Pathologic anatomy confirms the findings in the clinic by showing the lesions in the apparatus that governs the sense of smell and the secreting function and vasodilatation in the nasal mucosa. The disturbances indicate a process affecting and destroying the olfactory tract and the trigeminal nerve and threatening others in the vicinity, suggesting the possibility of impending mental decay.

48. **Treatment of Stenosis of the Larynx with Laryngostomy and Dilatation.**—Ruggi claims priority for this method and states that he has always cured his patients in from 38 to 63 days and without any tendency to gangrene or other disturbance. He lines the larynx with thin rubber tissue, packing the tube thus formed with gauze, as he describes in detail, reviewing his extensive experience since 1892.

Archiv für Verdauungs-Krankheiten, Berlin

XV, No. 1, pp. 1-158

49 *Diameter of the Digestive Tract. (Zur Kenntnis der Querdurchmesser des Verdauungskanals.) W. Jaworski.
50 Autolysis of Elements of Food. (Autolyse von Nahrungsmitteln.) A. Maier.
51 *An Interesting Gastric Tumor. (Magentumor.) O. J. Wynhausen and J. D. Tjeenk-Willink.
52 *Practical Reliability of Cammidge's Pancreatic Reaction. W. Krienitz.
53 *Phosphaturia and Origin of Phosphate Stones. J. Goldbaum.
54 *Syphilitic Affections of Stomach and Liver. (Syphilitische Erkrankungen des Magens und der Leber.) N. M. Rudnitzki.
55 *Symptoms in Early Stage of Cirrhosis of the Liver. (Zur Semiotik des Frühstadiums der Lebercirrhose.) M. J. Lifschütz.

49. **Diameter of Digestive Passages.**—Jaworski relates experiments to determine the width of the lumen of the digestive passages. In the one person examined, 17 mm. seemed to be the limit. He was a healthy young farm hand with normal digestion, and he swallowed before breakfast a ball made of a mixture of about equal parts of wax and cocoa butter, to which a little charcoal was added. Another was not given until that ball had been refound in the stool. In this way he took balls increasing in size from 10 to 17 mm. and all were passed in turn the second or third day. Then a ball of 18 mm. in diameter was given and this failed to appear but was finally expelled with considerable difficulty in about three weeks. No pains or other disturbances were noticed from the balls in the course of the tests.

51. **An Interesting Gastric Tumor.**—The case related from Amsterdam is cited as unique in some particulars, especially in the amount of papillomatous proliferation, following an almost healed ulcerative process. The case shows that even when a large tumor is palpable in the stomach it is not necessarily malignant, and that prompt excision will ward off any possible tendency to cancerous degeneration later. It further teaches anew that ulcers may develop and run their course in the stomach without any symptoms to attract attention to them. There never had been any spontaneous pain or tenderness on pressure in this case and the patient was unaware of anything wrong until Nature's healing process of proliferation had reached such an excess that it obstructed the pyloric out-

let. The glands had participated in the proliferation to a remarkable extent, but there were no signs of a typical round ulcer.

52. **The Cammidge Reaction.**—Krienitz has applied the Cammidge pancreatic test 250 times, followed by operative intervention in 27 cases. The findings of the test corresponded with the clinical course of the cases in 80 per cent. He is convinced that the test will be found useful by surgeons for determining the condition of the pancreas in affections of the liver and bile ducts, and may supply useful information to internists in regard to diagnosis, prognosis and indications for treatment.

53. **Phosphaturia and Phosphate Stones in the Kidneys.**—Goldbaum confirms the fact that obstinate neurasthenia is always encountered with phosphaturia, and consequently as little as possible should be done to attract the patient's attention to the urinary apparatus. Orlowski, on a basis of 16 cases, regards phosphaturia as almost always a traumatic neurosis. If of bacterial origin, the underlying cause should be removed: surgical affections remedied, systematic irrigation of the bladder practiced in case of catarrh, and dietetic-hygienic treatment instituted for inflammation of the kidney pelvis, with also copious ingestion of fluids. If the urine is very alkaline or contains lime, the diet should be regulated to avoid excess of vegetables—exactly the reverse of the indications with uric-acid stones. The formation of phosphate stones can be prevented only by curing the phosphaturia. In many cases, the cure of the accompanying stomach affection, hyperacidity or excessive production of gastric juice, is followed by the subsidence of the phosphaturia. A change of climate or trip to a health resort may give good results; or carbonic acid may be given well diluted. It is characteristic that the phosphaturic patients apply to the physician for relief from bladder disturbances or nervousness or heart trouble. Sometimes the patient's attention is aroused by the turbid, grayish milky color of the urine. Robin's experience has been that only about one-third speak of stomach trouble. When there is stone colic the pains are generally localized in the neck of the bladder. In the intervals the patients may complain of depression, slight dyspnea, changes in the pulse, disturbances in vision, intercostal neuralgia and neuralgic pains in the shoulder blades, calves and elbows. The appetite is good and no attention is paid to the stomach symptoms as a rule; at most there is mention of a little weakness a few hours after a meal or eructations, constipation or awaking in the night with pain in the stomach region. The patients generally disregard the stomach symptoms on account of the preponderance of others. The physician should always make a thorough examination of the stomach; he will almost always discover that that organ is the source of the trouble and that the phosphaturia is merely a secondary phenomenon. Leucocytes and red corpuscles are generally found in the urine with the phosphates from their irritation of the urinary passages.

54. **Syphilitic Affections of the Stomach and Liver.**—Rudnitzki remarks that although the authorities are now proclaiming that syphilis of the internal organs is far from being so rare as generally assumed, yet this fact has not permeated into general practice. He reports five cases and reviews the literature on the subject. His experience includes between fifteen and twenty cases of the kind, all previously diagnosed and treated as chronic gastric catarrh. His experience has been that chronic gastric catarrh of other origin is exceptional among the poorer classes. He denounces as an absurdity the requirement of the "venereal seal" as indispensable for the diagnosis of syphilis. Much more rational is differentiation on the basis of a number of minor points: a history of still-born children and mortality of the viable; round atrophic scars; periostitis in the legs and base of the skull, possessing a specific resistance which distinguishes them from the lesions of gout and tuberculosis; indurated glands, sometimes only on one side of the body, isolated and indolent; tenderness of the sternoclavicular articulations which seem to have lost their resisting power and yield to pressure (a common means for diagnosing tertiary syphilis in Russia); irregular pupils and irregular reaction to light; asymmetrical sensitiveness to pain on the two sides of the body—these last symptoms suggest a specific endarteritis of the vessels in the brain. Another instructive symptom is enlargement and tenderness of the liver for which no other cause is known. The patient may feel better after taking a decoction of sarsaparilla, a popular remedy in Russia. The grouping of these signs may reveal latent syphilis and give the clue to successful treatment. In the syphilitic liver disease treatment may give favorable results in less than a month, but in other cases a year may be required. In his two stomach cases a complete cure was soon realized. In one of the liver cases the serious affection had persisted for thirteen years, under various methods of treatment, but subsided completely in as many days when specific treatment was instituted.

55. **Early Stage of Cirrhosis of the Liver.**—Lifschütz states that during the last few years he has tested the stomach content for occult blood in every case examined, and has made several interesting discoveries. He mentions here only one of the facts thus learned: the constant finding of occult blood in the stomach content and stool in two cases of what proved to be later cirrhosis of the liver. The discovery of occult blood may thus prove a sign of this affection in its earliest, still symptomless stage.

Beiträge zur Geburtshilfe und Gynaekologie

XIII, No. 2, pp. 173-338. Last indexed Aug. 8, 1908, p. 538

56 *Position During Delivery to Facilitate Expulsion. (Lagerung der gebärenden Frau, Lendenbiegsamkeit und austreibende Kraft.) B. S. Schultze.
57 True and Apparent Hermaphroditism. (Wahres und scheinbares Zwittertum.) H. Baver.
58 Retained Relics of Ovum and the So-called Placental Polyps. (Retinierte Eireste und die sogenannten Placentarpolypen.) G. Schickele.
59 Habitual Death of Fetuses. (Zur Frage des habituellen Fruchttodes.) Id.
60 Changes in the Uterus with Age. (Altersveränderungen des Uterus.) Ogata.
61 Peculiar Course of Pelvic Cellulitis. (Seltene Besonderheiten der Pelveocellulitis.) A. Mayer.
62 Weight During Pregnancy. (Die Gewichtsverhältnisse in der Schwangerschaft.) M. Krüger.
63 Gonococci in Blood of New-Born Infant. (Fall von Gonohämie beim Neugeborenen.) A. Hamm.
64 Carcinoma of Body of Uterus in Woman of 23. (Korpuskarzinom bei einer Dreiundzwanzigjährigen.) E. Engelhorn.
65 Finer Structure of Secreting Epithelium of Uterus and Tubes. (Bau des sezernierenden Uterus- und Tubenepithels.) E. Holzbach.
66 *Childbirth in Elderly Primiparæ. (Geburten bei alten Erstgebärenden.) Ida Democh.
67 *Surgical Treatment of New-Born Infants. (Zur chirurgischen Behandlung Neugeborener.) R. Oeri, Jr.

56. **Position During Childbirth.**—Schultze ascribes peculiar advantages to the dorsal decubitus during delivery, as it allows the stretching of the lumbar spine. The expulsive force of the uterus then works along the line of least resistance, which is not the case when the woman lies on her side and the uterus slides out of the direct median line and much of its expulsive action is wasted. Stretching out the lumbar region allows the fundus of the uterus to slide lower down, and reduces the angle of impact between the head and the soft parts, especially against the perineum. The more oblique this angle, the more easily the head slides out. When the head reaches the floor of the pelvis and lodges there, with normal anatomic conditions, its further expulsion can be facilitated by stretching the lumbar spine, bringing the buttocks lower in proportion by introducing a thick cushion under the small of the back, thus raising and stretching the spine. The lumbar segment is capable of much relaxation and stretching, and it is remarkable, he says, how this facilitates delivery, even when the head has been lodged there for several hours and the contractions of the uterus are growing weak. He reports experiments on 33 cadavers which showed the surprising amount of stretching possible in the lumbar region and the yielding of the sacroiliac articulation to make more room. The promontory becomes more prominent, the ilium and sacrum recede from the pubic bone and the soft parts of the perineum are stretched. All this stretching is of course very slight, but may prove of immense advantage when the

lumbar spine is elongated by the cushion, the patient lying on her back.

66. **Childbirth in Elderly Primiparæ.**—Democh reviews 150 cases of childbirth in women of from 27 to 35. and in 40 between 35 and 45. Forceps were applied in 11 per cent. of the total 190 cases. The perineum was lacerated in 18.41 per cent., and in half of the 35 cases of laceration forceps had been used. The age is thus seen to have little influence on the course of delivery, the healthy condition and elasticity of the muscles being the decisive factors.

67. **Surgical Measures on New-Born Infants.**—Oeri reports from von Herff's clinic at Basle three cases of depression of the skull in which serious symptoms demanded prompt intervention. With an instrument resembling a silver corkscrew, he drew up the depressed portion to the level of the rest of the skull. He also gives an illustrated description of a device for vertical extension of the fractured humerus by means of a tripod resting on the crib, pulling the arm upward by extension with weights and pulley. The fracture healed perfectly in his cases in two and three weeks with no impairment of function.

Berliner klinische Wochenschrift

February 1, XLVI, No 5, pp. 189-236

68 Psychic Causes of Mental Disturbances. (Ueber psychische Ursachen geistiger Störungen.) E. Meyer.

69 *Bilateral Optic Nerve Disturbances with Steeple-Shaped Skull. (Ueber doppelseitiges Sehnervenleiden bei Turmschädel.) J. Hirschberg and E. Grunmach.

70 *Combination of Ritgen's Flank Incision with Vaginal Cesarean Section for Contracted Pelvis. (Die Laparo-Kolpohysterotomie eine Kombination der Ritgen'schen Gastro-Elytrotomie und des vaginalen Kaiserschnitts—als neue Therapie des engen Beckens.) A. Dührssen. Id. E. Solms.

71 *Treatment of Pulmonary Tuberculosis with Kuhn's Lung Suction Mask. (Behandlung mit der Kuhn'schen Lungensaugmaske.) F. Gudzent.

72 Iodin Staining of Leucocytes in Dermatologic Affections. (Jodophilie der Leukocyten bei dermatologischen Affektionen.) G. Stümpke.

73 Dosage of Roentgen Rays. (Röntgenstrahlenmessung in der Praxis.) F. Davidsohn.

74 *Artificial Respiration for Adults. (Zur Frage der manuellen künstlichen Atmung Erwachsener.) A. Loewy and G. Meyer.

75 Method for Determining Curative Power of Drugs in Trypanosomiasis. (Eine besondere Methode zur Untersuchung des präventiven und kurativen Wertes der Medikamente bei den Trypanosomiasen.) D. Ottolenghi.

February 8, No. 6, pp. 237-284

76 Treatment of Pellagra with Atoxyl plus Arsenic Trioxid. (Kombinierte Behandlung der Pellagra mittels Atoxyl und arseniger Säure.) V. Babes. A. Vasiliu and N. Gheorghus.

77 *Symptomatology of Tuberculosis of Iliosacral Articulation. A. Stieda.

78 *Acute Serous Meningitis. G. Axhausen.

79 Compressed-Air Illness. (Caissonmyelitis.) Wassermeyer.

80 Psychotherapy and Psychoanalysis. O. Juliusburger.

81 Treatment of Mouth Breathing. (Indikationen, neuere Methoden und Ergebnisse der kiefer-orthopädischen Mundatmungsbehandlung.) A. Peyser and R. Landsberger.

82 Technic of Clinical Microscopy and Microphotography. C. Posner and W. Scheffer.

83 Sympathetic Epididymitis. (Epididymitis sympathica (Porosz) und nicht Epididymitis erotica (Waelsch). M. Porosz.

84 Injuries that Reveal the Instrument with which they were Inflicted. (Geformte Verletzungen.) H. Marx.

69. **Optic Disturbances with Steeple-shaped Skull.**—Hirschberg reports a case of defective vision for which he considers the abnormally narrow and high skull responsible. He has encountered seven such cases, and cites the experience of others, including Meltzer. who has reported twenty cases of congenital blindness with "steeple skull." Grunmach gives the Roentgen findings in some typical cases, calling attention to the peculiar deformities induced by the early craniostenosis, especially the remarkable width of the sella turcica. It is twice as wide as normal in the skiagram shown, and readily explains the tendency to disturbance in the optic nerve. He adds that the optic disturbances accompany oxycephalus, not ordinary brachycephalus.

70. **Improved Vaginal Cesarean Section.**—Dührssen gives an illustrated description of a method of vaginal Cesarean section which he thinks is a great advance over all other technics in treatment of contracted pelvis. It is based on the flank incision proposed by Ritgen in 1820. incising the abdomen in the side, near the bladder. pushing up the peritoneum and extracting the child by vaginal Cesarean section. He suggests the term laparo-colpohysterotomy as best describing the technic, or "Buddha birth," as Buddha is said to have emerged from his mother's right side without causing her pain or anxiety. Dührssen commends this technic as the best adapted for contracted pelvis when the bones interfere with delivery. If the interference is from the soft parts only, vaginal Cesarean section alone is sufficient. The idea is attributed to his assistant. Solms, who reviews the indications, stating that pre-existing infection does not contraindicate this technic to save a living child, as the peritoneum is not opened.

71. **Kuhn's Lung Suction Mask in Pulmonary Tuberculosis.**—Gudzent reports experiences with seven cases, his impressions being favorable, on the whole.

74. **Preferred Technic for Artificial Respiration.**—Loewy and Meyer criticize the Schäfer method for artificial respiration which has recently been advocated by the British authorities as the best and safest. They show that the lungs do not receive as much air by this method, the patient being placed with his face down to facilitate the escape of water from the air passages. This interferes with the free intake of air possible with other technics, and it has the further disadvantage that it is liable to force the stomach content upward and possibly allow some of it to be drawn down into the air passages. They denounce the Schäfer method as far more dangerous than the Silvester-Brosch technic. The latter is contraindicated only when the arms are fractured or there is other severe injury of the upper part of the body.

77. **Tuberculosis of the Iliosacral Articulation.**—Stieda calls attention to the value of Trendelenburg's sign, the sinking down of the pelvis on the sound side as the patient stands on the affected leg and lifts the other foot. The patient instinctively tries to avoid a position likely to induce pain, but there is some pain in the back of the thigh. This sign is also a valuable index of the improvement under treatment. The patient in the case recorded was able to bend the spine toward the affected side without pain, but bending toward the sound side induced considerable pain; in other cases he has found this reversed. A slight trauma is apparent in the history of nearly all such cases. In treatment a walking apparatus would be effectual if it could relieve the involved iliosacral articulation, but this could be accomplished only by having the walking apparatus supported at the chest. Such an apparatus would be too inconvenient and clumsy; consequently this affection does better with rest in bed, or a plaster bed, with general measures. In his first case when the patient stood on the left leg, the side of the lesion, and raised the right leg, the right half of the pelvis sank very low down and there was much pain at the rear of the left thigh. At the same time the spine in the lumbar region curved toward the right. This Trendelenburg sign was not so pronounced in his three other cases. Under rest in bed for a month the conditions were very much improved in all.

78. **Acute Serous Meningitis.**—Axhausen reports in detail the case of a girl of 11 hit by a stone in the left forehead. Apparently the wound healed normally, but headache and fever kept up with some vomiting and stupor. The wound was opened; the dura protruded and a strong jet of fluid followed puncture; while the pia showed a "bullous edema." The temperature and pulse returned to normal at once, but enormous amounts of clear cerebrospinal fluid were discharged from the wound for three or four days. Then the dressings remained dry and at once the temperature ran up very high again with constant convulsions. He opened the wound again, the fluid spurting as before, but without much benefit, and he then trephined again, several inches to the rear of the wound, near the motor region. The puncture gave the same picture here: protruding dura, spurting fluid and "bullous edema" of the pia. The fluid was constantly sterile, and the child made a rapid recovery after this last intervention. These cases of acute serous meningitis following trauma are extremely rare. The retrogression of the serous inflammation may result in the walling in of some pocket of fluid which may be the origin of certain subdural cysts, causing symptoms of compression or merely discovered as autopsy surprises.

Deutsche medizinische Wochenschrift, Berlin

February 11, XXXV, No. 6, pp. 233-280

85 *Determination of Blood Pressure and Its Importance in Practice. (Methoden zur Bestimmung des Blutdrucks beim Lebenden und ihre Bedeutung für die Praxis.) F. Kraus.
86 *Determination of Volume of Heart Beat. (Bestimmung des Herzschlagvolumens.) J. Plesch.
87 Wright's Vaccine Therapy. Strubell.
88 Atoxyl in Syphilis Especially in Local Application. V. Notthafft. Commenced in No. 5.
89 Five Fatal Cases of Intoxication, Suggesting Cholera, from Gases Generated by Ferrosicillum—part of Ship's Cargo. (Funf choleraverdächtige, durch Phosphorwasserstoff verursachte Todesfälle, bei denen choleraähnliche Vibrionen gefunden wurden.) H. Dold and C. Harris (London).

85 and 86. **Measurement of the Blood Pressure.**—Kraus presents arguments to demonstrate the great importance of knowledge of the blood pressure in conditions accompanied by transient or permanent abnormally high or low arterial tension, and states that Plesch has now finally succeeded in devising a technic which, for the first time, allows the determination of the absolute volume of the blood pressure per minute and per heart beat. The technic can be applied to every patient and is not particularly complicated. It is based on the capacity of the blood to bind oxygen, and on the proportion of carbon dioxid in the venous blood of the right ventricle, the latter being determined by the balance of tension with the gas content of a respiration sack which is made to represent, as it were, a magnified alveole. Plesch gives an illustrated description of the simple apparatus, its mode of application and the findings. He says that it solves the question of quantitative measurement of the dynamics of the circulation, of the work of the heart and, above all, of the limits of accommodation of which the heart is capable.

Medizinische Klinik, Berlin

January 31, V, No. 5, pp. 157-198

90 Diagnosis of Suppuration in Nasal Accessory Cavities. (Zur Diagnose der Eiterungen der Nebenhöhlen der Nase.) O. Chiari.
91 Clinical Study of the Electrocardiogram. G. F. Nicolai and A. Simons.
92 Polycythemia and its Pathogenesis (Erythrozytosen.) Luce. Commenced in No. 4.
93 *Electric Trauma. Wedel.
94 Serodiagnosis of Syphilis. (Bewertung der Wassermannschen Reaktion für die Frühdiagnose und die Therapie der Syphilis.) W. Fischer.
95 Cutaneous Tuberculin Reaction in Infants. (Die Pirquetsche Reaktion bei Säuglingen.) G. Kritz.
96 The Cammidge Reaction in Diseases of the Pancreas. B. Maass.
97 Present Status of the Paratyphoid Question. A. Waldmann.

February 7, No. 6, pp. 199-234

98 Idiocy in Children. (Ueber Idiotie im Kindesalter.) R. Neurath.
99 *Indications for Meat Broth in Infant Feeding. (Eine Indikation für Fleischbrühe in der Säuglingsernährung.) W. Stöltzner.
100 *The Weak Point for Athletes. (Ueber eine "schwache Stelle" bei Turnern.) C. Bayer.
101 Vaccine Treatment of Infectious Endocarditis. H. Fette.
102 Paracolon Bacillus Infection. (Zur Frage der Parakolibazillosen.) E. Meinicke and Neuhaus.
103 *Electric Treatment of Furuncle and Epididymitis. (Beitrag zur Verwendung des galvanischen Stromes in der alltäglichen Praxis.) F. Becker.
104 Wright's Method of Macroscopic Agglutination in Capillaries. W. Beyer.

93. **Electric Accidents.**—Wedel states that there were 34 cases of electric accidents in Switzerland during a recent year, 19 with a fatal outcome. One-third of the fatalities occurred with a voltage under 250. He has encountered 2 cases in his own practice; both patients received the shock while stepping on a trolley car, one hand grasping the metal hand rail, one foot still on the ground. He insists on the importance of having such hand rails covered with leather or made of nonconducting material. Both his patients developed severe traumatic neuroses.

99. **Meat Broth in Infant Feeding.**—Stoeltzner has found that when infants are suffering from the effects of farinaceous food they begin to thrive at once when given a mixture of milk and meat broth, even when breast milk does not seem to benefit. He describes his experience with fourteen cases of this farinaceous atrophy. The children were about five months old and bottle-fed. The broth was made as usual of beef or veal with salt but no sugar. The results were so good that he commends the mixture for this class of cases. Feeding the broth even for a few days was sufficient in some cases to tide the children past the danger point and cure the diarrhea which had been previously incessant for weeks or months.

100. **The "Weak Point" in Athletes.**—Bayer reports two cases of professional athletes with a sarcoma in the retroperitoneal lymph glands around the duodenum or thrombosis of the mesentery of the upper loop of the small intestine. This region of the pancreas, pylorus, duodenum, upper loop of the ileum, or portal region of the liver is peculiarly exposed to repeated trauma in athletic work. The parts are firmly fixed and can not yield like the parts below.

103. **Electric Treatment of Furuncles and Epididymitis.**—Becker describes experiences which show the superior advantages of electrolytic treatment of furuncles at any stage, the puncture hole being made large enough for the pus and detritus to escape. The pain is so slight and the other advantages so obvious that patients prefer this method to all others; it is unnecessary with this technic to wait for the boil to ripen. His success in gonorrheal epididymitis with galvanization has been remarkably favorable. In two days the patients are relieved of pain and able to go to work and the whole process is cured in from five to eight days. This is accomplished with weak currents, such as any small portable apparatus can supply, without necessity for the patient staying in bed.

Münchener medizinische Wochenschrift

February 9, LVI, No. 6, pp. 265-320

105 *Influence of Castration and Hysterectomy on the Health of the Women Later. (Einfluss der Kastration and der Hysterektomie auf das spätere Befinden der operierten Frauen.) Pankow.
106 Protecting Processes in Abdominal Cavity and Functional Treatment after Laparotomies. (Schutzarbeit im Bauchraume und über die functionelle Behandlung Laparotomierter.) O. Witzel.
107 Allowing Parturients to Get up Early. (Zum Frühaufstehen der Wöchnerinnen.) K. Mayer.
108 Puncture of Brain. (Hirnpunktion.) W. Danielsen.
109 Physiologic Changes in Outline of Stomach. (Die Entfaltung des Magens.) H. Braeuning.
110 Moving Roentgen Pictures of the Internal Organs. (Ueber kinematographisch aufgeñommene Röntgenogramme. Bio-Röntgenographie der inneren Organs des Menschen.) C. Kastle, H. Rieder and J. Rosenthal.
111 Differential Diagnosis of Hernia and Atrophy of the Diaphragm. (Zur Differentialdiagnose der Zwerchfellhernie und des einseitigen idiopathischen Zwerchfellhochstandes infolge von Zwerchfell-Atrophie.) H. Königer.
112 Plasticity of Liver Substance. M. Flesch.
113 Typhoid infection of Fetus. (Ueber fötale Typhusinfektion.) W. Gaehtgens.

105. **Influence of Castration and Hysterectomy on the Health of the Women Later.**—Pankow has made a careful study of 150 cases in which the uterus was removed, comparing the clinical findings before and after the operation with the results of later examination. His research has shown that the symptoms often ascribed to the loss of the uterus or ovaries, had in fact been prominent also before the operation, but they had been overshadowed by other symptoms and often were completely forgotten by the women. After castration, disturbances occur more frequently and are more severe, the younger the women. Young women, however, bear hysterectomy without disturbances later. The disturbances from loss of the uterus are most frequent and severe the nearer to the climacteric age. When one or both ovaries are left, hysterectomy is not followed by menstrual molimina. It is important to make a distinction, however, between women inclined to nervousness, as the disturbances are liable to be much more severe in them, while normal women escape them. He believes that the uterus has an internal secretion.

Wiener klinische Wochenschrift

February 11, XXII, No. 6, pp. 187-220

114 *Measurement of the Blood Pressure. (Einige Methoden der Blutdruckmessung und ihre Resultate.) S. Federn.
115 *Remote Results of Sacral Operation for Rectal Cancer. (Ueber sakral-kokzygeal operierte Mastdarmkrebse und deren Spätresultate.) E. v. Herczel.
116 Pemphigus. E. Eitner and M. Schramek.
117 Importance and Position of Long, Boas-Oppler, Bacillus. A. Rodella.
118 Typical Intercarpal Fracture-Dislocation. E. Fischer.

114. **Measurement of the Blood Pressure, and Its Importance.**—Federn presents arguments to show that the blood pressure varies in the different organs and arteries and is not

uniform throughout, as generally accepted. He shows further that the trauma connected with application of the various sphygmomanometers or tonometers in use causes findings which interfere with correct deductions. The von Basch sphygmomanometer is the only one to date that answers the desired purpose with approximate precision, and he does not hesitate to declare that if physicians at large will master and apply the principle of this instrument in measurement of the blood pressure a new era will dawn as fruitful in results as that of the introduction of percussion and auscultation. The best test of the value of a method is the improvement in the patient when treatment is based thereon, and this gratifying experience he has had repeated a number of times. Among the facts confirmed by his findings is the unusually high blood pressure in a neuralgic area, also the increase in the blood pressure from peripheral irritation from the intestines. The relief experienced in arteriosclerosis from a purge is not due to the lessened chances for autointoxication, but to the influence of relief from the abnormal circulation in the intestines. The lower blood pressure in influenza is pathognomonic. The blood pressure in the arms may be abnormally high, while in the legs it is abnormally low, or *vice versa.* The blood pressure in the anterior superior intercostal artery is higher than in the radial in normal conditions. This relation is reversed in cardiac insufficiency, for which he has discovered anatomic grounds. The blood pressure in the intercostal artery throws light on conditions in the thoracic aorta. The connecting vessels between the intercostal artery and the aorta become very much dilated after childbirth and while the woman is nursing. In conclusion, he remarks that until the blood pressure in each case is carefully investigated, internal medicine will be merely patchwork, lagging far behind surgery, notwithstanding the Roentgen ray and other diagnostic aids.

115. **Sacral Operations for Rectal Cancer and Results.**—Herczel states that in the 1,087 cases of cancer at the Rochus Hospital at Budapest during the last ten years, the rectum was the seat of the lesion in 39, that is, in 3.6 per cent., thus forming 0.37 per cent. of the total 10,541 autopsies. He describes the technic followed and the remote results. The immediate mortality in the 82 cases in which he operated was 14.6 per cent. He states that 64.7 per cent. of 34 patients are in good health after 5 years.

Zentralblatt für Chirurgie, Leipsic

February 13, XXXVI, No. 7, pp. 209-248

119 Modification of Dahlgren's Forceps. (Eine Modifikation der Dahlgren'schen Zange.) K. Dahlgren.

Zentralblatt für Gynäkologie, Leipsic

February 13, XXX, No. 7, pp. 233-264

120 *Expulsion of the Blood from Lower Part of Body in Obstetrics. (Anwendung der Blutleere der unteren Körperhälfte nach Momburg in der Geburtshilfe.) W. Sigwart.
121 *Serum Treatment of Uterine Hemorrhage. (Behandlung von Gebärmutterblutungen mit Serum.) W. Busse.
122 *Menstruation of Nursing Mothers. (Zur Frage von der Menstruation während des Stillens.) O. Sundin.
123 Extraperitoneal Implantation of Ureter in Bladder with Vesicovaginal Fistulas. (Ueber extraperitoneale Implantation des Ureters in die Blase bei Ureter-Scheidenfisteln.) M. Madlener.
124 Speculum for Suction Treatment in Gynecology. (Vereinfachtes Saugspekulum zur Anwendung der Bier'schen Stauung in der Gynäkologie.) K. Mayer.

120. **Expulsion of the Blood from the Lower Part of the Body in Obstetrical Practice.**—Sigwart has acted on Momburg's suggestion that a constricting belt might be useful in controlling postpartum hemorrhage. In a recent case of hemorrhage persisting after manual removal of the placenta, the uterus failed to contract; as the condition was becoming serious, after about 15 minutes a rubber tube was wound twice around the waist and drawn tight. It is well known that anemia promotes the contractions of the uterus, and this effect followed in a few minutes after application of the constriction and there was no further hemorrhage. The constricting belt was gradually loosened after it had been in place for 15 minutes and was removed without the least sign of untoward effects. The application of Momburg's technic is particularly simple and easy immediately after childbirth, as the intestines are still crowded up into the upper regions of the abdomen. If further experience confirms the certain action and the harmlessness of this method, it is destined to prove an important aid in case of hemorrhage from atony after failure of other measures. Besides the direct hemostasis by compression of the aorta and ovarian arteries, the temporary interruption of the supply of blood rouses the previous atonic uterus to contract.

121. **Serum Treatment of Uterine Hemorrhage.**—Busse has treated by serotherapy 10 patients with uterine hemorrhage resisting previous measures, including curetting. There were no anatomic causes for the hemorrhages and the latter had become so severe that the general health was suffering. He injected 10 c.c. of human serum subcutaneously. The serum was derived from the blood of healthy patients being treated for displacement, under scopolamin-morphin just before spinal anesthesia. In every instance the hemorrhages ceased entirely or became much less severe after one or two days. Menstruation became normal and the patients feel well. He ascribes the hemorrhage in these cases to some general hemorrhagic tendency, probably slight hemophilia. This serum treatment was applied only when local examination was totally negative. There is probably defective production of thrombokinase, and he would prefer animal serum if such proved effectual. It is possible, he states, that this serum treatment might aid in controlling hemorrhage in cases of myoma or tumors in the adnexa.

122. **Menstruation of Nursing Mothers.**—Sundin has had 400 nursing women examined and reports that from 55 to 59 per cent. were menstruating normally while nursing their infants. In more than one-third of the cases menstruation returned in the first two months after the childbirth.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 4, XXX, No. 15, pp. 153-160

125 Importance of Urinary Oxidases for Estimation of Liver Functioning. (Importanza delle ossidasi urinarie nel giudicare delle condizioni funzionali della cellula epatica.) G. Massaro.

February 7, No. 16, pp. 161-176

126 Consequences of Experimentally Induced Lesions in the Extrinsic Innervation of the Stomach. (Consequenze della lesione sperimentale della innervazione estrinseca dello stomaco.) P. Lilla.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

The Theory and Practice of Infant Feeding. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital. Edition 3. Cloth. Pp. 350, with illustrations. Price, $2.25. New York: William Wood & Co., 1909.

A System of Syphilis. In six volumes. Edited by D'Arcy Power, M.B., F.R.C.S., and J. Keogh Murphy, M.D., M.C., F.R.C.S. With an Introduction by Jonathan Hutchinson, F.R.S. Vol. i. Cloth. Pp. 380, with illustrations. Price, $13.50. New York: Oxford University Press, 1908.

List of the Fellows, Members, Extra-licentiates and Licentiates of the Royal College of Physicians of London and of the Holders of the Diploma in Public Health Granted Jointly by the Royal Colleges of Physicians and Surgeons. Paper. Pp. 343.

Lehrbuch der Greisenkrankheiten. Herausgegeben von Prof. Dr. J. Schwalbe, Berlin. Paper. Pp. 914. Price, 26 marks. Stuttgart: Verlag von Ferdinand Enke, 1909.

A System of Diet and Dietetics. Edited by G. A. Sutherland, M.D., F.R.C.P. Cloth. Pp. 893. Price, $10.50. New York: Oxford University Press.

Thirty-fourth Annual Report of the Board of Managers of the Hospital of the University of Pennsylvania, 1908. Paper. Pp. 159.

Helps to Medical Diagnosis. (A card system.) By J. T. Asbury, M.D. Price, $2.50. Wabasha, Minn.: J. T. Asbury, 521 Main St.

Nineteenth Report of the State Board of Health of New Hampshire. Vol xix, 1905-06. Cloth. Pp. 319.

Twentieth Report of the State Board of Health of New Hampshire. Vol. xx, 1907-08. Cloth. Pp. 332.

Nineteenth Annual Report of the Visiting Nurse Association of Chicago, 1908. Paper. Pp. 40.

The University of Liverpool Calendar, 1909. Cloth. Pp. 602

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Original Articles

SIMPLE FRACTURE

SOME POINTS IN ITS DIAGNOSIS AND OPERATIVE TREATMENT *

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I. DIAGNOSIS

The recognition of a complete fracture of a long bone of a limb is usually so easy as to be within the scope of any one who knows that there is a bone in the limb. The injury presents two signs, which are readily recognized and which in the systematic presentation of the means of diagnosis have obtained much prominence and are habitually given as the positive signs of fracture, namely, abnormal mobility and crepitus. The rule is precise: If abnormal mobility and crepitus can be found, a fracture exists. The mind, perhaps unconsciously, is prone to go further and to assume that if abnormal mobility and crepitus can not be found a fracture does not exist. And unfortunately, while in a large proportion of the cases of fracture in which these two signs are found the diagnosis can be readily made without their aid, in most of those in which the diagnosis is difficult or obscure these two signs are absent or are not to be obtained without manipulations which are harmful to the patient. Thus, in fractures of the small bones and of the spongy ends of the long bones, and in one of two parallel and associated bones, and even in fractures of the shaft of a long bone without displacement, both of these signs are frequently unobtainable. The fragments are too small or too deeply placed to be respectively grasped and moved on each other, or the mind remains in doubt whether a recognized mobility is abnormal and at a point of fracture or is normal and within a closely adjoining joint.

In many of these obscure or doubtful cases it is important that the positive or probable existence of a fracture should be promptly recognized, either to avoid further manipulation, and especially those excessive manipulations which may easily be so harmful and to which we are prone to resort when the patient is anesthetized, or in order that proper protection may at once be established against the harm which may result in such varied forms from the lack of support of the fragments or of enforced rest of the adjoining parts.

In many of these cases it is sufficient to establish the probability of the existence of a fracture. We do not need to take counsel of perfection. We do not need to know all the details, and we have the right to seek only for those the knowledge of which can be made useful in our treatment. We can rest on our knowledge of the type of fracture at the part concerned. It is understood that in this I have in mind mainly fractures near joints and possibly involving joints, and not those of portions of the articular end of a bone, in some of which an exceptional displacement of the fragment is a detail which it is important to recognize and correct.

This probability of the existence of a fracture—a probability which in most cases is a practical certainty—can be established by a systematic search for pain—pain on local pressure from without, pain on pressure along the long axis of the bone, and pain when the patient seeks to use the affected bone against opposition and thereby produces a cross-strain.

The search for pain on local pressure is best made with the tip of the finger or the rubber end of a lead pencil. Thus, in a Colles fracture a well-defined line of sensitiveness can be traced along the radial side and across the dorsum of the forearm just above the wrist; in fracture at the base of the neck of the femur, pain is found on pressure behind or in front just inside the great trochanter; in fracture of the surgical neck of the humerus, by pressure in front or on the outer side; in fracture of the external condyle of the humerus, by pressure on the supracondylar ridge, a little above the epicondyle, and in fracture of the shaft of a long bone, by pressure at the corresponding point on the most accessible side. This method is, indeed, our only means, except the *x*-rays, of recognizing fracture of the carpal scaphoid; that is, by point-pressure in the hollow between the extensor tendons of the thumb at the wrist, the "anatomic snuffbox."

A necessary precaution to be taken is carefully to support the limb so that the pressure, even at some distance from the line of fracture, shall not move the fragments on one another. Another obvious precaution, not often required, is to avoid mistaking the sensitiveness of a bruise for that of a fracture.

Pressure against the ends of a bone in the direction of its long axis causes pain when the bone is completely broken across, but may fail to do so when the fracture separates only a portion of the bone, such as a condyle. Thus, pressure upward against the sole of the foot will cause pain when there is a fracture of the shaft of the tibia, but not often in a case of Pott's fracture, and pressure upward at the elbow will cause pain in a fracture of the surgical neck of the humerus, but not always in a fracture of the external condyle. This method is a ready means of recognizing those obscure fractures at the upper end of the humerus in very fat people or when much swelling is present, and in fracture of a metacarpal bone, and in a Colles fracture.

An important exception is fracture of the neck of the femur; in that fracture forcible pressure of the limb upward often fails to cause pain.

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* Read at a meeting of the Medical Society of the State of New York, Albany, Jan. 27, 1909.

A pure example of the third method can be found in fracture of the ulna, the radius remaining unbroken; the patient should be asked to extend the elbow in pressing against a fixed object. Another is to have the patient clench the hand forcibly when the internal epicondyle of the humerus is broken; the flexor muscles, being attached in part to the fragment, tend to displace it and thus cause pain. The same effort will also cause local pain in a Colles fracture by pressing the fragments together, as in the second method.

Other movements, varying with the part broken, such as voluntary abduction of the arm in fracture of a condyle of the humerus, or the attempt to lift the foot from the bed in fracture of the leg, will cause diagnostic local pain in various ways, and one single maneuver, namely, pressure upward against the ball of the foot while the patient resists, will often suffice to exclude in a moment fracture of the thigh, leg and foot. If this causes no pain it can confidently be assumed that no bone of the foot is broken and that the femur and tibia are not broken across. As a ready means of gaining information promptly and of avoiding mistakes this methodical search for pain, with the correlative reduction in the reliance on crepitus and abnormal mobility, seems to me to deserve more general recognition and use than it now has.

II. OPERATIVE TREATMENT

Resort to open operation in the treatment of simple fracture, in order to effect a better adjustment of the fragments and to maintain it by suture or other means of direct fixation, has of late been somewhat increasingly practiced and recommended. This is probably to be deemed rather a part of the general increase of operative procedure which has been so marked in the last two decades than the expression of an actual need in the treatment of fractures. There are so many personal influences constantly furthering resort to operation that there is no danger that the interests of our patients will be neglected on that side, and a word of caution, a suggestion that full and deliberate consideration should be given to the reasons against such interference as well as to those in its favor, may be timely.

The old standard—promptness, safety, efficiency—the injunction that our work should be done *cito, tuto, jucunde*—is still to be met, and met not only actually, but also relatively to the results obtained in other ways.

The reason advanced in favor of the general or extensive adoption of open operation in simple fracture of the shaft of a long bone is that it assures an accurate adjustment of the fragments and its maintenance by sutures, and that in this way causes of failure of union and the drawbacks incident to the frequent permanent displacements left by other methods are avoided.

Against this claim several objections may properly be urged. Accurate adjustment of the fragments is of no great value unless it can be maintained, and its maintenance by suture or other direct fixation is, at the best, uncertain. A suture, at the most, is a protection only against lateral displacement and overriding, not against angular displacement, and only for a short time. The normal rarefying process in the bone, which must precede repair, promptly changes the adjoining ends of the fragments into soft tissue and thus weakens or destroys the grip of the suture, and the fragments again become movable on each other, although, of course, to a less degree, because they are partly supported by the condensed tissues about them.

The more ardently the surgeon tries to obtain a good fixation, moreover, the more closely he adjusts the fragments and the more tightly he ties the suture, by just so much does he add to the probability of a total defeat of his efforts, for he establishes at the fracture conditions of leverage which go far to ensure the immediate breaking of the suture by some one of those slight twists which can not fail to be given to the limb, even during the application of the first dressings of the wound. If the grip of the suture is not slack it will surely break.

The suture, then, must be slack in the beginning, and it becomes more slack, as time passes, by absorption of the bone about it; so that for the prevention of displacements we must still depend, and from the beginning, on external support and practically to the same extent as if the suture had not been employed.

Of other methods of fixation I can not now speak in detail, but practically all of them are open to the same criticism and some of them to others.

So far, then, as maintenance is concerned, support by the suture is illusory, and all that is gained by the operation is the correction of the primary displacement. What is the value of that adjustment? It appears to consist mainly, if not entirely, in the removal of interposed soft parts or small fragments which, if not removed, would delay or prevent reunion or cause persistent deformity. Such removal of possible obstacles to reunion plays a rather large part in the arguments advanced in favor of operation, but the percentage of failure of union, in all cases, is small, probably not more than 1 or 2 per cent., and in the great majority of these the cause is not the interposition of a removable object; it is either an unknown cause or the suppuration that follows an open wound. That the cause may be independent of malposition is shown by the frequency with which pseudarthrosis persists after operation to remove it. Adjustment, consequently, would be preventive in only a minority of the cases in which failure of union would otherwise occur.

The assertion that only by operation can an ideal restoration of form be obtained is one that appeals to the imagination, to the natural desire that our work shall be of the highest class and our results without blemish. But, as has been shown, direct fixation does not ensure such a result, and in the great majority of cases no better reduction can be maintained than could have been effected and maintained without operation. Moreover, most of these moderate departures from the ideal, unsightly as they may appear in a skiagram, cause no functional and little or no cosmetic loss. They consist in some lateral or some angular displacement and usually some overriding which are unrecognizable by others in ordinary intercourse and are the cause of no limitation to the patient. And, especially in the young, many of them grow less as time passes. The alleged gain is not only more sentimental than real, but is also, in fact, unobtainable.

The cases in which gross displacement exists and can not otherwise be corrected would, then, be the only ones in which operation for the purpose of reduction is clearly indicated.

Furthermore, there are certain positive disadvantages after operation which may well be deemed a counterbalance to far weightier advantages than those which are claimed for it.

1. It is, I think, certain that repair is slower after an operation in which the fragments have been tempo-

rarily still further displaced, as has to be done for the placing of a suture. The reason is, I believe, in the additional laceration of the periosteum, the destruction of the periosteal bridge which plays so prompt and important a part in the repair of a fracture, and the stripping back of the periosteum at the edge of the fracture. A delay of one or even several weeks might be of no great price to pay for a material gain, but a similar and far more important disadvantage is found in the suture or pin used to fasten the bones together. That this is in itself sufficient to cause failure of union. I am convinced by many observations. It does so by exaggerating the rarefying osteitis which is a necessary preliminary to reunion and possibly by inhibiting the productive and condensing osteitis which should follow. Thus is created a gap between the fragments, which is occupied by fibrous tissue showing no tendency to change into bone, a gap equivalent in its effects to a loss of substance or to a displacement similar to that which it may have been the object of the operation to correct.

This condition is habitually observed whenever a wire suture has been applied. I have frequently had occasion to cut down on and remove such sutures, and I have always found them lying loose, all the bone originally embraced within the loop having disappeared. Many similar observations have been made with the *x*-rays. This occurrence is constant when metal is used, either as a suture or as a pin, and sometimes the loss is so great as to reduce the ends of the fragments to small, widely separated, conical points. Whether the same result follows the use of silk or silkworm gut for suture I do not know, for I have used these materials only as temporary sutures, when the wound had to remain open, and have removed them after a week or two. In other cases I have always used strong catgut, simple or chromicized, trusting to external support for the later maintenance of apposition.

2. As already mentioned, the manipulations necessary in drilling and suturing the fragments delay reunion, probably by additional injury to the periosteum. But in addition to this the added injury to the soft parts, especially when the bone is not subcutaneous, has two serious drawbacks. It exposes to suppuration to an extent which ample experience has shown to be in excess of that pertaining to other clean operations, and it notably increases the chance of limitation of motion in the neighboring distal joint by cicatricial change in the wounded muscles or by their cicatricial attachment to the callus.

This suppuration is not to be feared as a menace to the life of the patient; it is the expression rather of the bruising of the tissues than of a malignant infection, and can usually be kept in control. Its principal results are the establishment of a sinus leading to the suture or to a bit of necrosed bone and the increase of the cicatricial change in and adhesion of the muscle. The latter is the more harmful the nearer it is to the joint, but it is capable of serious results even when at a distance. I have seen complete stiffness of the knee follow an operation for failure of union after fracture of the femur at the middle, and stiffness of the elbow after an operation for wiring a fracture of the shaft of the humerus, in both of which moderate suppuration occurred.

I can not here elaborate these and other points. I shall only quote in support of some of the statements made some facts from a recent report of 2,700 fractures treated in Körte's hospital service.[1] In four fresh cases wire sutures were used; in two of them suppuration took place. In one of the others, a case of supracondylar fracture of the humerus, the range of motion left in the elbow was only 30 degrees; in a fracture of the femur coaptation was not maintained. In 27 cases (1 per cent.) union failed, and in 10 failure was anticipated after a lapse of three weeks, because of persistent displacement of the fragments. Peltersohn expresses the opinion that very few cases require operation, and says that this opinion is generally held in Germany.

To summarize, then, early operation in simple fracture is to be credited, if successful, with an exact readjustment of the fragments, and this readjustment, if maintained, protects the patient against certain irregularities in the outline of the reünited bone and against such failures of union as might otherwise result from inability to make sufficient reduction. The importance of these advantages is not great; the irregularities of outline are functionally and cosmetically unimportant in the great majority of cases in which proper non-operative treatment has been used, and failure of union in such cases is not only rare, but in the majority of cases in which it occurs is due to general causes and in only a small minority to those local causes which operation can remove.

On the other side of the account is the fact that for the maintenance of this adjustment the surgeon must depend on the usual dressings, whose alleged inadequacy is given as a reason for the operation, or he must use the untrustworthy suture or other mechanical means, and all of these involve the risk of suppuration and delay in or failure of union through causes inherent in themselves. There is also the other fact that the function of the neighboring joint may be diminished or lost through the implication of its muscles in the operation and its repair.

Applying the old criteria of promptness, safety and efficiency, it appears, then, that operation is less prompt in its results and less safe, and more efficient only in a very small number of cases, and should, therefore, be reserved for those cases in which its need is clearly evident—a conclusion which, in the interest of our patients and of our art, I hope may be generally accepted.

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INTERTRANSMISSIBILITY OF BOVINE AND HUMAN TUBERCLE BACILLI

EVIDENCE OFFERED BY CLINICAL ADMINISTRATION OF TUBERCULINS MADE FROM BACILLI OF HUMAN AND BOVINE ORIGIN

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The question of the intertransmissibility of tubercle bacilli of the human and bovine varieties is a purely scientific one and can be settled only by carefully weighing scientific data. It was on this ground that Koch objected to resolutions being passed on this subject at the International Tuberculosis Congress, taking the stand that it was impossible to settle or add anything to a scientific question by passing resolutions.

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[1] Peltersohn: Arch. f. klin. Chir., 1908, lxxxvi, parts 3 and 4.

DIFFERENT VARIETIES OF BACILLI PROBABLY ORIGINALLY FROM ONE SOURCE

If we approach this study with the knowledge which we have derived from observations in other fields, it is not difficult for us to believe that the different varieties of tubercle bacilli originally came from one single source, but that through adaptation, the one to man, another to animals, and a third to birds, they have finally so changed that they now differ in form, method of growth, virulence toward animals and other characteristics. It is not at all improbable that this change has finally become so great that the bacilli of one variety will not grow at all or only with difficulty on soil ideally suited to another variety.

Not only do we note differences between the human, bovine and avian bacilli, but also differences in type of the same variety. Doubtless part at least of the difference that we notice in various cases of tuberculosis may be due to differences in the bacilli which produce the infection in the various individuals.

It is a common observation that fruits and plants grown in different soils differ in flavor and appearance. It is also known that at times there is such variation that plants raised in one kind of soil will grow with difficulty or not at all in other soils. With this almost universal observation in the vegetable kingdom to influence us, it seems to me that we should approach the subject of tubercle bacilli with a feeling that in all probability we have distinct varieties due to long adaptation to distinct soils. If we carry our reasoning still further, we would expect that, while each variety is best suited to its own host, it is possible that it will grow at times in a different and what would be ordinarily an uncongenial soil.

A study of the bacilli from different sources shows that they differ in form, cultural characteristics, staining qualities and in their virulence toward animals.

PRIMARY INTESTINAL TUBERCULOSIS AND INFECTION OF CATTLE WITH HUMAN BACILLI

The solution of the question of intertransmissibility has seemed to hang largely on two points—the experimental production of tuberculosis in cattle by the use of human bacilli and the recovery from human beings, and especially from primary lesions in the intestinal canals of children, of bacilli having bovine characteristics.

Even these two points, when carefully analyzed, do not carry with them as much weight as might be at first thought. In the first place it means nothing to the practical solution of the problem whether human beings are able to infect dairy herds, to find that cattle become tuberculous when fed for a greater or lesser period of time on human sputum containing bacilli. Animals, like human beings, possess a certain resisting power against bacteria. If bacteria are taken into the body in small numbers, the protective substances of the body will destroy them. In doing so the protective bodies are used up; but from the stimulation of the body cells resulting from the action of the poisons liberated from the bacteria which have been destroyed the antibodies will be restored. In order to allow the body to recuperate its protective power, the numbers of bacteria entering the body must not be too great. If they are introduced in too large numbers or if their virulence is too great, instead of stimulating the cells to the production of antibodies, they destroy the cells. If they are not introduced in great amounts, but the infection is continuous, we can conceive of the antibodies being exhausted and the body being overcome because there is no opportunity for its recuperating itself.

Thus, the feeding of animals on human sputum for many days and months, as has been done in some experiments, may result in infection, but this is not a natural infection; it must rather be considered that the resistance of the animals has been overcome. While it shows that human bacilli can be made to produce tuberculosis in animals when the animals are forced to take them into their systems in large quantities for prolonged periods of time, it gives us no evidence whatever that animals are at all likely to become infected under natural exposure to patients suffering from tuberculosis. It is probable that any human being or any member of the bovine species can be overcome and infected with tubercle bacilli of either the human or bovine type if the subjects take the bacilli into their systems in sufficiently large quantities for sufficiently long periods of time. If it were possible to determine the dosage of bacilli necessary to produce infection in animals, a test of greater accuracy would be the injection of this dose in all instances.

The experiments which have been carried out by the various commissions seem to indicate that the human bacillus is not very virulent for cattle, and, in doses which would produce general tuberculosis if the bovine bacillus were used, it causes few if any lesions.

It being impracticable to inoculate human beings with bovine tubercle bacilli we must determine their virulence for human beings in other ways. Since bovine bacilli are most apt to be taken in through milk, and since children are largely milk-users, it has been thought that if bovine bacilli were virulent for human beings they would attack the intestines of children and cause a great deal of primary intestinal tuberculosis. The fact that primary intestinal tuberculosis in children is not a common disease is taken by the followers of Koch to mean that milk is not a frequent source of infection. When we consider the fact, however, that bacilli can penetrate the mucous membrane of the bowel and leave no lesion behind, and that tubercle bacilli inoculated through the eye, genital tract, peritoneum, etc., produce lesions in other parts of the body, notably the lungs, it would seem that we should not place too much reliance on the incidence of intestinal tuberculosis in childhood as a guide to the amount of infection produced by bovine bacilli. Sufficient evidence has certainly been collected during the past few years to make it probable that the intestinal tract affords a common portal of entry of tubercle bacilli of human as well as bovine origin. It is not improbable that many bacilli that are carried into the nasal and oral cavities by inhalation collect on the mucous membranes and are swallowed and either destroyed in the intestinal canal, excreted with the feces or absorbed through the mucous membrane. If these do not cause infection of the intestines and mesenteric glands at times, we can account for the failure only by suggesting the unenlightening hypothesis that the soil is not suitable. Be this as it may, the cultures taken from intestinal and mesenteric gland lesions in childhood showing the morphologic, cultural and inoculation characteristics of bovine bacilli have been sufficient to warrant the belief that a certain portion of these infections are from bovine sources.

EVIDENCE FROM CLINICAL OBSERVATIONS

It seems to me that clinical observations are of value in the solution of these problems. In the first place, tuberculosis manifests itself in many organs, the localization seeming to depend somewhat on the age of the patient. The course of the disease varies, somewhat, in the different locations. If we recognize that tuberculosis can be caused in human beings by bacilli of both human and bovine origin, it seems to me probable that each bacillus will produce its lesions under the conditions which are best suited to it; in fact, this is a well-established principle in bacteriology. No one can explain just why the diphtheria bacillus ordinarily attacks the tonsils, the pneumococcus, the lungs, the meningococcus the meninges, etc. We cover our ignorance by saying that the individual soil furnished by these tissues is suited to them, but just what it is in these tissues which especially fits them for the various micro-organisms we can not even conjecture. Neither can we explain why certain micro-organisms, such as the pyogenic bacteria, under different circumstances and in different tissues, produce lesions of different virulence. The question that we are discussing would be illuminated by a better understanding of these problems.

The differences in the localization and the character of the lesions in tuberculosis in childhood and adult life have been noted for a long time. The bone lesions, glandular enlargements and meningeal involvements are common to children, while pulmonary involvement is not proportionately as frequently found; in adults, on the other hand, pulmonary involvement is the most common variety, although we do find localization in many other organs, such as the larynx, bowels, glands and genitourinary tract, and infrequently in the bones, mesenteric glands and meninges. Must we account for this by the difference between the child and the adult, or must we look elsewhere for the cause? Could not the difference between the risk run by the child and the adult of being infected by both bovine and human bacilli be an important factor?

Spengler, in his study of the characteristics of bovine and human bacilli, has made the important observation that bovine bacilli grow best on culture media when they are surrounded by little oxygen, while human bacilli grow best when surrounded by large quantities of oxygen. From this he reasons that the same conditions obtain in the body; hence bones, glands, meninges and the various organs of the genitourinary tract furnish conditions most suitable for the growth of the bovine bacillus, while the lungs furnish ideal conditions for the human bacillus.

Raw has arrived at conclusions almost identical with those of Spengler in regard to the clinical distribution of those cases which he believes to be probably of human and those probably of bovine origin.

The results of certain experiments in immunizing cattle against bovine bacilli by the use of human cultures which are carried on by the German Imperial Health Board[1] offer a confirmation of Spengler's view that bovine bacilli grow best away from oxygen. Cattle which had been previously immunized against bovine bacilli by the inoculation of living human bacilli showed great resistance to infection when inoculated with bovine bacilli later. The lungs did not show foci of infection, but the meninges, eyes and genitourinary organs did. This might be interpreted as showing that the soil furnished by the meninges, eyes and genitourinary organs (all away from oxygen) is better suited to the bovine bacilli than that of the lungs, and that when the animals have been immunized the bacilli grow best where conditions are most suitable; hence choose these organs.

EVIDENCE DERIVED FROM USE OF BOVINE AND HUMAN TUBERCULINS

For the past three years I have been employing therapeutically tuberculins made from both bovine and human bacilli. My experience shows that their action differs. It is rare that a patient will do equally well on both varieties. Patients with pulmonary and laryngeal affections, as a rule, do best on bovine tuberculin, while lesions of the bones, glands, genitourinary tract, peritoneal cavity (with effusion) and ear do not improve as rapidly under its use and at times seem to be aggravated somewhat by it; on the other hand, pulmonary and laryngeal lesions do not heal so rapidly under human tuberculin as they do under bovine tuberculin, while those of the bones, glands, genitourinary tract, peritoneal cavity and ear do best on the human tuberculin. While all tuberculous lesions may be treated more or less successfully by tuberculins of either variety, yet my experience leads me to conclude that best results are obtained when we have at our command remedies made from both varieties of the bacillus.

Regarding the subject of localization, I do not think that it is possible to draw our lines too tight. For example, when I say that glandular tuberculosis is most likely to be of bovine origin I do not deny that both varieties of bacilli are found in the glands, nor do I doubt that both are capable of producing tuberculosis of these organs, but I do believe that we are justified in concluding that the glandular tissue is suited to the bacillus of bovine origin, and hence that active lesions found here are most apt to be due to the bacillus of bovine type.

When we have gathered together all the facts that have been brought out during the past few years relative to bovine and human tubercle bacilli, I believe that we are warranted in assuming that these bacilli are not only different, but antagonistic, and that infections from the two varieties of bacilli are either not likely to occur in the same individual at the same time, or, if they do, are likely to be infections of low virulence owing to the antagonistic action of the two. That this action is a true antagonism does not seem probable to me, but rather that it is to be explained by the action of the less virulent bacilli from the areas of bovine infection furnishing the stimulation for the cells which calls forth the immunizing response against the more virulent bacilli and toxins of human origin. In infections in cattle the opposite would occur and the less virulent human bacillus would call forth the action of the immunizing machinery against the more virulent bovine bacillus. In support of this view I offer the following observations:

THE ANALOGY OF SMALLPOX AND COWPOX

Cattle are immunized against bovine bacilli by inoculation with human bacilli, and if the inoculations are made sufficiently often it is generally believed that this immunity can be made more or less permanent. In this respect we have an analogy in smallpox and cowpox. Inoculations of human beings with the virus of cowpox immunizes against smallpox, and I am told on good authority that smallpox, although transmitted to cattle with great difficulty, protects them against cowpox. Now might we not go one step further and, reasoning from analogy, suppose that from bovine bacilli a virus may be obtained which will protect human beings from infection with human tubercle bacilli? If we are right in assuming that tuberculous lesions of the bones in early childhood are infections of bovine origin we have observations to warrant an inference that these are examples which point to the probability of these early bovine infections conferring immunity to infections from the human bacillus, for we have all observed that pulmonary tuberculosis does not occur as often as we would expect in patients who have had bone lesions in early life. We are compelled to admit that by the use of milk which contains a few bovine bacilli many children may secure a degree of immunity which protects them against infections from human bacilli; and this may be a factor in reducing the tuberculosis mortality during early years.

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[1] Tuberk. Arb. a. d. k. Gsndhtsamte, No. 7, 1907.

On this point it would be interesting if we knew the experience of Japan. Kitasato has shown us that pulmonary tuberculosis is just as common in Japan as in other countries, although the Japanese are not a milk-using nation, and their native cattle do not suffer from tuberculosis. This experience of Japan has been used as an example to show that tuberculosis is not, as Behring would make us believe, entirely of bovine origin. Now, a careful analysis of these conditions might furnish us with further important evidence, for if it can be shown that tuberculosis is more virulent in Japan, or that it is more virulent in the early years, it might be argued that there is a certain degree of immunity against human tubercle bacilli conferred by bovine bacilli which are ingested with milk and other dairy products. This same immunity can be and doubtless is conferred, though I believe with greater danger (for, the human bacilli being suited to human soil, infection from them is more likely to occur than from bovine bacilli) by children taking in human bacilli in small numbers; for, with our conception of immunity, we must assume that a stimulation of the machinery of immunization always occurs when bacteria are taken into the system, and that when they are taken in in quantities short of what is necessary for infection to result a certain heightening of the patient's resisting power occurs, which results for the time in an increased immunity on the part of the individual.

BOVINE TUBERCULOSIS DANGEROUS

It can not be argued on these grounds that it is useless to take measures against tuberculous cattle and milk, for the numbers of bacilli in these articles of food can not be measured and no guarantee can be given that infection will not occur. In fact, those infections which seem to be probably of bovine origin, such as tuberculosis of the bones, meninges, mesenteric glands and intestines in children, together with infections of the ear and genitourinary tract, make up about one-tenth or one-twelfth of all cases of tuberculosis, and we can not afford to be careless of any conditions which have such frightful morbidity and mortality, even though in some instances in which infection does not occur a certain degree of immunity may be conferred.

BOVINE AND HUMAN TUBERCULOSIS IMMUNIZE AGAINST EACH OTHER

The reason that we may suppose bovine tubercle bacilli are better able than those of the human variety to confer on human beings immunity against infection from human bacilli, is that they have been grown on the culture medium furnished by the cow and consequently are not so well suited to that furnished by human beings; therefore, they are less virulent to human beings and can be taken into the human system in larger quantities without producing infection, and probably in large enough quantities to produce a considerable degree of immunity. The same explanation holds for our ability to immunize cattle with human bacilli.

Clinically we have found that it is best to treat those infections which we believe to be produced by human bacilli with tuberculins made from bovine bacilli and those infections that we believe to be of bovine origin with tuberculins from human bacilli.

I offer the following theoretical suggestions as a possible explanation in support of this observation. The bacilli of bovine and human varieties are originally from one parent stem and very closely allied, yet different. The toxins which they produce differ, yet they are so near to each other that each one is able to stimulate the physiologic machinery of immunization and cause the production of specific antibodies which are, perhaps, active against the entire group of tubercle bacilli. The advantage of treating a given infection by the tuberculin made from the other variety of bacilli is that the toxin introduced into the system is not the same as the one which is already producing the symptoms of the disease, yet is so similar that it stimulates the cells to the production of the proper specific antibodies, thus furnishing protective substances without increasing toxic effects.

My clinical experience with bovine and human tuberculins shows not only that they differ, but also, if I interpret my observations correctly, that certain patients are improved by one and irritated by the other; also that very few patients do equally well on both preparations, and that when the preparation is suited to the case the increase in dosage can be made much more rapidly than with the other preparation. The preparations which I have used most extensively in this test have been P.V. and T.B.V. (Spengler), which are a combination of the endotoxins and the soluble toxins standardized in terms of the solid extract. When the vaccine is properly suited to the case I can often advance from an initial dose of 0.000,0001 mg. to 0.01 or 0.02 mg. of the solid extract in a period of from four to six weeks without the production of any temperature reaction. Coincident with this rapid increase in dosage there is usually a general decrease of symptoms and improvement of the patient.

Occasionally I find a patient with pulmonary tuberculosis in whom under P.V. (bovine vaccine) the sputum and cough will rapidly decline, but when T. B. V. (human vaccine) is given both sputum and cough will increase at once. In several cases in which both pulmonary and glandular involvement were present, I found it difficult to treat the patient because the glands were irritated by the P.V. while the lungs were benefited, and the lungs were irritated by T.B.V. while the glands were greatly benefited by it. In one very instructive case the cough greatly diminished and the sputum dropped from 100 c.c. to 50 c.c. under P.V., but the deep cervical glands became swollen and painful so that a mass as large as the fist presented. I changed the vaccine at once to T.B.V.; and, after the second injection, one of 0.000,0001 mg., and two days later, one of 0.000,001 mg. the pain disappeared and the skin over the gland was wrinkled. Coincident with the improvement in the gland there was a decided increase in cough and expectoration, showing that the pulmonary condition was not so satisfactory. To show that this was not coincident, when the glands had nearly disappeared, I again changed to P.V., when they promptly began to swell and the cough and expectoration just as promptly began to improve. After some time we secured an apparent healing of the gland, after which the patient bore the P.V. without any difficulty and to the greatest benefit of the pulmonary condition. My belief is that this case was one of double infection, consisting of a human infection of the lungs and a bovine infection of the gland. It is also of interest to record that the case was not one of great virulence.

The experience of one vaccine irritating while the other improves the lesion is a very common one with me. I believe that it throws light on the subject of the bovine and human infections. One other especially instructive case was that of a patient with both pulmonary and renal involvement. The patient did splendidly on watery extract (von Ruck), a preparation of human bacilli, but I changed to P.T.O. (Spengler), a bovine vaccine, and 0.000,01 mg. caused a violent reaction with renal colic and hematuria. On returning to the use of watery extract the patient was apparently cured.

CONCLUSIONS

Interpreting laboratory findings, animal experiments, clinical observations and the diagnostic and therapeutic use of tuberculins made from bacilli of both human and bovine varieties, as well as reasoning from the analogy between smallpox and cowpox, I feel that we have some light thrown on the question of intertransmissibility of tubercle bacilli of human and bovine origin that can not be derived from the laboratory and animal experiments alone.

The following points in the discussion of this question seem to be pretty thoroughly established:

1. Human and bovine tubercle bacilli are different, as shown in: (a) morphologic characteristics, (b) cultural characteristics, (c) virulence for animals, (d) staining characteristics (not generally confirmed).
2. Cattle can be immunized against bovine bacilli by inoculation with moderate numbers of human bacilli.
3. The resistance of cattle can be overcome and infection brought about by inoculation of human bacilli in large numbers or in moderate numbers if the inoculations are kept up for a prolonged period of time.
4. Human beings are sometimes infected with bacilli of bovine type.

Reasoning from the data obtained from the diagnostic and therapeutic use of tuberculins made from bacilli of bovine and human types, we conclude that:

1. Bovine and human bacilli are different in that their toxins are different.
2. Judging from the manner in which patients suffering from tuberculosis react toward tuberculins made from human and bovine bacilli, we would conclude that both varieties of bacilli are able to produce tuberculosis in the human body, but that the localization of the two infections is more or less constant. We have found that:

A. Infections of the lungs, larynx and intestines, when complicating tuberculosis of the lungs, are, as a rule, best treated by tuberculins made from bovine bacilli. These infections are most probably produced by bacilli of human origin.

B. Infections of the bones, glands (as a rule), peritoneum (with effusion), ear and genitourinary tract are, as a rule, best treated by tuberculins made from human bacilli. These infections are most probably produced by bacilli of bovine origin.

Reasoning from the analogy furnished by smallpox, the fact that human bacilli will immunize cattle against infection with bovine bacilli would suggest that bovine bacilli might immunize human beings against human bacilli; and, if our belief that tuberculosis of the bones is of bovine origin is true, and our observation that persons suffering from bone lesions rarely suffer from tuberculosis of the lungs is correct, we have clinical evidence which supports the fact that immunity in human beings against human bacilli may be produced by infection with bacilli of the bovine type.

THE INCIDENCE OF TUBERCLE BACILLI IN NEW YORK CITY MILK

WITH A STUDY OF ITS EFFECTS ON A SERIES OF CHILDREN*

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One of the most important questions to-day which confronts those fighting the spread of tuberculosis is: What proportion of infection is human, what proportion bovine in origin? It is not necessary for me to review in this place the various answers that are given this question by sincere and capable workers in the same or different countries. In the United States we find Theobald Smith[1] stating that, in his opinion, not over 1 per cent. of human tuberculosis is of bovine origin, and, on the contrary, others — for example, Ravenel[2]—believing that a considerable percentage of the disease is of this origin. The British Tuberculosis Commission recently reported that "a very considerable amount of disease and loss of life, especially among the young, must be attributed to the consumption of cow's milk containing tubercle bacilli." The opposite view of Professor Koch is known to all. In view of such conflicting statements on a subject of such vital importance, physicians and laymen are, at the present time, undecided whether they should concentrate their energies against the dangers from the tuberculous individual, or whether they must guard against a dual source of infection. Prophylaxis suffers from this indecision.

SCOPE OF THE INVESTIGATION

My work was undertaken with a threefold object: 1, probing one of the elemental phases of this broad question, to ascertain how often milk supplied to a large city, such as New York, contains virulent tubercle bacilli; 2, to study the nature of these bacilli, to learn whether they conformed uniformly to the bovine type as was to be expected considering their source; and, finally, 3, to report on the health of some children who consumed milk containing virulent bacilli.

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* From the Research Laboratory, Board of Health, New York.

* Read at the New York County Medical Society, Nov. 23, 1908.

[1] Smith, Theobald: The Channels of Infection of Tuberculosis, Boston Med. and Surg. Jour., Sept. 26, 1907.

[2] Ravenel: Etiology of Tuberculosis, Am. Jour. Med. Sc., October, 1907.

I realized that the presence of tubercle bacilli in milk did not necessarily furnish an index of the frequency of infection of those who drink such milk. Nevertheless, it shows the frequency of exposure to this infection, so that it is important that we should at the outset have an approximate idea of the incidence of such bacilli in the market milk. I found experiments of this nature surprisingly few in number and conflicting in results. The milk of New York City had never been investigated in this particular, and examinations which had been made elsewhere were, in the main, incomplete or dated back to a period when our milk was obtained under quite different conditions from those which exist at the present time. However, since I began this investigation more than a year ago, a comprehensive report of the tuberculous contamination of the milk supply of the city of Washington has appeared,[3] to which I shall refer in detail. The literature of this subject will be found well abstracted in this publication.

As I have mentioned, the second part of my investigation consisted in isolating in pure culture some of the tubercle bacilli found in the milk, and in differentiating them according to type. This was undertaken in order to learn whether all the cultures would prove to be bovine, or whether possibly we might find human or intermediate varieties. It seemed also desirable that more strains should be isolated from bovine material, in order to judge more certainly of the distinction between the two types of bacilli.

The material was obtained in the following manner: In the tests of raw milk, specimens were gathered only from the large forty-quart cans and not from bottled milk. This was done, partly because the facilities of the health department rendered it simpler, but more especially because more than one-half of the milk sold in New York is not bottled, but constitutes the so-called "loose milk." The fact that unbottled milk forms such a large proportion of the municipal supply is sufficient in itself to warrant its selection as a basis for examination. Furthermore, loose milk and bottled milk are frequently identical, are dispensed by the same dealer and derived from the same dairy. The specimens were collected in the same manner as those brought to the laboratory twice a week for general bacteriologic examination. I used the same sterilized one-ounce bottles with a tight-fitting tin cap. The milk was taken indiscriminately from grocery stores, dairies and large plants in various quarters of the city. Two specimens were dipped out from each can, one for the bacterial count, another for examination for tubercle bacilli. Six to twelve were collected at a time for my purposes, although one hundred were obtained by the inspectors for general examination. In most cases I obtained the milk myself, and my selection was guided merely by an attempt to obtain specimens from dealers who had small children who drank this milk in a raw state. This was done with the object of determining the subsequent health of these children, which study forms the basis of the third part of this paper.

INVESTIGATION OF TUBERCLE BACILLI IN MILK

In the laboratory the specimens were kept in the refrigerator. Before being opened they were thoroughly shaken and then 10 c.c. of milk were removed by means of a sterile pipette and transferred to a small tube, in which it was centrifuged from five to seven minutes. Two smears were made from the surface of the cream which formed a solid layer at the top of the tube. The entire cream layer, which varied in amount, was removed by means of a sterile copper spoon and placed in a Petri dish. The skimmed milk was poured away and disregarded, with the exception of the lowest cubic centimeter, which was poured into another dish. Two smears were made from the dregs in the centrifuge tube.

These two portions of milk, the cream and the lowest cubic centimeter, were drawn into small antitoxin syringes and injected into two guinea-pigs. It was necessary to dilute the cream with a small quantity of salt solution in order to render it fluid. As far as possible unused pigs of medium weight were employed; in many instances, however, I had to use larger pigs which had served as tests for diphtheria antitoxin. In order to make certain that such pigs were not previously tuberculous, autopsies were performed on fifty which had been used in this work. In no instance was any tuberculous infection encountered. In the early tests the inoculations were made into the muscles of the thigh, following the recommendation of Ostertag.[4] Later, however, subcutaneous inoculations into the groin were resorted to, as the disadvantages of the intramuscular method outweighed its advantages. It was found that the deep injections at times gave rise to hematomata at the site of inoculation, that they were sometimes followed by sudden death, and that the inguinal glands enlarge less markedly than when the pigs were inoculated subcutaneously. For each inoculation a different syringe and needle were used. The pigs inoculated on the same day were kept in the same cage. Very few abscesses developed, probably owing to the fact that almost three-quarters of the inoculations were made deep into the muscles: those which did form did not ulcerate through the skin. The animals were examined twice a week. They were not killed after a definite period, but in some instances, in which cultures were not desired, they were allowed to live long after they were known to be tuberculous. In this way we could judge somewhat of the dosage and the virulence of the tubercle bacilli in the milk.

One hundred and twelve specimens of raw milk were tested in the manner described, but as in five instances the animals died within two weeks of inoculation or were lost in other ways, only 107 came under consideration. Table 1 gives a summary of the results. Nineteen specimens were found to contain tubercle bacilli. It was found, however, on tracing all these samples to their source, that two were duplicates, so that we must consider that the positive inoculations numbered only seventeen. Thus the figures resolve into seventeen positive tests out of 107, which means that 16 per cent. of the milk contained tubercle bacilli.

In every one of these seventeen cases, as well as in the two duplicates, tubercle bacilli were found in the guinea-pig at autopsy. The case was looked on as negative unless the bacilli were shown to be present. For example, the autopsy of pig 436, killed three months after inoculation, reads as follows:

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[3] Anderson: U. S. Hyg. Lab. Bull. 41.

[4] Ostertag: Untersuchungen über die klinische und bakteriologische Feststellung der Tuberkulose des Rindes, 1905.

Somewhat emaciated, large bilateral inguinal glands; mesenteric glands hard, size of small marble; slight enlargement of iliac and retroperitoneal glands; spleen three times normal, containing a caseating abscess, and miliary tubercles. Liver showed miliary tubercles, lung negative.

TABLE 1.—DATA OF TUBERCULOUS MILK SPECIMENS.

Date.	Tuberculous Specimens.	Tuberculous Sediment or Cream.	Bacteria per c.c.	Designation of Wholesaler.	Wholesalers Who Sell Similar Milk in Bottles.
10/24	1	*Sediment.	390,000	A	0
11/7	1	Sediment.	4,800,000	B	1
	1	Cream and Sed.	80,000	C	1
11/12	1	Cream.	170,000	W	1
	1	Cream and Sed.	90,000	W	1
11/19	1	Cream and Sed.	80,000	E	1
	1	Cream and Sed.	00000,060	B	1
11/25	..	....	....	..	..
12/5	1	Sediment.	50,000	O	0
	1	Cream.	1,400,000	G	1
	1	Cream and Sed.	20,000	B	1
	1	Cream.	60,000	B	1
	1	*Sediment.	00000,000	B	1
12/19	..	....	....	..	..
12/26	..	....	....	..	..
12/31	1	*Sediment.	00000,000	E	1
	1	Cream and Sed.	8,000,000	H	0
	1	*Cream.	230,000	B	1
1/6	1	Cream and Sed.	160,000	J	1
	1	Cream and Sed.	180,000	J	1
	1	*Cream.	60,000	J	1
	1	Cream and Sed.	00000,000	J	1
	19				
Excluding duplicates...	17				

* Animal inoculated with other part of milk lost or died.

At the time of autopsy these lesions were considered definitely to indicate tuberculosis, but as bacilli could not be found, and reinoculation tests proved inconclusive, the case was rejected. In most instances reinoculation into a second series of pigs was made (Table 2).

TABLE 2.—DATA OF MILK INOCULATIONS

Date.	No. Samples.	No. Pigs Inoculated.	No. Dying within 14 Days.	Otherwise Lost.	Secondary Inoculations.
10/24	12	24	2	2	2
11/7	12	24	..	..	6
11/12	12	24	..	..	2
11/19	12	24	..	..	4
11/25	6	12	..	..	4
12/5	12	24	1	..	6
12/19	6	12	1	..	
12/26	6	12	1	1	
12/31	12	24	1	3	
1/6	10	20	4	3	2
2/5	12	24	..	1	
Total	112	224	10	10	26
Net total	107				

(In five instances both pigs were lost or died.)

In order to control the results still further and avoid the possibility of confusing the tubercle bacillus with similar acid-fast organisms, cultures were made in each instance. In those cases in which serum or egg media were not employed—in other words, in which the object was not to cultivate the tubercle bacillus—glycerin agar was used. In no instance was an acid-fast organism encountered.

The smears made from the cream and from the sediment, of which mention has been made before, showed no tubercle bacilli. In no slide could they be definitely made out, although in those instances in which animal inoculations demonstrated tuberculosis the slides were carefully examined for a second time. They showed a large number of bacteria and leucocytes, roughly about an equal number in cream and sediment, but the number was found to bear no relation to the presence or absence of tubercle bacilli in the milk (Table 1).

I next examined some "commercially pasteurized" bottled milk, making use of the same technic. Eight samples were obtained from three different plants, with the intention of using more samples should these first tests give a negative result. The dealers in this milk state that it has been subjected to a temperature of 160 F. for forty seconds. In one of the eight samples tubercle bacilli were demonstrated by animal inoculation, which proves that this method, in practice, furnishes inadequate protection. Investigation on this particular was pursued no further.

HUMAN AND BOVINE TUBERCLE BACILLI IN MILK

Before discussing the results which we have outlined above, it may be well to give a brief account of the cultures of tubercle bacilli which were isolated. The details of this laboratory study will be published elsewhere. The method used was that employed by me in former work in this field.[5, 6] For the first generation dog serum or egg medium was used. The morphology of the bacilli, facility for cultivation, and virulence toward rabbits were considered in the differentiation of the human from the bovine type. The ability of a culture to induce a fatal generalized tuberculosis in the rabbit was looked on as evidence of its being bovine in nature. Eight cultures were isolated in all; in two other cases cultures were attempted but failed. From a practical standpoint it is of importance that, although seven proved bovine in type, in one case a human strain was isolated. As far as I am aware this is the first instance in which contamination of milk with the human type of tubercle bacillus has been demonstrated. The actuality of this source of infection, therefore, can no longer be denied; it must be considered in the safeguarding of our milk supply. On the farm, at the dairy, in the retail store, in the varied path from cow to consumer, the tuberculous individual must not have access to the milk.

The percentage of milk found to contain tubercle bacilli, namely, 16 per cent., is so high that we feel that it requires further comment. It must be admitted that the milk chosen for examination, commonly known as "loose milk," is somewhat below average grade. In this fact, however, we can find little comfort, for subsequent inquiry revealed that of the nineteen tuberculous specimens fifteen were sold by dealers who furnish bottled milk coming from the same farms (Table 1). This shows that an examination of the average bottled milk would reveal very nearly the same figures. Another matter of practical interest concerns the diffusion of the bacilli throughout the milk. If several samples were taken from the same can, would all or only some show the presence of tubercle bacilli? This question, which was constantly in mind, was answered by a chance control experiment. In some instances the samples were taken at random from those sent to the laboratory by the inspectors. It so happened that of the 10 samples submitted on January 6, 4 proved to be contaminated with tubercle bacilli (Table 2). Recently, on inquiring into the source of these samples, it was learned that the four were taken from two cans in the same plant—in other words, that 2 were duplicates. This method of control specimens is resorted to by the Board of Health to compare the results of the bacterial counts. In this instance it served as an unconscious control of my work. Of the 8 guinea-pigs

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5. Hess: An Examination of Excised Tonsils. Arch. Pediat., January, 1908, p. 31.

6. Hess: Primary Tuberculosis of the Mesenteric Glands, Am. Jour. Med. Sc., August, 1908, p. 1831.

inoculated with these 4 specimens, 7 developed tuberculosis, 1 dying prematurely of a secondary infection. As only 10 c.c. of milk were used for the test in each instance, that is, less than one tablespoonful, this would lead us to conclude that these two forty-quart cans were thoroughly permeated with tubercle bacilli, and that there was little possibility of any one partaking of the milk without at the same time partaking of virulent bacilli. Some other of our results lead to the same conclusion: The fact that on November 12 (Table 1) two positive specimens were obtained which emanated from the same wholesaler, although retailed by different stores on the same block, and that on December 5 this was the case in three instances, demonstrates that a considerable portion of the milk sold by the wholesalers on those dates contained tubercle bacilli.

Without attempting a review of the literature we should like to call attention in this connection to the results of some others in similar investigations. In the comprehensive test of the milk supply of the city of Washington, reported this year by Anderson, 6.72 per cent. of the samples were found to contain tubercle bacilli, a percentage considerably lower than that which I report for New York. This wide variation can be accounted for in part by differences in the technic which was employed. In the Washington tests usually only one animal was used for each sample, and, second, the cream was not injected. Had these methods been followed, our percentage would have been considerably lower. This may be judged by the fact that of the 19 tuberculous specimens only 9 produced tuberculosis in both of the injected animals (Table 1). In 5 instances this was due to the premature death of one of the pigs. It may be said in general that the more animals used for testing each sample the greater the chance of finding tubercle bacilli. The other point of difference in technic is more important. As bacteria collect in the cream as well as in the sediment, it is evident that unless we test both portions some may be overlooked. It will be noticed that in 2 of our cases bacilli were demonstrated in the sediment alone, in 3 others in the cream alone (Table 1). The animals injected with the negative portion of these samples developed either no lesions or such as were inconclusive. Had we not injected the cream, 3 of the positive cases would have been reported as negative, which in itself would have reduced our figures from 16 per cent. to 13 per cent. Moreover, higher percentages than we have obtained have been published by others. For instance, Rabinowitch and Kempner[7] found, in an examination of 25 samples of Berlin milk, that 7 samples, or 28 per cent., contained tubercle bacilli. And again, in an examination by Macfadyen[8] at the Jenner Institute, 17 among 77 specimens, or 22 per cent., were found to be infected with virulent tubercle bacilli.

CONDITION OF CHILDREN WHO DRANK TUBERCULOUS MILK

So much concerning the laboratory part of this study. We have shown how frequently tubercle bacilli are present in the milk of a great city; how, although generally bovine in type, they may be of the human variety. Let us now consider the condition of some children who drink this milk. As I mentioned above, samples were gathered in most instances from such dealers as had children. Each store-keeper was asked whether there were children in the family, and, if so, whether they were given raw milk from the can in the store. Of the 17 dealers from whom milk was obtained which contained tubercle bacilli, 10 belonged to this category. These ten had 18 children. As Table 3 shows, 9 of these were 2 years of age or under, and only 1 over 5 years of age. The health of these children has been followed for the past year, that is, since they are known to have ingested virulent tubercle bacilli. They have been visited by me from time to time, and finally during the past fortnight 16 were tested with tuberculin and subjected to a more or less complete physical examination. The conjunctival tuberculin test was employed, as it was feared that the cutaneous test might not be permitted. The parents were told the reason for this medical supervision, and in only a few cases offered objections. The results, which are given in tabular form (Table 3) were briefly as follows:

TABLE 3.—DATA CONCERNING CHILDREN WHO DRANK MILK CONTAINING TUBERCLE BACILLI

Milk. Dealer.	No. of Children.	Age, Years.	Conjunctival Test.	Condition One Year Later.
A	2	1	—	Healthy.
		3	—	Healthy.
B	1	1½	—	Healthy.
C	2	2	—	Poorly nourished.
		4	—	Healthy.
W	3	5/12	0	Healthy.
		2½	—	
		5	+	Poorly nourished. Physical exam. and family history doubtful.
E	1	½	—	
B	1	2	+	Poorly nourished. Cervical adenitis incised 4 mos. ago. Von Pirquet positive. Family history negative.
G	3	3	—	Healthy.
		5	—	Healthy.
		9	+	Healthy. Family history negative.
B	1	5/6	0	Healthy.
B	2	1½	—	Poorly nourished.
		3½	+	Healthy. Physical exam. and family history negative.
O	2	2	—	Healthy.
		4	—	Healthy.
	18		4	

+ = positive reaction.
— = no reaction.
0 = no test.

Of the 16 children tested with tuberculin, 4 reacted; 2 of these were poorly nourished, but showed no definite signs of tuberculosis; the other 2 were healthy. One of the cases was of especial interest: This child consumed daily a pint of the poorest milk examined (B, Table 1). She was 2 years of age, poorly nourished, and five months ago developed a cervical adenitis, which was incised at a dispensary. She reacted to both the conjunctival and von Pirquet tests. No other member of the family appeared to be tuberculous.

We realize that we can not draw sweeping deductions from an experiment of this nature. It lacks the precision of laboratory work, a weakness inherent to a test on the human subject. It may well be said that we know neither how often the children drank milk containing tubercle bacilli nor the number of bacilli consumed. In answer to this we can merely state that 10 c.c. of this milk showed the presence of virulent bacilli; that these bacilli were found to be thoroughly distributed throughout the milk, and that the children in most instances consumed a pint or even a quart of such milk daily. Moreover, as this is the only investigation of the kind which has been made, and which it seems possible to pursue, it seems worthy of consideration.

First and foremost it is evident that as almost all the children who drank the milk were later found to be in good health, we may conclude that milk containing tubercle bacilli does not necessarily, nor even usually, excite tuberculosis. The striking frequency with which we found bacilli would of itself force this conclusion on us. For with 16 per cent. of the "loose milk" infected, if infection were coincident with exposure, it would mean that on an average every child who drank this raw milk daily for a week would show some tuberculous lesion. Tuberculin tests and postmortem examinations on infants prove the fallacy of such reasoning. On the other hand, the occurrence of a case of cervical adenitis, one of the most frequent forms of bovine tuberculosis, in an infant known to have drunk milk containing bovine tubercle bacilli, who reacted to tuberculin although surrounded by no source of tuberculous infection, is certainly suggestive of bovine infection. We hope to follow the course of this child and some of the others so as to judge of their future welfare.

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[7] Rabinowitch and Kempner: Ztsch. f. Hyg., 1899, xxxi.
[8] Macfadyen: Lancet, London, 1899, ii, 849.

It seems to us, judging from our own investigations and those of others, that, at the present time, the relation of bovine tuberculosis to man may fairly be stated as follows: 1. This type of bacillus, although less virulent than the human variety, is capable of infecting human beings. 2. Children are more susceptible than adults to bovine infection. Numerous instances of tuberculosis of the tonsil, of the cervical and of the mesenteric glands have been proved to have been incited by the bovine bacillus. Among others, Theobald Smith, Fibiger and Jensen, the German and the British Commissions, and myself,[5] have reported cases of this nature. Recently I was able to collect reports of 44 cases of undoubted bovine infection of the mesenteric glands, 41 of which occurred in children.[6] In this connection a case taken from this year's Medical Report of the County of Aberdeen, and sent to me by Dr. Adams, seems worthy of summary. A farm servant who had three daughters, aged 9, 6 and 4 years, lost the eldest on Jan. 7, 1907, with symptoms of meningitis. In the beginning of March the youngest became ill and died on the 18th with similar symptoms. An autopsy showed tuberculous meningitis and tuberculosis of the mesenteric nodes. In the cerebrospinal fluid tubercle bacilli were found. There was no history of tuberculosis on the father's or mother's side. The milk which these children drank came from one cow, which was found to have tuberculosis of the udder, and was killed and shown to be suffering from extensive generalized tuberculosis. Careful cultural examinations of bacilli from the cerebrospinal fluid of the child, as well as from the milk and from the mesenteric glands of the cow, were made by Dr. J. Milner Adams, of the University Pathological Department, and all found to be bovine in type and similar in their microscopic, cultural and pathogenic characteristics. Neither this well-studied case nor the figures given above are, indeed, sufficient to prove that bovine tuberculosis is the "great white plague" which we are all fighting, but they do show, without doubt, that this bacillus is fraught with danger to children. Even the stanchest supporter of Koch would not care to have his children drink milk from a cow which he knew to be giving forth tubercle bacilli.

As yet there is no sufficient basis for a statistical estimate of the importance of bovine tuberculosis, but we must remember that even if, with Theobald Smith, we charge it with but 1 per cent. of the total tuberculous infections, this small percentage is sufficient to establish it as a disease worthy of active recognition. To appreciate the force of the plea for recognition of such a small percentage we have but to reflect that tuberculosis claims in the United States every year approximately 200,000 persons and that the total number of infections amount to twice this number. Thus, this small percentage is sufficient to cause the yearly number of cases of bovine infection of human beings in this country to extend into the thousands. It is solely because this type of tuberculosis is submerged by the 90-odd per cent. of human tuberculosis that it is now threatened with losing its identity. If it were possible to diagnose bovine infections by clinical methods, and if the total number were grouped under a different name, instead of being included in the generic term "tuberculosis," we would have a disease of sufficient magnitude to preclude all question as to the advisability of active preventative measures. Were there as great a number of human beings infected, for instance, by the foot-and-mouth disease of cattle, the matter would be considered as requiring state or federal attention. So that, to summarize, without ever losing sight of the fact that the bacillus of the human type is the cause of the great scourge, the scourge of tuberculosis, it would seem wise, also, to regard the bovine bacillus as the cause of an unquestionable, although comparatively small number of tuberculous infections.

Finally, a word as to the practical lesson which this investigation teaches. It is not new; it has been emphasized with ever-increasing earnestness by many students of the problem. It is to be hoped, however, that the alarming degree of tuberculous contamination found in the New York City milk, and the concrete figures which I have furnished, may prove an effective argument for those who are striving with the legislators in the cause of pure milk. It may be thought that, as I used mixed milk in the tests, it is possible that the bacilli were, in many instances, given off by one infected cow in a herd and were diffused throughout the supply. We can not well fall back on this comforting explanation, when we reflect that a recent report by Moore[9] showed that of 421 herds in New York State tested with tuberculin, 302 contained reacting animals. This high percentage of disease harmonizes with the high percentage of contamination which I found in the city milk. Again, the investigations of Schroeder[10] showing how frequently feces are present in milk, and how frequently tubercle bacilli are present in the feces of apparently healthy cattle, point clearly to a widespread dairy infection. In view of these facts, it would seem wise, as an immediate safeguard, thoroughly to pasteurize or to boil all milk not coming from tuberculin-tested cows. "Commercial pasteurization" does not protect against tubercle bacilli; it should not bear the name of pasteurization, or, at most, this milk might be termed "partially pasteurized milk."

At the same time that we are carrying out these temporary expedients, those who are urging broader remedial measures, such as adequate inspection and testing of the dairy herds, should be accorded the support of physicians and laymen alike. For if New York City had been granted, instead of 47 inspectors of farms, 150 such inspectors, it is certain that 16 per cent. of the milk sold in its precincts could not be found to harbor virulent tubercle bacilli.

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[9] Moore: Can Tuberculosis be Eliminated from Cattle? New York State Jour. Med., 1908, viii, No. 5.

[10] Schroeder: The Unsuspected but Dangerously Tuberculous Cow, Bureau of Animal Industry, Cir. 118.

SUMMARY

Virulent tubercle bacilli were found in 17 among 107 specimens, that is in 16 per cent. of the milk retailed from cans in New York City. These bacilli were not demonstrable by direct microscopic examination, but were proved to be present by means of animal inoculation. Cream as well as sediment was found to harbor these organisms, so that in all experiments of this nature these two parts of the milk should be used in making inoculations.

Tubercle bacilli were likewise found in a specimen of "commercially pasteurized" milk, showing that this method, as now carried out, does not insure protection in this particular. It is suggested that, as this name is misleading, only such milk be labeled "pasteurized" as has been heated for a length of time and to a degree of temperature sufficient to render it an absolutely safe food.

When the tubercle bacilli were isolated they were found to be in all but one instance bovine in type. In this instance, however, a human variety was differentiated, which shows that milk may become infected from tuberculous individuals and that this source of contamination should be guarded against.

A number of infants and young children who drank milk containing tubercle bacilli, when examined one year later, seemed to be in average health. A fourth of the number, however, reacted to tuberculin. One of these subjects was in poor physical condition and had suffered from a recent glandular infection.

Although probably over 90 per cent. of tuberculosis is due to infection from human beings, it is believed that we are not, therefore, justified in neglecting the danger from bovine infection, for even a small percentage of the infections in the United States means thousands of cases of tuberculosis.

As an immediate safeguard, milk not coming from tuberculin-tested cows should be pasteurized or brought to a boil. Many additional inspectors should be allowed for examining the herds, and, finally, all cows should be tested with tuberculin, and animals which react should be condemned or isolated.

154 West Seventy-second Street.

A CLINICAL STUDY OF THE CHILDREN OF TUBERCULOUS PARENTS *

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This report is based on the careful examination of 150 children whose parents were under treatment for pulmonary tuberculosis at the Bellevue Hospital Tuberculosis Clinic. The examinations were made as a part of the routine of the clinic work in an endeavor to supervise these families and to discover unsuspected cases of tuberculosis.

The children observed lived in tenements, in most instances under insanitary conditions and in close association with their parents, the majority of whom had pulmonary tuberculosis in an advanced stage. With few exceptions the children were sent for examination to the clinic, not because of any symptoms of which they complained, but simply as a routine procedure on the part of the visiting nurse.

Their ages varied from 2 to 15 years, with an average age of 8½ years.

BASIS OF DIAGNOSIS

The difficulty of diagnosis in such cases is easily appreciated, but as preventive work of this sort marks the line along which progress in our knowledge of tuberculosis must proceed, our endeavors to reach a definite diagnosis in these cases may be of interest and of value.

The most important factors in diagnosis may be summarized as follows:

1. The tuberculin tests.
2. Pulmonary symptoms and physical signs.
3. Sputum examinations.
4. Joint, bone and other non-pulmonary lesions.
5. Malnutrition.
6. Hypertrophied cervical lymph nodes.
7. Hypertrophied tonsils and adenoids.

A diagnosis can be reached only by a consideration of all of these factors taken together, and on this basis we have classified our cases into

A.—Positively tuberculous.
B.—Doubtful cases.
C.—Not tuberculous.

A. Positively Tuberculous Cases.—In this class are included, 1, all cases in which there are positive typical signs in the lungs or demonstrable joint or other non-pulmonary lesions elsewhere in the body; and, 2, all other cases in which there are suspicious symptoms, such as malnutrition, persistent cough or inconclusive physical signs in the lungs which react positively to tuberculin.

B. Doubtful Cases.—These include cases of, 1, all children in whom tuberculin tests were not made, who showed constitutional or pulmonary symptoms or irregular signs in the lungs, or who showed distinct malnutrition without any other symptoms or physical signs; and, 2, those of all apparently healthy children who react to tuberculin.

C. Non-tuberculous Cases.—We have placed in this class, 1, all cases in which tuberculin tests were made and in which there was no reaction; and, 2, all cases in which no tuberculin tests were made and in which the children showed no symptoms or physical signs and were of normal weight for their age.

It is immediately evident that in a large number of cases we have employed the tuberculin tests as the determining factor in diagnosis. Our reason and justification for so doing will be discussed later.

RESULTS

Of the 150 cases examined, the results according to the above classification were as follows:

1. Positively tuberculous, 76 cases, or 51 per cent.
2. Doubtful, 31 cases, or 20 per cent.
3. Not tuberculous, 43 cases, or 29 per cent.

These results, showing that more than one-half of the children examined were positively tuberculous, are so astonishing that they can be accepted only after the most rigid scrutiny of the methods which we have employed. This we have attempted to accomplish by careful analysis of our findings, studying separately each of the various factors which have been used in establishing the diagnosis.

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* Read before the Children's Section of the International Tuberculosis Congress, Washington, Sept. 21 Oct. 12, 1908.

FACTORS IN DIAGNOSIS

1. *The Tuberculin Tests*

One hundred and thirteen of our subjects were tested with the ophthalmic and the cutaneous tests. In 38 of these cases the results of the ophthalmic and cutaneous tests were controlled by the hypodermic tuberculin test.

The ophthalmic test was made with a 1 per cent. solution of crude tuberculin in sterile salt solution, following closely the method and system recommended by Baldwin.

For the cutaneous test we used varying strengths, 10 per cent., 25 per cent. and 50 per cent. of crude tuberculin in sterile salt solution. Only the results obtained with the 10 per cent. and 25 per cent. solutions are, however, considered here. In no case in which the 50 per cent. was positive was the 25 per cent. negative.

In the hypodermic method we have considered 5 mg. as the maximum diagnostic dose, and in the great majority of our cases in which reactions were obtained it was not necessary to go above 1 or 2 mg.

Of the 113 children tested with tuberculin, 74, or 65 per cent., reacted positively.

In 95 cases the ophthalmic and the cutaneous tests were made in the same individual. The results of these two local tests were identical in all cases but 10. In 9 of these cases a cutaneous reaction occurred without any corresponding ophthalmic reaction. Four of the children were subsequently tested hypodermically and all reacted.

In the remaining case, which was that of an overgrown boy of 15 years, the eye reaction occurred without a skin reaction. This suggests a confirmation of the general impression that the cutaneous test is more reliable in children than in adults.

Recurrence of the local reaction both in the eye and in the skin during a reaction to the hypodermic test, given from three to five weeks later, was noticed in several cases.

We have been fortunate in encountering none of the permanent or serious injuries from the ophthalmic tests which have been reported by other observers, but some of our reactions were very severe and prolonged. Only one skin reaction was sufficiently severe to cause discomfort to the child. This one went on to slight suppuration and the formation of crusts resembling closely the vaccination pustule. In this case, however, we could not positively eliminate the possibility of a secondary infection from scratching.

Since we have employed the scarifier, suggested by von Pirquet, our cutaneous reactions have been on the average less severe.

Comparative Value.—The ophthalmic test is more apt to meet with resistance from the child, and in the case of such resistance it can not be performed as carefully and thoroughly as the skin test, which, of course, militates against an accurate result. This is especially true in case the child cries. Under these circumstances a considerable portion of the fluid instilled will be washed out of the eye. This reaction, moreover, is frequently very transitory, disappearing within twenty-four hours, and in the event that the child does not return within that time for examination, the possibility that a positive reaction has escaped notice always remains.

To accept a parent's statement as to the results of the test is, of course, to render its value entirely negligible. Even to have a nurse visit the homes, either of all the patients tested within the first twenty-four hours, or simply the homes of those children who do not present themselves for examination at the clinic at the time ordered, is not satisfactory or reliable. The diagnosis of a reaction, which is at times so delicate as to be influenced even with a trained physician by the "personal element," should be made only by the physician himself.

The cutaneous test, on the other hand, is open to none of these objections. It can be detected in the great majority of cases for at least five to seven days after the inoculation, and in well-marked cases pigmentation and scars remain at the site of the inoculation for a considerably longer period. Moreover, in a certain number of children who are seen early after inoculation a skin reaction occurs without a corresponding eye reaction.

The following facts seem to justify us in considering a positive skin reaction as presumptive evidence of tuberculosis in children:

1. Of 9 children with positive typical physical signs of pulmonary tuberculosis in whom the test was made, all reacted.
2. Of 73 children with suspicious pulmonary symptoms, 80 per cent. reacted. Of 40 children without such symptoms only 40 per cent. reacted.
3. Of those with physical signs in the lungs, both typical and atypical, 82 per cent. reacted; of those with no physical signs, only 48 per cent.
4. Of those whose nutrition was below par and had in addition cough and physical signs in the chest, 88 per cent. reacted. Of those children of normal weight and without pulmonary symptoms or physical signs, only 25 per cent. reacted.
5. In the 38 cases controlled by tuberculin injections there was no discrepancy between the cutaneous and the hypodermic tests in any case. Nine of these subjects were negative and 29 positive to both tests.

It should, of course, be borne in mind that not every subject reacting to the local tuberculin tests is necessarily in need of active treatment as a case of tuberculosis, though such cases should be kept under careful observation. Given a tuberculin reaction in an apparently healthy child, the course to be pursued should depend on the course of the case under close supervision.

2. *Pulmonary Symptoms and Physical Signs*

Eighty-seven of our children, or 58 per cent. of all, gave a history either of protracted cough or of coughs and colds recurring with unusual frequency. Of these 87 a positive diagnosis of tuberculosis was made in 65 per cent.

Seventy-three children had abnormal physical signs in the lungs, and of these 72 per cent. were positively tuberculous according to our classification.

On analyzing the physical signs it is interesting to note that only 15 children had the apical signs usually accepted as being typical of pulmonary tuberculosis in adults, and that all of these 15 children were over 9 years of age. The other 58 children had physical signs which have not been generally accepted as typical of pulmonary tuberculosis in children, or, we might say, as of even suggesting it.

The most important of these signs are fine localized subcrepitant râles situated in some portion of the lungs other than the upper portion of the upper lobes. These râles were present in 35 cases and occurred usually without any change in the percussion note or breath sounds.

In most instances, 28 cases out of the 35, they were found in the region of the nipples, usually in the fifth or sixth intercostal spaces just without the mid-clavicular line. In two-thirds of the cases they were on the left side. In a few cases they occurred on both sides.

These râles differ very decidedly from the râles of atelectasis in that they do not disappear on coughing or deep inspiration. In most instances they are constant, being heard consistently on several repeated examinations. In a few instances they were inconstant or were developed during the course of a tuberculin reaction. In almost no cases, however, were they audible over a period of several months' duration.

The area over which these râles were distributed varied from that which could be covered by the bell of the stethoscope up to that larger than a silver dollar. In a few cases a gradual decrease in the size of the area or a diminution in the number of the râles heard over any one area could be traced in conjunction with the improvement of the particular case under treatment.

The presence of these râles we consider very suggestive of a tuberculous focus in this situation, the infecting bacilli probably being carried to this point by the lymphatics from the bronchial glands about the root of the lung.

We have not attempted to decide what might be the extent or exact character of the pulmonary lesion which these physical signs represent. Autopsy reports on infants and young children dying from pulmonary tuberculosis show that marked discrepancy between the physical signs and pulmonary lesions very frequently exists, so that it would be hazardous to predicate from the physical signs what the exact pathologic findings might be.

Careful *x*-ray examinations might be of service in such cases, and we are planning to have such examinations made in the future.

In addition to the 35 children who showed these fine râles above described, there were in our series 23 who exhibited sibilant and sonorous râles over the lungs. These râles were localized in various portions of the chest in 10 cases. In the other 13 cases they were more or less generally distributed.

Of these 58 cases with atypical signs, that is, with the localized subcrepitant râles and the sibilant and sonorous râles, signs which are not generally accepted as typical of pulmonary tuberculosis, a positive diagnosis of tuberculosis was made in 39 or 67 per cent. Nine subjects were considered doubtful, and 10, or 17 per cent., were not tuberculous. Further analysis shows that of the 35 cases in which there were localized fine râles a diagnosis of positive tuberculosis was made in 74 per cent., and of those with fine râles near the nipples in 82 per cent. Ninety-two per cent of these children on whom tests were made reacted positively to tuberculin. Of the 23 children who had sibilant and sonorous râles, 56 per cent. were considered positively tuberculous. In 10 of these cases these râles were localized, and here 80 per cent. were tuberculous, as against 35 per cent. of the remainder in which the râles were generally distributed over the chest.

Considering the constitutional condition and the pulmonary signs together, we find 39 cases in which abnormal physical signs and general malnutrition were associated. In these 31 children, or 79 per cent., were tuberculous, 2 were doubtful and 6 not tuberculous.

We believe that the physical signs in the chest above described as being atypical signs of pulmonary tuberculosis are found sufficiently frequently in children to warrant their acceptance as very significant in weighing the question of a diagnosis of tuberculosis. Taken in connection with the tuberculin tests, they produce a definite clinical picture in many cases. If this is true, it undoubtedly follows that pulmonary tuberculosis in children is far from being an uncommon form of the disease. The course of the disease in these cases is not at all that which is usually described as being the common one in tuberculosis in children. The symptoms as well as the signs are few, the progress of the disease very slow, and both signs and symptoms clear up in a majority of cases under appropriate treatment, that is, taking the children out of school and keeping them in the open air.

The frequency with which we have encountered these cases suggests strongly the possibility that it is these cases in which the tuberculous lesion, remaining latent during childhood for many years, may break out into adult phthisis later in life. This hypothesis would fit in very well with modern notions of the frequency of tuberculous infection during childhood. Certainly in this series of cases those children who reacted to tuberculin showed more often these pulmonary signs and symptoms than any other evidence of disease elsewhere in the body.

3. *Sputum Examinations*

Very few of the children expectorated and sputum examinations were made in only 16 cases. In only one of these were the tubercle bacilli found. In a few cases the method advocated by Holt, of exciting a cough and catching the sputum brought into view on a swab, was attempted. In no instance did it give a positive result.

These findings do not accord with those recently published by Holt and others. Their patients, however, were in hospital wards and were acutely sick, many of them finally dying of the disease. Ours, on the other hand, were only slightly ill, their parents usually not being aware that there was anything wrong with their children except perhaps that they were delicate or poorly nourished.

It is possible that by the inoculation of guinea-pigs by fresh specimens of sputum from these cases a larger number of positive results might be obtained. It is our hope to carry out some investigations along these lines during the ensuing year.

4. *Joint, Bone and Other Non-pulmonary Lesions*

Ten children in whom the diagnosis of tuberculosis was made showed evidence of tuberculous lesions elsewhere than in the lungs.

In 2 cases there were scars in the neck anterior to the sterno-mastoid muscle. These resulted from the closure of sinuses of previously suppurating glands, presumably tuberculous, inasmuch as the suppuration did not occur at the time of any acute infectious disease. In one of these cases pulmonary signs were present. Both children reacted to tuberculin, to the hypodermic as well as to the local tests.

Five other children each had one or two markedly enlarged cervical glands which were considered tuberculous, and one of these had pulmonary signs as well. Tuberculin tests were made on the other 4 children without pulmonary signs. All 4 reacted.

Of the 3 remaining children, 1 had tuberculosis of the hip, 1 had a tuberculous dactylitis and a scar resulting from a tuberculous ostitis of the radius, and the last had tuberculous peritonitis and enteritis. The last had pulmonary tuberculosis as well. All three reacted to tuberculin.

In view of the opinion generally held concerning the relative frequency of pulmonary and other forms of tuberculosis in children, it is worthy of note that out of 76 cases of the disease chosen at random, but 10 of them should show non-pulmonary lesions, and even more so that but 7 of these, or but 8 per cent. of the total number of cases, should show tuberculous lesions without any pulmonary involvement.

5. *Malnutrition*

One hundred and seven children of our 150 were under the standard weight for their age. Of these, 62, or 58 per cent., were tuberculous; 19, or 18 per cent., were considered doubtful, and 26, or 24 per cent., were non-tuberculous.

Eighty-two of the 107 were tested with tuberculin; 56, or 68 per cent., reacted. Of 31 children whose weight was normal only 18, or 59 per cent., reacted.

Of children with symptoms and malnutrition, 48 per cent. of those tested reacted. Of children with symptoms but with no malnutrition, 36 per cent. reacted.

There were 50 children with physical signs in the lungs and malnutrition. Of 42 of these tested, 36, or 85 per cent., reacted. Of 21 with signs in the chest and without malnutrition, 16, or 76 per cent., reacted.

In 41 cases were symptoms and signs and malnutrition associated. Of 34 children tested, 30, or 88 per cent., reacted. Of 13 children with symptoms and signs without malnutrition, 9, or 69 per cent., reacted.

Of 24 children tested with no symptoms or signs but poorly nourished, 9, or 38 per cent., reacted. Of 8 children tested with no symptoms or signs and of normal weight, only 25 per cent. reacted.

Of these 9 children with no pulmonary symptoms or physical signs in whom a diagnosis of tuberculosis was made, there were non-pulmonary tuberculous lesions present in 5. In the other 4 cases the diagnosis was made on the malnutrition together with a positive tuberculin reaction.

From the figures given above it would appear that the presence of faulty nutrition in a child in whom tuberculosis is suspected renders the existence of this disease more probable, inasmuch as in the children suffering from malnutrition in addition to presenting symptoms and physical signs, a much greater proportion were found to be tuberculous than of the same class of children whose weight was normal.

In children who can be kept under observation over a considerable period of time an approximately stationary weight during this period is even more suggestive of tuberculosis than the mere presence of faulty nutrition, provided that in them we have any reason to be suspicious of the existence of the disease. Actual loss of weight over such a period is extremely suggestive.

In 100 cases in which the height was measured, 73 children were under the standard weight for their height. Of these 31, or 42 per cent., were tuberculous; 23, or 32 per cent., were doubtful; 19, or 26 per cent., were not tuberculous.

6. *Hypertrophied Cervical Lymph Nodes*

We have classified as hypertrophied those cervical lymph nodes which were palpable and at least the size of a small pea. Palpable nodes apparently smaller than this are not included as being hypertrophied.

In our cases we found 79 children in whom the cervical glands were hypertrophied, including 2 cases in whom scars were present, presumably from previously caseating cervical glands. Of the 79 children in whom enlarged glands were found, 60 per cent. had tuberculosis.

Enlarged lymph nodes were present in three-fifths of all those children who reacted to tuberculin, and in our subjects who showed definite pulmonary symptoms and physical signs a slightly larger proportion of those who had enlarged nodes in addition reacted to tuberculin than did those which had no such enlargement. On the other hand, of those children who had symptoms but no physical signs, only two-thirds of those who also had enlarged nodes reacted to tuberculin, while of such children who did not have enlarged nodes all reacted.

In addition we noted that hypertrophied lymph nodes were present in the same proportion of those children who had permanent physical signs and of those who did not, and that they were present in only 40 per cent. of our subjects who showed the usual typical physical signs of tuberculosis in the lungs.

7. *Hypertrophied Tonsils and Adenoids*

These were present in 65 of our cases; 31 of these children, or 47 per cent., were considered tuberculous.

They were present in only 43 per cent. of the children reacting to tuberculin, in 35 per cent. of those who had physical signs in the lungs, and in only 20 per cent. of those who had typical pulmonary signs. Of the children who gave a history of cough, 7 per cent. more of those who did not have enlarged tonsils reacted than of those with them. These results were contrary to our expectations and do not accord with the findings of several other observers. They are, of course, at decided variance with general opinion on this subject.

CONCLUSIONS

1. In the children of tuberculous parents, who live in close association with such parents, a large proportion (in our series 51 per cent.) become infected with tuberculosis.

2. The earliest manifestations of such tuberculosis are not found in the superficial glands or in the bones and joints, but in the lungs.

3. The physical signs of these early pulmonary lesions, in children under 10 years of age, are very rarely those usually found in adults, but consist more often in the presence of persistent fine râles just without the mid-clavicular line in the fifth and sixth intercostal spaces. In other cases in which persistent sibilant râles are present in varying portions of the chest, the diagnosis is doubtful, but they should be regarded with suspicion.

4. The tuberculin tests furnish the most reliable means of diagnosis of tuberculosis in children. Of these we regard the hypodermic test in doses up to 5 mg. as positively diagnostic. Of the local tests the cutaneous is more reliable in children than the ophthalmic and presents none of its possible dangers. Moreover, it has in our hands been fully corroborated by the hypodermic test, and in consequence we regard it as a reliable and safe means of diagnosis of tuberculosis in children.

5. Examination of the sputum, as usually practiced, is of almost no aid in the diagnosis of early pulmonary

tuberculosis in children. As a routine procedure it is not very feasible in dispensary practice.

6. Malnutrition is sometimes the only appreciable evidence of tuberculosis in children.

7. The presence of hypertrophied tonsils and adenoid growths in any child does not appear to incline the balance in a suspected case toward a positive diagnosis of tuberculosis. In view, however, of the varying opinions held on this subject, further investigations along the lines of the bacteriology and pathology of this subject should be made.

8. In our cases the evidence that the enlargement of the cervical lymph nodes is of aid as a determining factor in arriving at a diagnosis of tuberculosis in children is not conclusive.

ETIOLOGY OF FACE, NOSE AND JAW DEFORMITIES *

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CHICAGO

In 1874 I commenced a systematic investigation to ascertain the character and determine the classification of deformities of the head, face, jaws and teeth, and I followed this by a study of the degenerate classes. Results of these researches have been published from time to time in medical and dental journals and are here summarized.

To the great anatomist, Camper, belongs the credit of first studying the human face from the scientific standpoint. His name, therefore, was given to the facial angle which still serves as a standard by which to judge lower animals. In one of his works he gives (Fig. 1) a physical observation on the difference of the feature of the rank of the human face in comparison with the face considered in profile, as the heads of apes, orangutans, of negroes and other peoples, tracing up to antique heads. He remarks that the reader will be astonished to find among his first plates two heads of apes, then a head of a negro and then one of a camel.

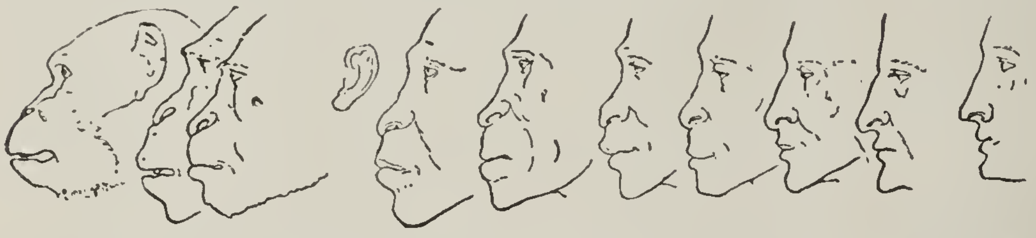

Fig. 1.—The evolution of the human face from the anthropoid ape to the ideal face described by Camper. The point of interest is the anterior brain development and the recession (degeneration) of the face and jaws.

FACIAL EVOLUTION

In the evolution of the human face, commencing with the heads of apes and advancing along the line of evolution traced through heads of the higher monkey types, of negroes and of individuals of different races, we arrive at the ideal face of the Apollo Belvedere, which Camper calls an antique head. In this evolution it will be noticed that the lower face and jaws have receded and the cranium, including the brain, has gradually developed forward until the forehead, face and jaws are on a perpendicular line, as shown in the last profile of Figure 1 and illustrated in Figure 2. To prove that this evolution is still going on I have only to call attention to Figure 3. The heads shown in this figure are profile views taken from some of my patients. Commencing on the left the evolution is shown in Figure 3 as still progressing up to the head numbered 7. In the last two heads on the right atavism has occurred, which will be explained later. Starting with the negro in Figure 1, including all the heads in Figures 1 and 3, we have types of all the different races from the earliest to the most modern. By studying these illustrations, one with experience can almost determine a racial type by the cranial angles and the jaws in relation to the perpendicular line.

Comparison of the two extremes may be of value. An examination of the negro of the lower types in Mississippi, made for me by Dr. William Ernest Walker of New Orleans, showed that in 97.5 per cent. of the cases the jaws protruded beyond the perpendicular line. An examination of 10,000 people in the streets of London, on the other hand, revealed the fact that in only 4.13 per cent. of the cases examined did the jaws extend beyond the line; in 12.87 per cent. of the cases the jaws were on the line, and in 83 per cent. the jaws were inside of the line. The evolution of the Aryan race, which has taken thousands of years, is more readily understood by comparing it with the evolution of the negro in this country, which has taken place in 250 years. The importation of the negro to America placed him in a mental atmosphere different from that of Africa. Change in the character of food and the resulting ease of mastication under the law of economy of growth, caused rapid degeneration of the jaws and teeth from disuse. Intermixture with other races, together with environment, has caused the head to change from a dolichocephalic (long-headed) to a mesaticephalic (medium-headed) type. In many cases a brachycephaly (short-headedness) occurs. The forehead protrudes beyond the jaws instead of receding, thus giving the brain potentiality of development and mentality.

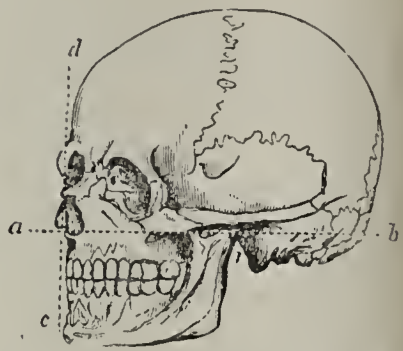

Fig. 2.—A skull showing the head, face, jaws on a straight perpendicular line (the Cuvier angle) and corresponding with the last profile in Figure 1. Up to this period in man's evolution deformities of the nose are rare. Deformities of the jaws and teeth are seldom seen.

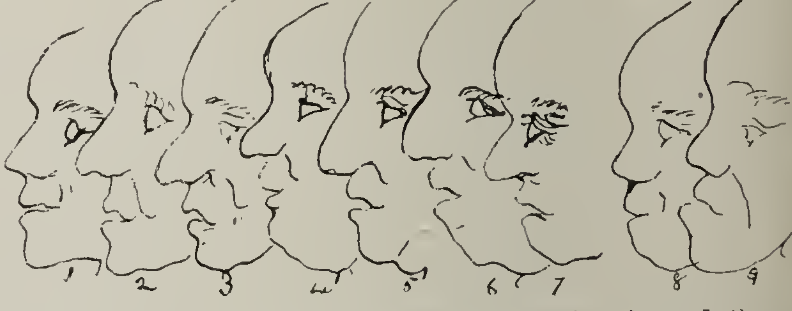

Fig. 3.—The evolution of the face progressing beyond the perpendicular line. The perpendicular line is to all intents and purposes the dividing line between the normal structure of the face and where the pathologic begins.

FACIAL DEVELOPMENT IN THE NEGRO

An examination was made of negroes in this country, commencing with those in Mississippi. There the percentage of jaws protruding beyond the perpendicular

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

line, as shown in the first profile (Fig. 4) was 97.5 per cent., and only 2.5 per cent. of the jaws examined were on the line, as shown in the second profile (Fig. 4). Out of 1,000 negroes examined in Boston, on the other hand, the profile of 45.4 per cent. are represented by the first profile in Figure 4; the jaws of 35.5 per cent. were on the line, as illustrated in the second profile; and the jaws of 15.1 per cent. were inside of the line, as illustrated in the third profile. In an examination of 2,000 negroes in Chicago only six had dolichocephalic heads. The tendency is fast developing toward the mesocephalic type.

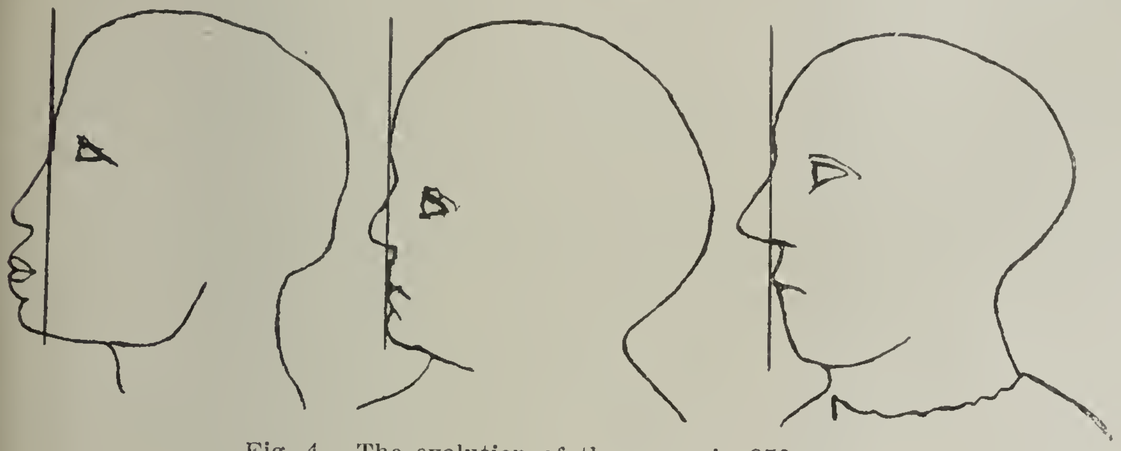

Fig. 4.—The evolution of the negro in 250 years.

It is hardly necessary for me to discuss the subject of brain development brought about by evolution, for it is well known that mental capacity is due to the anterior development of the frontal lobes. In order that this may take place the cranium must develop anteriorly. The greater the intelligence of a race the greater becomes the frontal development. That this may take place, other structures of the head, face, jaws and teeth, under the law of economy of growth and use and disuse of structures, recede from the perpendicular line and grow smaller. In the early races the jaws measured two and one-half inches from the outer surface of the first molars, while to-day the jaws measure, on an average, only two inches. The anteroposterior measurement has diminished proportionately.

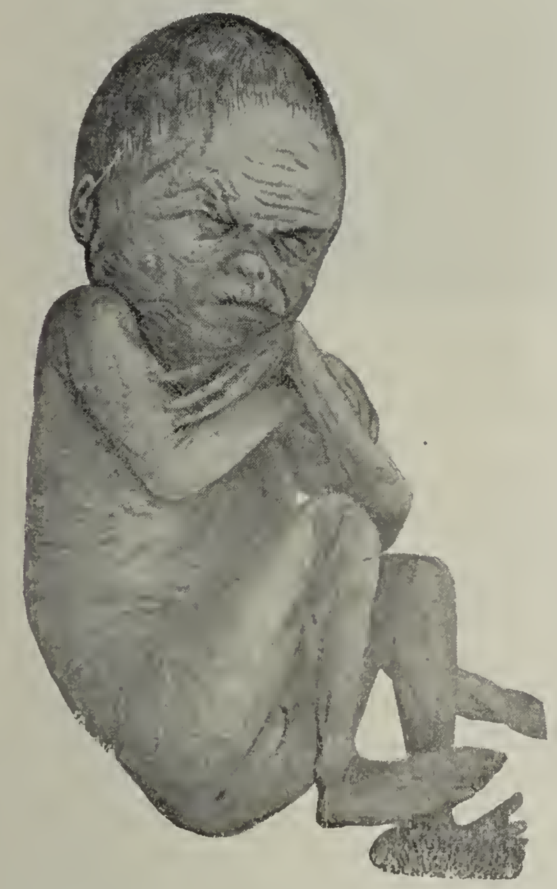

Fig. 5.—A fetus at 4½ months, the first period of stress, exhibiting the simian or old man type. The wrinkled and arrested face, the long skinny limbs, hands and the flat feet approach the anthropoid ape.

MOLARS IN EVOLUTION

In normal jaw recession the teeth and alveolar process naturally undergo changes to adapt themselves to the new environment. The teeth change their shape. Instead of being bell-crowned the approximal walls are almost if not quite straight. In some cases these walls are actually straight. These changes do not take place fast enough for the receding jaws, so to assist in this adaptation the third molar teeth (which once had three distinct roots like the first and second molars) now in many cases converge into one, and the tooth is fast being superseded altogether. Some years ago I found in a tabulation that from one to all four of the third molars were missing in 47 per cent. of patients over 25 years old. The next to be superseded in the process of evolution is the lateral incisor, which is missing in about 6 per cent. of patients. With this evolution going on in the teeth the alveolar process becomes thinner on the buccal, palatal and lingual surfaces as well as between the roots of the teeth; hence the tissues are more susceptible to interstitial gingivitis.

To summarize these results: In man's evolution certain structures develop and others are lost for the benefit of the organism as a whole. Since the face, jaws and teeth are undergoing such rapid changes, these are structures with transitory characteristics and are more easily involved in disease than any others of the body.

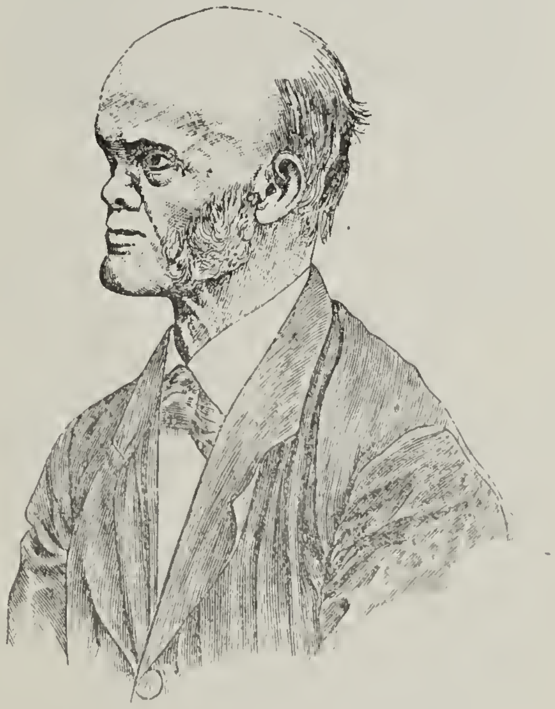

Fig. 6.—Arrest of the nose, face, jaws and teeth.

In the development of man from the primitive cell periods of stress due to readjustment to environment occur. Those which occur during development are called periods of evolution and those after maturity periods of involution. In man's evolution certain parts disappear for the benefit of the organism as a whole; in the evolution of organisms certain organs disappear. Periods of stress occur when the functions of some organs are lost and those of others gained by development. The law of economy of growth centers around this struggle of organs or organisms for existence. Because of this fact physiologic atrophies and hypertrophies (arrest and excess in development) occur.

THE FIRST PERIOD OF STRESS

The first period of stress is the most important as far as the head, face, jaws and teeth are concerned. It is called the senile or simian period and it occurs at about the eighteenth week of fetal life (Fig. 5). This period, however, varies according to the development of the particular structure under consideration. Thus the first teeth undergo change during development at about the second month. The permanent teeth, however, begin to develop later in fetal life and the period of stress in relation thereto occurs at the time of their formation. Other structures of the body would gain or lose during their development. In man's fetal development from the cell he passes through all adult stages of lower vertebrates, fish and reptile to bird and mammal. Arrest and excess in development take place in all structures under similar conditions.

The retrogressive phase of evolution, with which Camper did not deal, underlies all pathology of the face, nose, jaws, alveolar process and teeth. The illustrations, supplementing those of Camper, portray this reverse phase, in which symmetry of the body as a whole is sacrificed to changes in the nose, jaws, alveolar process and teeth to preserve the gain in brain matter. In his evolution from the simple cell to a fully developed animal, man has developed a nervous system as a result of a loss in explosive force. How well this nervous system is developed depends on the health of the brain. The brain of man develops first, to preside over the development of the other structures. If the brain is normal, the structures of the body will develop normally; on the other hand, if from any cause the brain is abnormally developed, unstable or defective, the structures of the body become abnormal. When arrest of brain development occurs, degenerates of various classes result. The causes which bring about arrest or excess in fetal development at the first period of stress are fatigued reproductive organs of either parent but more especially of the mother. Neurasthenia or fagged-out nervous system is due to excesses in eating or drinking and to habits, worries and uncertainties.

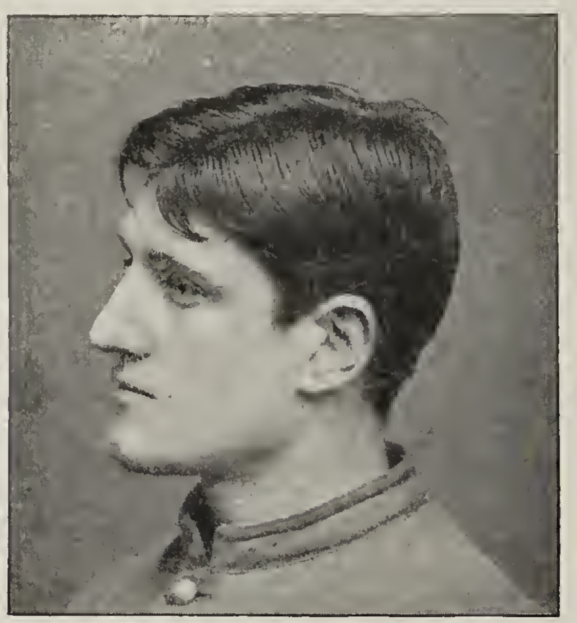

Fig. 7.—A young criminal with typical anteroposterior arrest of the face.

A common and interesting retrogressive development includes the entire head and face. The forehead recedes from the perpendicular line and the jaws sometimes protrude beyond the line. This is a return to the lower types of man, and the more marked forms of degeneracy are exhibited in the resultant individual. This may often be seen in the idiot, the insane, the criminal, the periodical drunkard, the deaf-mute, the congenital blind, the one-sided genius, the habitual liar, the "smart" business man, the extreme egotist, the tramp, the kleptomaniac, the harlot and the pauper, whose deficiencies are due to a want of frontal brain development and stability or power to control.

THE SECOND PERIOD OF STRESS

The second period of stress occurs after birth at the time of development of the first set of teeth. During this period the child is apt to contract all the children's diseases. The entire alimentary canal, as well as the whole system, undergoes a change. The body is endeavoring to adjust itself to the requirements of the assimilation of solid food. Should any of the eruptive fevers due to contagions or infections occur the effect on the growing structures of the child is most marked, causing an unstable nervous system and producing arrest and excess in development. The bones of the face, nose, jaws and teeth are usually the first affected.

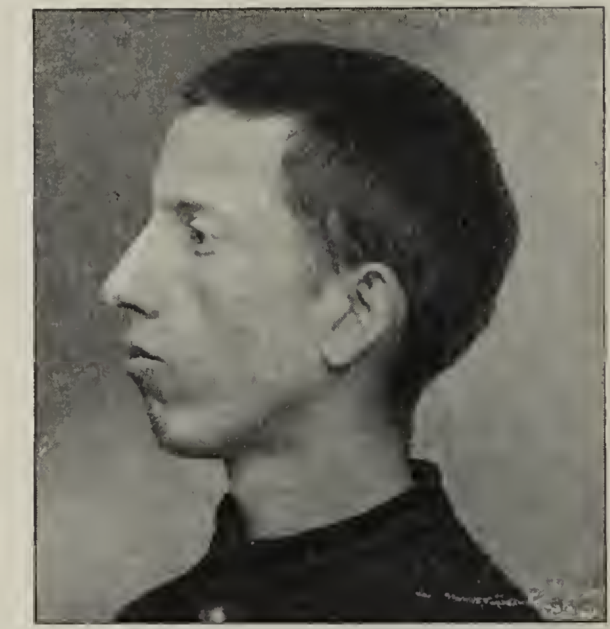

Fig. 8.—A criminal with lateral arrest of development of the face. The two forms are the types of arrested faces. In both are all deformities of the nose, face, jaws and teeth.

These structures, early in evolution, are sacrificed to the gains of the central nervous system. On them, therefore, do struggles for existence between organs leave most decided marks. It is not uncommon for development of the nose to be arrested in utero or soon after birth and remain so throughout life (Fig. 6). Two facial types result from arrest of development. Figure 7 shows the arrest anteroposteriorly, Figure 8 laterally. All other types of arrested development are modifications of these two. They may be more intense or less marked. The development of the bones of the nose may become arrested at an earlier time. The lower jaw in Figure 7, while apparently excessive in development, is really normal. The seeming excess is due to the arrested development of the face. Were the face normal the lower jaw would not appear so prominent. Because of its mobility the lower jaw is more likely to be normal in neurotics and degenerates than the upper. The lower jaw, also because of its mobility, sometimes becomes excessively developed, as illustrated in the ninth head in Figure 3, and then is atavistic; the lower jaw in Figure

S is arrested in development. Arrested development of the face nearly always involves the upper jaw. Arrest and excess in development of the nasal bones necessarily result in arrest of both the anteroposterior and lateral development of the face. When arrested development of the face and jaws takes place the lateral measurement from the outside of the molar teeth is reduced from two inches, which is the average lateral diameter in normal individuals at the present day, down to an inch and one-quarter or an inch and three-quarters in width.

It is not my intention in this paper to enter into a study of the causes and formation of irregularities of the teeth except to say that these irregularities are seldom inherited. The nature and the character of deformities of the teeth depend entirely on the order of eruption. The eruption of the teeth may be compared to a game of checkers or chess: the first moves on the board decide the game. The method and date of eruption of a few teeth decide the shape of the dental deformity.

Whenever arrest of the development of the jaws takes place there is also nasal stenosis with atrophies or hypertrophies and deformities of the bones of the nose and mucous membrane. It will be seen that the two conditions go side by side. Neither is dependent on the other to any marked degree as was formerly supposed, both being the result of an unstable nervous system. The successful treatment of one must exert a healthful influence on the other.

The perpendicular line, then, is the dividing line between the normal and abnormal facial angle. Deformities of the face, nose, jaws and teeth rarely require treatment except under conditions where these structures develop inside of the perpendicular line drawn at right angles to a line from the root of the nose to the external auditory meatus.

103 State Street.

BONE PATHOLOGY AND TOOTH MOVEMENT *

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Until 1899 there was little or no knowledge in regard to the physiologic and pathologic changes in the alveolar process during tooth regulation. The question had frequently been asked, What changes take place when pressure is brought to bear on the teeth.

At that time I commenced a series of experiments on dogs, the results of which were published in the fourth edition of my work on "Irregularities of the Teeth and Their Treatment." Impressions of the dogs' mouths were taken in modeling compound, and caps of German silver were made for the cuspids. A jack-screw was soldered to the caps. The dogs were securely fastened into a V-shaped box with cotton bandages, chloroformed and the appliances cemented into place. Muzzles were then placed on the dogs' heads and their forefeet tied to prevent removal of the appliance. The muzzles and bandages were removed twice a day for the purpose of feeding. The screws were given one-fourth, one-half and one full turn every evening. The screws were 60 threads to the inch. The teeth of three dogs were moved 1/240, 1/120 and 1/60 of an inch daily, respectively, as suggested by Farrar.[1] At the end of three days the muzzles and bandages were removed, the dogs having become accustomed to the appliances. This process, in which the screw was turned one-fourth and one-half turn each day, was continued for seven days; the one in which the screw was turned one full turn was continued for two weeks. The object was to set up pathologic changes in the alveolar process similar to those produced in the human mouth.

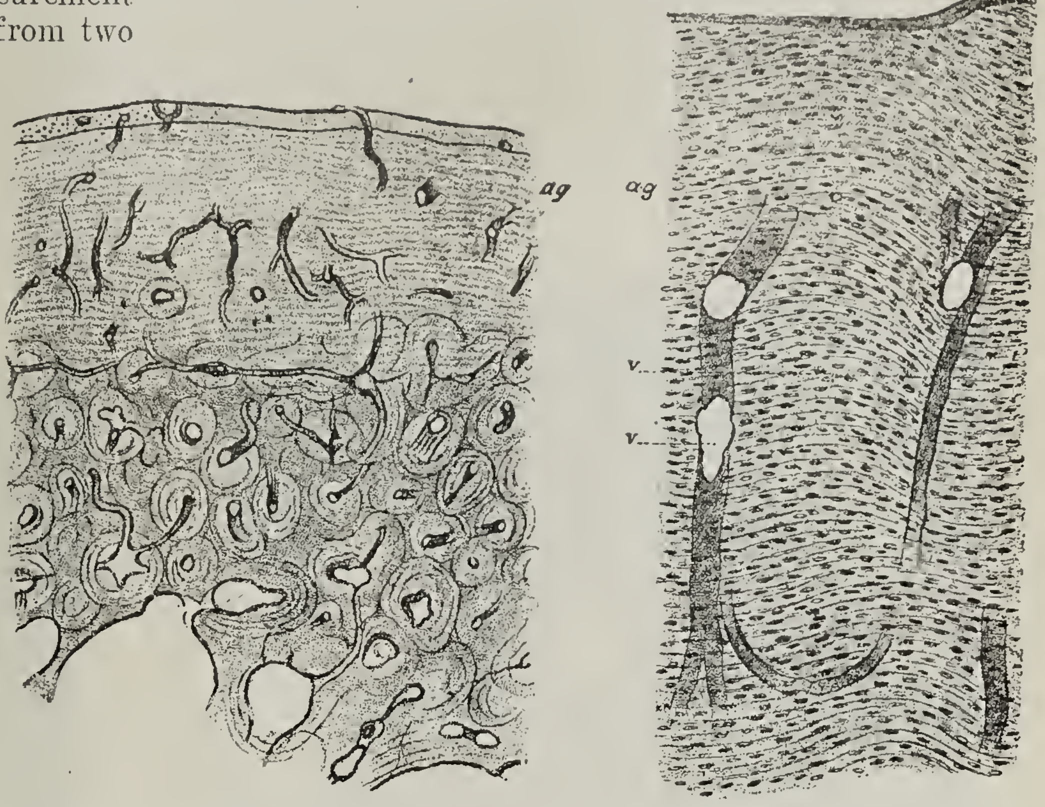

Fig. 1.—(a) Cross-section of medulla of calcified human humerus, showing Volkmann's canals; (b) transverse section under higher power.

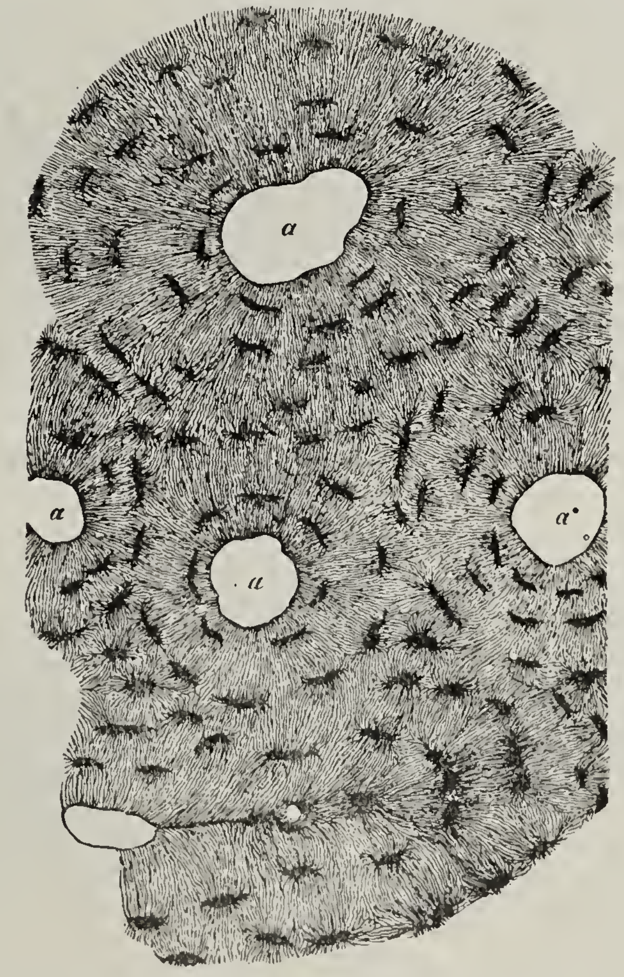

Fig. 2.—Showing Haversian canals a, a, a; dark spots surrounding Haversian canals lacunæ.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Dental Cosmos, xviii, 23.

The dogs were killed at the end of the periods mentioned. The jaws were placed in 65 per cent. alcohol for twelve hours, in absolute alcohol for forty-eight hours, and then transferred to 5 per cent. nitric acid and water. The latter was changed every two days for a week, or until the tissues became soft enough to be easily penetrated by a pin. They were then placed in running water to remove acid, which took from twelve to twenty-four hours. The tissues were placed in 65 per cent. alcohol six hours; in 95 per cent. alcohol six hours and absolute alcohol twenty-four hours. They were imbedded in thin celloidin twenty-four hours; in thick celloidin twenty-four hours; then mounted on blocks of wood and hardened in 80 per cent. alcohol from six to twenty-four hours. The specimens were cut and stained in hematoxylin-eosin.

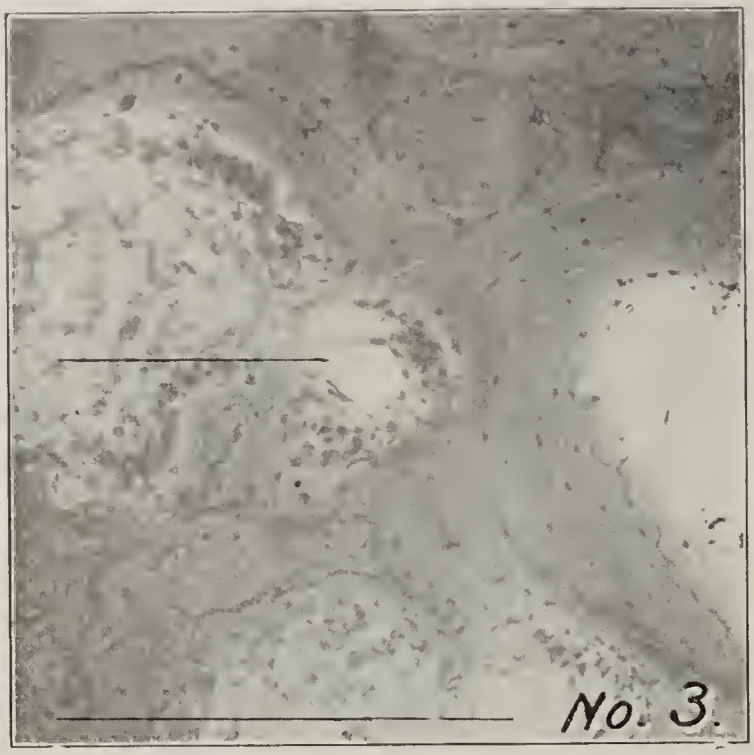

Fig. 3.—Halisteresis, or absorption of alveolar process, taking place at four Haversian canals.

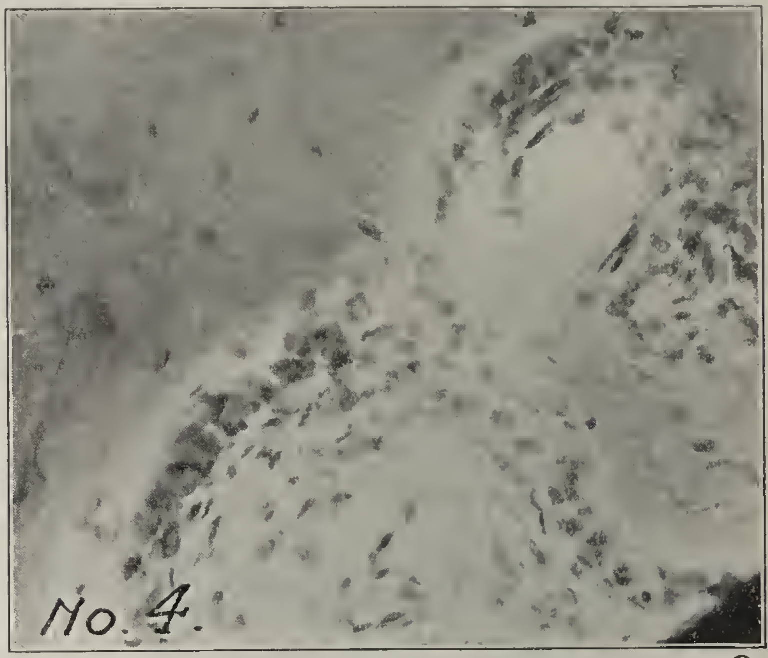

Fig. 4.—Two Haversian canals with bone destroyed between them.

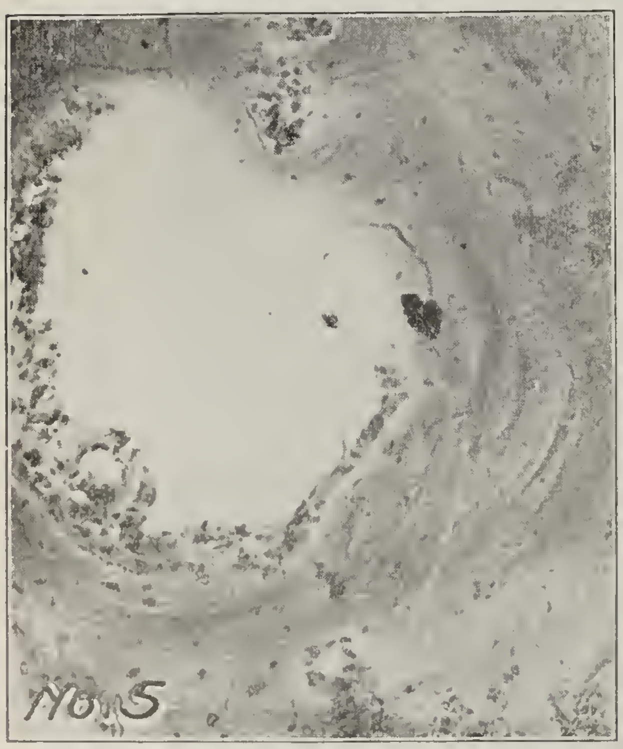

Fig. 5.—Large area of absorption, with destruction of fibrous tissue, and an artery, once a Haversian canal; outside of the absorption area, three Haversian canals with inflammatory process just beginning.

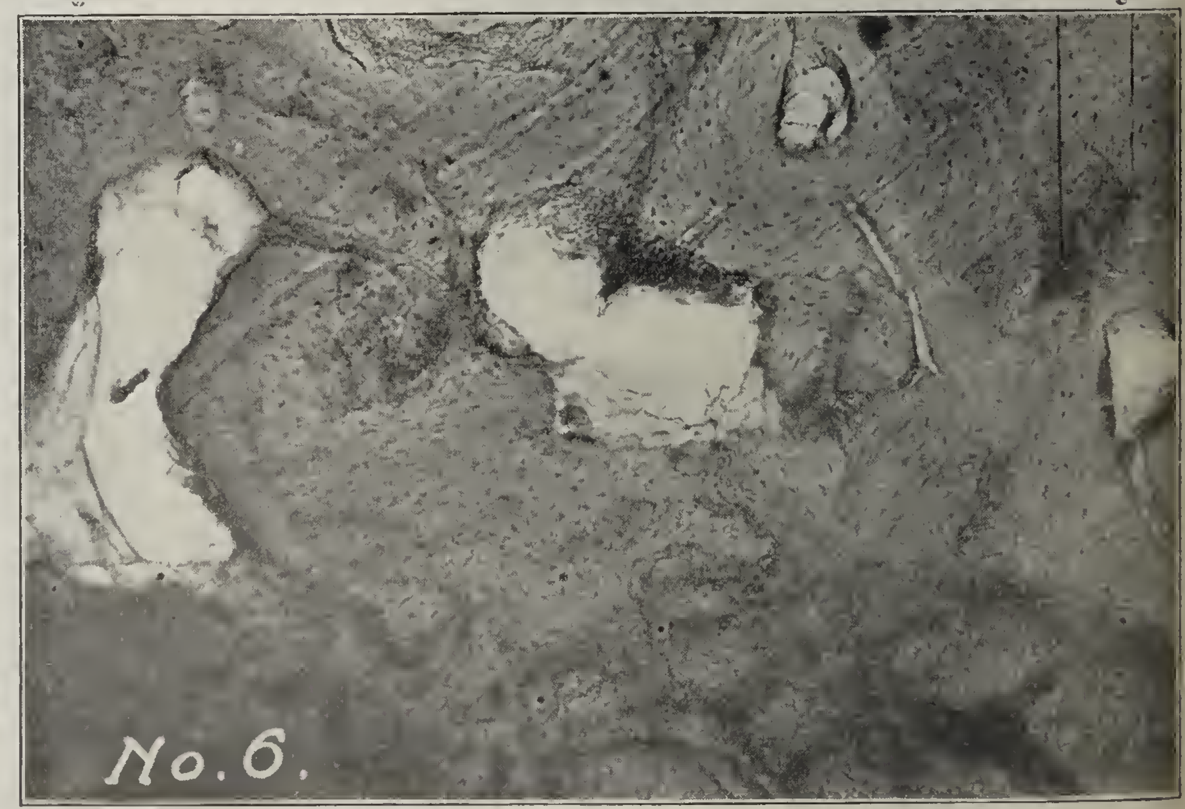

Fig. 6.—Four centers of absorption at Haversian canals; vessels of von Ebner running in all directions.

Before describing the results of these researches let me take up the minute anatomy of bone tissue. Under the microscope two systems of Haversian canals are seen in the alveolar process. Kölliker[2] describes these as follows:

> The Haversian canals are of two kinds, one with the regular lamellæ system surrounding it and the other, the so-called Volkmann's canals, containing the perforating vessels of von Ebner, which have no surrounding lamellæ but simply penetrate the layers of bone. Volkmann's canals are present in all tubular bones in old and young. While especially present in the outer basal lamellæ, they occur also in the interstitial leaflets and in the inner chief lamellæ as well as in the periosteal layers of the skull bone. Here their number is very variable. They run partly transversely or obliquely and also partly longitudinally through the lamellæ. Many of these canals open into the outer or inner surfaces of the substantia (compact substance), and also here and there into the Haversian canals and usually form altogether a wide-meshed irregular network. In their structure they are sometimes smooth and sometimes furnished with dilatations and angles projecting in and out in profile. The widest has a diameter of 100 microns or more, and the narrowest not more than 10 or 20 microns; and there are still narrower ones which are altogether obliterated, ap-

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[2] Handbuch der Gewebelehre, p. 272.

pearing like rings or circular-formed structures without any lumen, or like those far from rare obliterated true Haversian canals first described by Tomes and de Morgan. The contents of the Volkmann canals are the same as those of the Haversian canals.

Figure 1 (a) is a cross-section of the medulla of a calcified human humerus slightly enlarged. The outer lamellæ contain a large number of Volkmann's canals running longitudinally and transversely and extending through the outer plate of bone into the periosteum. Figure 1 (b), transverse section of the specimen seen in Figure 1, shows these canals under higher magnification.

The Haversian canals are large round spaces (Fig. 2), containing a single artery and vein. The fine hair-like spaces running from these large spaces are the canaliculi. The dark spots around each Haversian canal are the lacunæ. The canaliculi run from one lacuna to another into a Haversian canal, or they anastomose with each other. The rings of bone about each Haversian canal are called lamellæ. The lacunæ seem to be about uniformly distributed throughout the bone. The spaces between the lacunæ and canaliculi are filled with lime salts.

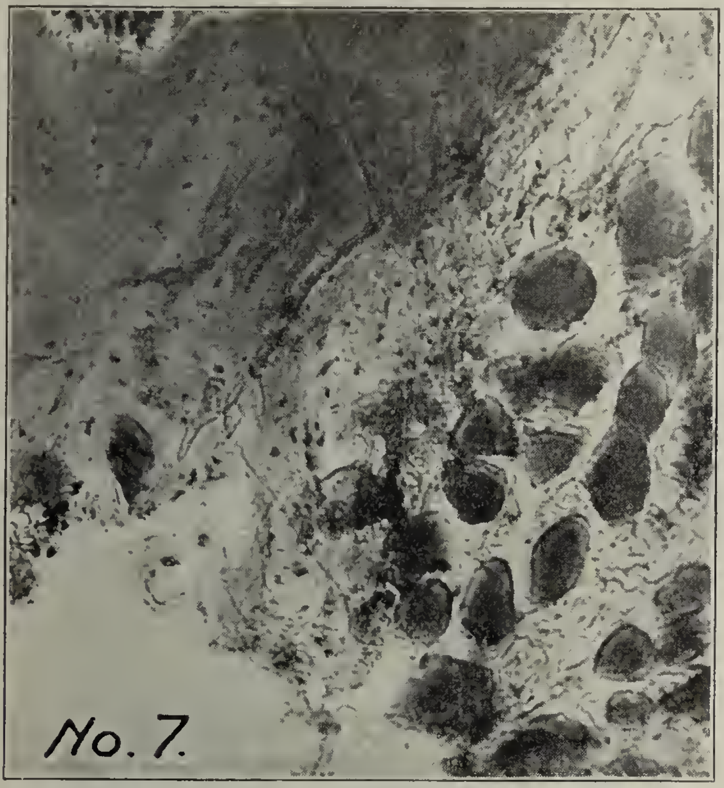

Fig. 7.—Lacunæ or osteoclast absorption.

When pressure is applied to a tooth, irritation and inflammation is set up in and around the arteries. The larger arteries running through the Haversian canals are first involved. An inflammatory process is set up around the margin of the Haversian canals and absorption takes place. Figure 3 shows the absorption of the alveolar process taking place at four different points or Haversian canals. The process of absorption is called halisteresis, meaning melting away of bone substance. The inflammation thus set up produces rapid absorption. Each of these four areas enlarge until they unite, producing larger ones. The lime salts are thus destroyed, leaving the fibrous tissue or trabeculæ intact. A considerable quantity of bone may be observed remaining in this illustration. Figure 4 shows two Haversian canals with the bone entirely destroyed between them, while Figure 5 illustrates a large area of absorption with destruction of the fibrous tissue. Around the border is seen a small amount of inflamed fibrous tissue; an artery, once a Haversian canal, is also seen. Outside of this large area are also seen three Haversian canals with the inflammatory process just beginning.

Figure 6 shows four centers of absorption at Haversian canals. The dark lines running in all directions through the picture are the vessels of von Ebner, through which Volkmann's canal absorption takes place. A beautiful illustration of this is the canal running from one large area of absorption to the other. Figure 7 shows the third form of bone absorption, lacunæ or osteoclast absorption. Here a large area of bone is destroyed by these large cells. Figure 8 is a low-power view, showing the destruction of the alveolar process due to pressure and absorption between the roots of the two teeth. Very little of the bone remains. When large areas of trabeculæ or fibrous tissue are destroyed, as shown in the center of this illustration, under certain conditions of interstitial gingivitis, especially after the alveolar process has obtained its growth, the bone cells are never reproduced.

Enlargement of the nasal cavity may readily be accomplished by spreading the dental arch by opening the suture at the median line provided ossification has not taken place. Arrest of development of the face, nose, jaws and teeth is due to an unstable nervous system or there may be excess in development, including ridges along the suture. In other words, the suture may ossify at two years; it may remain ununited as late as the thirty-sixth year, or, as sometimes occurs with the suture of the cranium, it may never close. To quote from my previously published work,[3] a passage which refers to the ridges on the suture in the mouth:

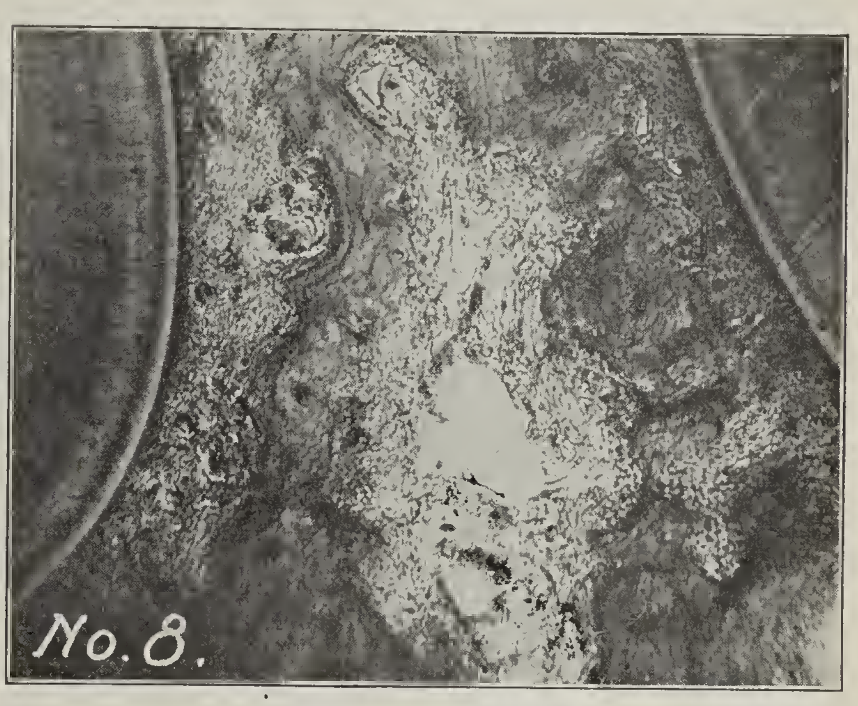

Fig. 8.—Destruction of alveolar process due to pressure and absorption between the roots of two teeth (low power).

> How, then, are deformities to be accounted for? We have seen that these projections are developed as early as the second year and as late as the thirty-sixth year. We are safe in the assurance that they are the result of excessive development of the suture, due to irritation set up at the time of ossification, by mastication, the lower jaw developing laterally faster than the upper, thus crowding the superior maxillary bones apart. I have observed this action in a large number of my patients, one of which I will here describe. A woman, thirty-six years old, had a space between the central incisors of 0.50 of an inch. No space was observed until twenty years of age. The teeth filled the arch and all articulated. The lower jaw continued to develop and the act of mastication carried the superior maxillary bone laterally, widening the suture, the space filling in and producing a ridge.

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[3] Osseous Deformities of the Head, Face, Jaws and Teeth, 1894, p. 391.

What will occur when early ossification has taken place and the closed suture has been reinforced by hypertrophied bone along the ridge? Will the process of causing inflammation and bone absorption in the alveolar process by pressure in the regulation of teeth extend its influence to bone cells about the nasal cavity? This is a subject for much discussion.

103 State Street.

READJUSTMENT OF THE SUPERIOR MAXILLÆ IN TREATMENT OF HARE-LIP AND CLEFT PALATE

AND THEIR SEPARATION BY DIRECT PRESSURE FOR THE RELIEF OF DEFLECTED NASAL SEPTUM AND CONTRACTED NARES.*

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MILWAUKEE, WIS.

It would seem safe to assume that nearly all practitioners of medicine will agree on the following points: In cases of deflected nasal septum or contracted nares leading to partial or complete stenosis with the usual associated difficulties of spurs, enlarged turbinal bodies, hypertrophic enlargements of intranasal structures and other factors of similar nasal diseased conditions, with adenoids, enlarged tonsils and mouth-breathing it would be greatly beneficial if more breathing space could be secured and better oxygenation made possible by some means other than complete removal of turbinal bodies, a practice now largely abandoned, as many operative procedures not yet entirely discarded doubtless will be when both their inefficiency to give permanent relief and their postoperative disadvantages are better appreciated.

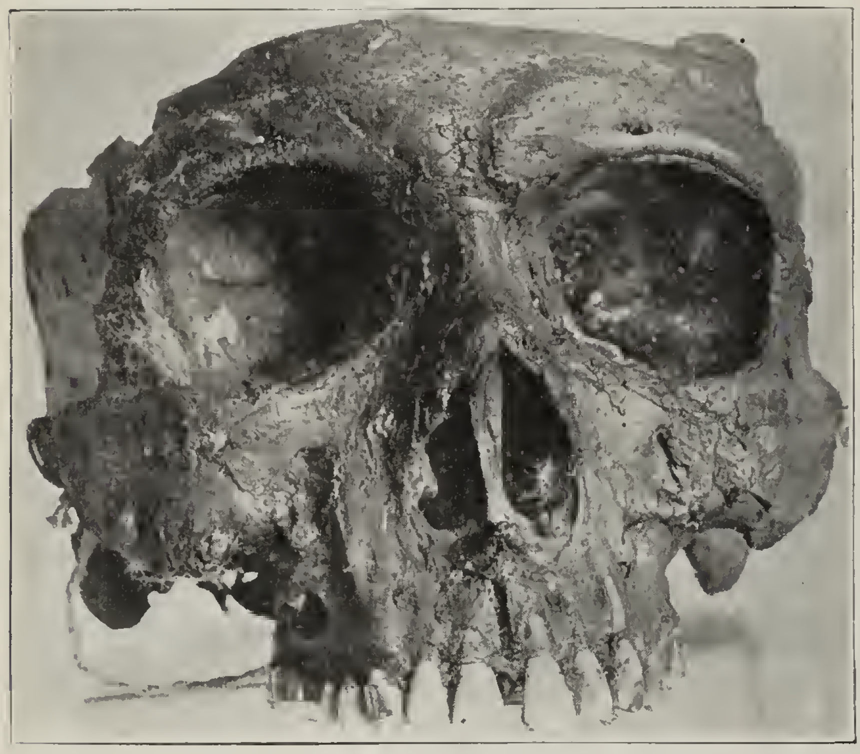

Fig. 1.—Skull, to which was applied author's appliance for correction of intranasal deformity, showing separation of suture.

All, however, are not agreed that this can be done. Even those with whom I have been associated in the correction of such conditions, who know from practical results that these patients can be benefited by extranasal procedures such as I have applied, though agreed as to the effect, have not been entirely in accord as to the manner in which relief is given.

My purpose at this time is, therefore, to explain the method of applying direct pressure in such manner as to separate the upper maxillæ through the median suture. As a result of this operation by separation at the floor of the nose, wider space must be secured; through the forcing apart of the nasal processes of the superior maxillæ on both sides, more or less additional room must be given in the region of the nasal fossæ, and because of their attachment the nasal bones must have tendency to move with the maxillary bones to which they are attached, thus materially increasing the natural air passages throughout. I shall also demonstrate by presentation of cases, photographs and other clinical evidence that not only does actual separation occur, but that the therapeutic benefits are beyond question.

This method, which I had been following some years previously, was definitely reported in 1901 by Dr. Nelson M. Black of Milwaukee, on whose patients I had successfully performed expansion of the maxillæ in this way for the relief of aural and nasal affections. On other occasions I have claimed originality for the idea of expanding the dental arches in this way for the definite purpose of producing this result. So far as I have been able to learn, it was never before done for that purpose, notwithstanding the fact that nearly all dentists at various times in their orthodontic experiences have noted separation of the central incisors as herein described with more or less alarm but without definite understanding of the possible therapeutic value of properly producing that separation.

Fig. 3.—Patient in whom the nasal septum was so buckled as to produce almost complete stenosis of the nares.

There has been among rhinologists generally more or less failure to understand just how this should be done; in many instances reference of cases to dentists for expansion of the dental arch by the methods of modern orthodontia has not given satisfactory results. Through the courtesy of Dr. Lee W. Dean of the University of Iowa I have been able to perform the same operation on the skulls of fresh cadavers, one of which is illustrated in Figures 1 and 2, showing conditions just as produced for patients with the median suture separated and the nares expanded as described. For these reasons it seemed well to place the whole matter definitely on record and to add thereto some additional clinical evidence of practical therapeutic benefits accomplished thereby.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

CAUSES OF HARE-LIP, CLEFT PALATE, ETC.

It has become apparent to me through study of the grosser deformities of hare-lip and cleft palate and the effect on the development of the nasal septum and other intranasal structures of maldirected force expressed through abnormal muscular action and unnatural breathing, as well as arrested development and consequent malformations due to early compression of the maxillæ of such infants in efforts to close the palate, and other factors leading to increase or decrease of deformity which are, as might be expected, more apparent in these extremely marked types of asymmetrical development, that by rearrangement of the superior maxillæ much might be done that could not otherwise be so well accomplished.

Whatever the etiologic factors may be or however well explained by rhinologists, the fact remains that with deformities such as deflection of the nasal septum, spurs, and other conditions which bring about partial or complete nasal stenosis, the one great desideratum in attempting cure is larger breathing space, more room for the oxygenation on which healthfulness of the more or less hypertrophed tissues depends.

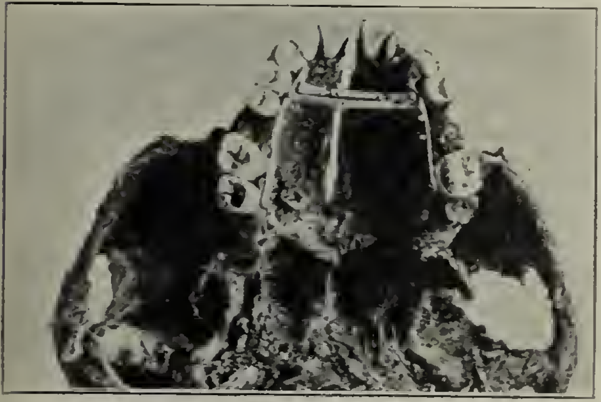

Fig. 2.—Same skull as in Fig. 1, showing appliance in position, palate suture apart.

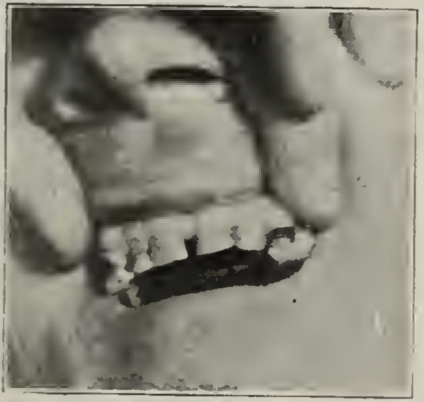

Fig. 4.—Showing space between central incisors which was produced in patient shown in Fig. 3, after wearing appliance two weeks.

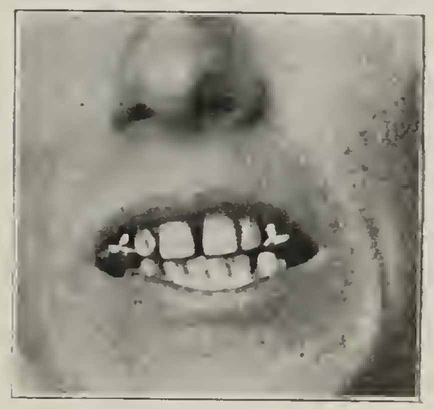

Fig. 5.—Separation of central incisors in another patient brought about by wearing appliance approximately two weeks.

Although my present intention is to explain readjustment of the superior maxillæ in relation to the surgical and therapeutic possibilities of such treatment, and questions regarding the etiology of nasal and pharyngeal deformities have, therefore, not been entered into, there is, nevertheless, one general feature with reference to the literature of these subjects taken in a general way that does seem to require notice as being in line with a complete understanding of the requirements which demand the remedial measures here recommended.

Many authors in this country and in Europe have devoted much space to causal factors of deviated nasal septum, and deformities, such as adenoids, enlarged tonsils, crowded dental arches, dental irregularities, and other abnormal conditions in these regions, which are so frequently found in the same individuals.

The dental irregularities and high, narrow palatal vaults have been ascribed to the adenoid vegetations and nasal defects which caused mouth-breathing; again, the adenoids and enlarged tonsils have been laid at the door of the dental irregularity, or the adenoid vegetations have been ascribed entirely to want of nasal breathing and insufficient oxygenation. Some authors have associated these defects and given heredity full credit for all the ills that are thus associated, to the complete exclusion of factors such as imperfect physiologic respiratory effect, abnormal muscular action, and the other influences directing or misdirecting developmental processes. In short, many theories, all more or less correct, but each in itself insufficient to cover all these conditions, have been advanced, accounting for other abnormalities under discussion by causes ranging from thumb-sucking and accidental injury to the more complicated embryologic and physiologic factors.

A careful scrutiny of nearly all such patients will usually reveal other features and sometimes remote parts of the body unequally or at least asymmetrically developed. These, therefore, could not result from any of the etiologic factors that apply only to local conditions, and some general law governing a tendency to irregular cell development must be accountable as a first factor in nearly every instance.

Adenoid vegetations are usually, and would appear to be almost necessarily, associated with mouth-breathing and imperfectly developed nares. Yet the fact which I have previously noted in former papers, namely, that in individuals with cleft palate, even those with wide fissures throughout, one quite commonly finds masses of adenoids and tonsils much enlarged, demonstrates that in such cases at least restriction of the nasal space did not cause the vegetations.

On the other hand, the effect of muscular action in mouth-breathing, thumb-sucking and other habits of this character can not be denied or ignored, any more than one could say that hard labor would not show its effect on the shape of the hands, or that an organ or part of the body would not atrophy from disuse and become larger and stronger by exercise.

METHODS OF CORRECTING INTRANASAL DEFORMITIES

The various operations for the correction of the intranasal deformities, such as the Asche operation, the so-called window operation as practiced by Freer and others, removal of spurs, etc., while frequently successful in skilful hands in giving some measure of relief, are, nevertheless, somewhat limited in their usefulness. There seems to be no room to deny the statement that if the external walls of the nares can be moved apart to the end that the breathing space may be thus enlarged and this by sufficiently harmless methods, the result would be one greatly to be desired and highly beneficial. This I have been doing for a number of years.

Through application of a force at once simple, direct and effective, we are able to get a prompt and positive result. The appliance used as shown in the illustrations consists of bands attached to the cuspids and molar teeth on each side so joined that when a bar with screw and nut is attached across the palate in the bicuspid region, the force applied by turning the nut will cause pressure against all of the teeth on each side of the dental arch. With pressure applied so gently that there is no pain and but little inconvenience experienced by the patient, it is possible in all young persons (and the illustrations here given show that it is also practicable in older ones) to force the maxillæ apart by separation of the median suture extending between the central incisor teeth and on through the central portion of the hard palate.

Evidence of this is given by the fact that the central incisors are moved apart without attachment or direct pressure of any kind being applied to these teeth.

So easily is this accomplished that members of the patient's family usually turn the nut at home, and it frequently happens that from the time of the insertion of the appliance until the separation is complete I never see patients who live at a long distance from me.

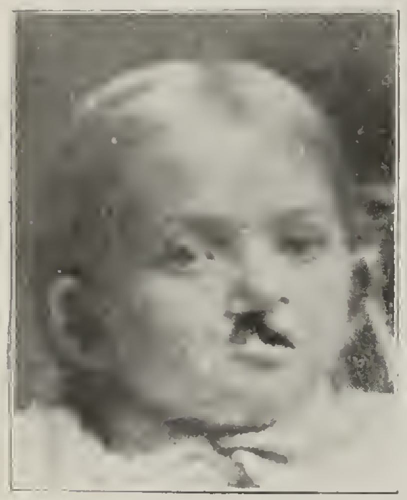

Fig. 6.—Faulty result from attempting to close the palate and the lip at the same sitting in a case of harelip and cleft palate.

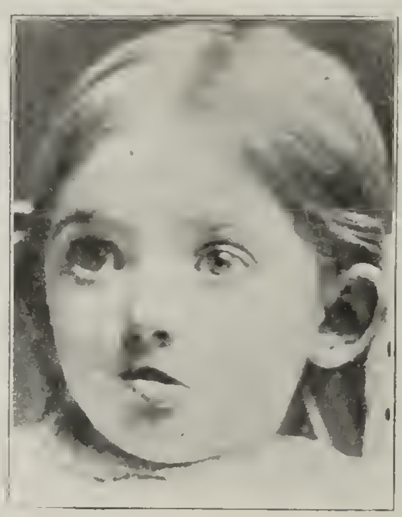

Fig. 7.—Same patient as in Fig. 6, after closing lip fissure.

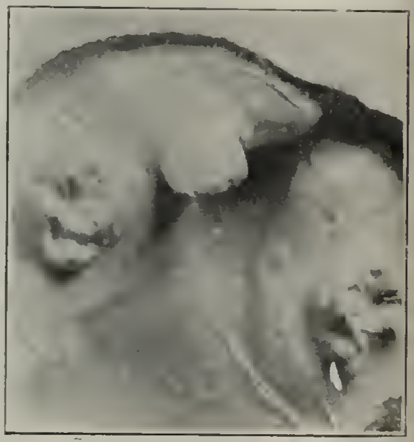

Fig. 8.—Cast of mouth of a girl of 14 in whom early operation for cleft palate caused the result shown.

With the separation of the superior maxillæ in this manner, as might naturally be expected, the nasal processes and the nasal bones through their points of attachment are moved with them, thus giving a direct and immediate increase of space within the nares.

With many dentists, particularly orthodontists, it is a common practice to enlarge the upper dental arch in the correction of dental irregularities and much benefit to the nose as well as mouth is usually accomplished, but with all appliances commonly used by dentists the pressure is chiefly applied in such manner as to cause an osteoclastic absorption of surrounding bone. This has been clearly demonstrated by Talbot in his experiments on dogs, on the teeth of which he placed regulating appliances, and later examined microscopically sections of their jaws and teeth after pressure had been applied for a sufficient time. To get the best results, however, this osteoclastic absorption is exactly what should not take place. By immediate and direct pressure as given by the appliance that I have devised, through marked resistance of the more rigid portions of the superior maxillary bones in the region of the malar processes, just the right counter-force is applied to make the effect extend into the higher regions between the maxillæ.

RESULTS

Direct proof of this is given in many ways. For example, in the skull shown in Figures 1 and 2 the diameter across the base of the nose, between points marked and measured before applying pressure, increased one-eighth of an inch, and across the upper third of the nose one-sixteenth of an inch.

Figure 3 shows a young man, aged 29, whose nose was injured by a baseball in early youth. A rhinologist, Dr. Nelson M. Black, by whom the patient was referred to me, found the septum buckled in such a manner as to give almost complete stenosis of one naris, the turbinal bodies much enlarged, and hypertrophic conditions generally marked. The patient was greatly troubled by attacks of sneezing when he bent his head downward.

The appliance was adjusted April 6, 1908; within two weeks the space between the central incisors appeared as shown in Figure 4. Actual enlargement of the nares was confirmed on examination by Dr. Black, and by the improved breathing experienced on the part of the patient himself, thus proving that even at this patient's age the desired result had been quickly accomplished.

Most of the time the patient, who resides in another city, was at a distance from me, and the turning of the appliance was done by one of the members of his family.

Figure 5 shows a young man of 21 whose central incisors show the same separation, and for whom the maxillæ were parted, with marked improvement in the nasal width in approximately two weeks' time. The other illustrations are of patients referred to me by rhinologists, in all of whom the desired nasal space was secured promptly. To these might be added a long list of other patients who have received the same treatment with precisely the same result in my practice during the past few years if repetition by citation of other cases were either necessary or advisable.

All these cases show a greater or less amount of deviation of the nose from the central facial line, an imaginary, though clinically a very useful line, to which I have previously called attention, taken through center of forehead, tip of nose and center of chin. Deviation from this line, one way or another, is almost certain indication of perverted nasal and maxillary growth, leading almost invariably to pathologic nasal conditions.

Especially among growing children treated by this method has there been marked physical improvement. tendency to growth in height as well as general development. and increase in weight. Many of these had previously been unable to attend school regularly because of the tendency to affections of the nose. throat and bronchial tubes.

Nervousness was almost invariably very greatly relieved. and this. it is believed, for two reasons: 1. the well understood results from the improvement in breathing apparatus with the general healthfulness to be expected from better aeration and freedom from diseased nasal secretions. and. 2. the relief of that condition to which Kiernan has called attention. caused by crowding together of the dental arches with tendency to nerve irritation.

This condition quite frequently manifests itself. not only in increased nervousness of a general character. but also in the development of neurotic tendencies leading to chorea. epilepsy and other similar affections. which in some instances at least might perhaps have been averted if these patients could have been tided over critical periods in their development. This has been recognized by Dr. Talbot as one of the periods of stress.

Certainly it is a curious fact that even with the disadvantage of having the appliance in their mouths and the bar across the palate. children who are subject to such pathologic conditions almost immediately become less nervous. have increased appetites. and general development goes forward almost from the very first few days after pressure has begun to be exerted.

I can not help feeling that this treatment can be made a very great factor in safeguarding against tuberculosis. It is so easily accomplished and the results are so greatly beneficial that it should be applied to the hundreds and thousands of growing children who are unquestionably more susceptible to pneumonic and bronchial affections because of imperfect breathing. It offers a possibility of relief which is especially important on account of the fact that such defects are well known to be on the increase, arrested development in the maxillary region being more marked in each generation under the conditions of our so-called civilization. The principles on which this treatment rests are based on and verified by a study of the development in embryo of those structures which ultimately develop into the bones of the nose and face and the dental organs. Sections taken through the heads of human embryos at important periods. from the fifth week until birth. and a further study of development in this region until the fourth or fifth year discloses the fact that in an early embryonic period the germs of both permanent and temporary sets of teeth are in course of development. It is beyond question that any restriction in the region of the palate and alveolar structures must cause crowding in the direction of least resistance. which is necessarily at the expense of the nares. Therefore. proper treatment must be relief by expansion in this region.

When through arrested development the palate and maxillary bones fail to unite. resulting in the development of hare-lip and cleft palate. adverse. uncontrolled muscular action causes disarrangement and spreading apart. which must receive attention in order to give symmetrical form to the nose. mouth and palate. as well as functional results in breathing and speaking. the application of force in the opposite direction to that required for the foregoing class is needed, for compression is necessary. The methods I employ for this purpose have been described in my former articles.[1]

As might also be expected when the method is followed of treating infants with hare-lip and cleft palate in early infancy by forcing the sides of the fissure together and the use of wires placed through the jaws with lead plates to hold them in position, the result must inevitably be deformity through narrowing of the nares. fixation of the maxillary bones in malposition. destruction of erupting teeth and, through their failure to erupt. arrested or imperfect development of the mouth. nose and lower part of the face.

An example of the ill results which sometimes follow this treatment is shown herewith in Figure 6. The patient was a little girl of 3 years old. on whom operation had been performed in early infancy according to the method above referred to, the maxillæ being forced together in an attempt to close the palate and the lip closed at the same sitting. The result was that the palate operation failed. except that a small portion of the tissues united sufficiently to hold the parts in their abnormal relation. as evidenced by the picture. and sloughing of the lip resulted in the loss of lip structure from the cartilaginous wing of the nose to the angle of the mouth on the affected side. Figure 7 shows the same little girl after I had closed the lip fissure. This picture makes apparent the fact that. though the lip itself looks fairly well. the deformed condition of one side of the nose can never be wholly overcome.

I have previously illustrated similar cases in the articles above referred to and in other publications. During the past year I have had a number of patients brought to me for correction of similar results of the same kind of maltreatment in early infancy. The unfortunate part of it is that patients of this kind in whom results seem to be quite satisfactory at the time of the operation in infancy. as development proceeds, will look even worse than those illustrated. because. as the children become older their correction is much more difficult. Figure 8 shows a cast of the mouth of a girl of 14 in whom early infancy operations for cleft palate have caused the result shown.

SUMMARY

In otherwise normal cases the maxillæ should be separated to improve contracted nasal conditions. and the earlier this may be done the better the result.

In infants with hare-lip and cleft palate. the parts should be readjusted by gradual methods. care being used not to disarrange more than may be absolutely necessary those structures. which. though invisible. are nevertheless in course of development.

In cases in which very wide fissure actually exists the width of the fissure should be reduced and the form of the palate corrected before plastic operation for closure is attempted.

It appears to be quite impossible for one to overestimate the benefit to the general health and development of growing children. could they be thus cared for at a sufficiently early date. In the war against tuberculosis. treatment of this character is unquestionably destined to be a factor quite worth consideration.

445 Milwaukee Street.

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[1] A System for the Surgical Correction of Harelip and Cleft Palate. THE JOURNAL A. M. A., March 18, 1905, xliv, 848; Conservatism in the Treatment of Infants with Harelip and Cleft Palate. THE JOURNAL A. M. A., March 2, 1907, xlviii, 754.

ABSTRACT OF DISCUSSION*

ON PAPERS OF DRS. DEAN, TALBOT, BLACK AND BROWN

Dr. Nelson M. Black, Milwaukee: My paper referred especially to the widening of the upper maxilla in cases of deflected septum, after which widening there is decided straightening of the septum. After the jaw is widened, either from resiliency of the septum or from the relief of tension consequent to lowering of the vault the septum is forced in between the suture or space, and to a large extent helps to hold the two arches of the palate apart. In cases in which this operation is done for deflected septums, a retaining appliance does not appear to be as necessary, or, if worn at all, is worn for a much shorter period, with the continued good benefit that is brought about by the widening of the maxilla. So the septum either must spring down between the two halves of the palate and hold these apart, or else besides a lowering of the vault and the resiliency of the septum which tends to hold the tissue separated, there is a new disposition of bony tissue which keeps the widened maxilla in its position; for with the result once accomplished I have never seen the deformity recur.

Dr. James E. Power: In the cases in which the separation is as marked as in the skull just exhibited, what ultimately becomes of that space brought about by the separation? Does tissue form in there, and if so, what kind of tissue? Does it finally become cartilaginous or bony? Dr. Black partially explains this by the dropping of the arch after the palate bones have been separated; but if this theory is not accepted, what ultimately fills that space? In a case of separation when the teeth are all present, I can accept the opinion that the teeth may find their normal position, or a new position; but in the cases in which teeth have been extracted and the full number of teeth not present, then it seems to me without knowing all about this particular operation, that the teeth would have a tendency to move backward.

Dr. Vida A. Latham, Chicago: I am glad that our section has tried to force the general medical profession to recognize the desirability of joint work on the part of rhinologists and stomatologists. Dentists should be associated with rhinologists in widening the arches in cases that require it.

I do not think it wise to operate on adenoid tissue with a cautery, for every one knows that to treat a burn is far worse than ordinary incision; because of the sloughing, the danger of infection and of hyperplasia or hypertrophy which only gives a return of the conditions that we are trying to get rid of—an excess of adenoid tissue. At what age do adenoids (hyperplasia and hypertrophy) begin to show themselves? Some state that the very earliest is four or five years. I think that there is a likelihood of those conditions appearing much earlier. I have seen cases in which the palate was well developed, with good respiration, and the adenoids have recurred after being removed by specialists. So it seems that there is an unknown factor at work. What produces adenoids and why do they recur?

Does the condition of deflected septum always come from deformity of the jaws? There are cases of deformity in which deflected septum is not present. There is sometimes an inclination to stenosis of one side of the nose of the fetus three months *in utero*. So although the statement is made that adenoids occur only at two to four years, it seems rather late for us to begin to correct the condition. I take issue on the question of obstetric forces. Unless we can consider the matter of a normal position in obstetric work, I can not see how accouchement forcé can possibly produce those defects. Why? Because the time of delivery is short in comparison with the length of time the fetus has been developing. In the Bohemian and Lithuanian districts, there is notoriously difficult obstetric work. One would think the general difficulty of delivery would produce the most awful deformities, but they do not often result. Sometimes it seems impossible that the brain will ever recover, but generally it does.

Are calcified jaws really ossified so as to be firm at birth? I should say no, because there is not a case in which the jaw will not slip forward and back again and retain its shape. I think that, as Dr. Talbot says, there is some indication that the position of the fetus might have something to do with it. Given the deformed pelvis in these rachitic or osteomalacia cases, in which the child's head is bent on the chest or under the arm, then, and only then, by pressure previous to birth could those difficulties occur.

In treatment I do not think it is sufficient to apply a band or brace, without looking to the occlusion. I have models taken from a patient treated through the suggestion of Dr. Brown, who recovered with his theory of less orthodontia. This patient was abnormally developed; his teeth were locked, the anterior teeth protruded very much. That man, on having the separating bar and screw in, jumped his bite and the jaws went back, securing almost normal occlusion and he is much better. The uvula was about three inches long and reached into the throat, making him cough most of the time. In this case it would not have sufficed merely to bring down the palate, unless some method of exercise had been put into execution. It is a good plan in these cases to put a patient, with the mouth shut, under military treatment and the exercise of slowly climbing hills. At first he can go only a few steps up-hill without trouble in breathing, but after he has done it twice a day for a time, going slowly up, breathing with the mouth shut, you would be surprised how the bringing in of oxygen helps such a case of deflected septum. I believe that methods of exercise should be considered with the method of regulations. When do these deflected septums occur, and how can the submucous resection of the jaws help those cases by the filling in of bone?

Dr. Eugene S. Talbot, Chicago: A point of great interest to the rhinologist and to the dentist is the widening of the nasal cavity. There is a law governing development, and if that law be understood, it is easily seen how the suture develops. We have been speaking of arrests of development, but we must also bear in mind the fact that there is frequently excessive development. Patients are often seen who have spaces between the permanent central incisors. Dentists believe these spaces due to the frenum of the lip, no doubt, because it is located at that point. But the frenum has nothing to do with it; it is simply lateral overdevelopment of the upper jaw; the jaw continues growing. Often when there is arrest of development of the upper jaw, the lower jaw develops normally, because the former is movable, and more blood is carried to it on account of its mobility, while the upper jaw is fixed. When there is an unstable nervous system the lower jaw will carry the upper jaw outward laterally by force of the articulation, and this suture develops abnormally wide and connects the two bones together in a firm mass. The same law holds true with hypertrophy of the fissure. I have demonstrated by illustrations this excessive development taking place at the second year; that is, there is hypertrophy of the suture. Hypertrophy of the suture in the vault of the mouth is just as liable to occur as arrest of development, although it is not seen so often; more frequently there is an arrest of development of this suture, and that is favorable to the work Dr. Brown has brought before us.

When appliances are used to separate the maxillary bones it is simply a matter of how much pressure can be brought to bear on the teeth. If sufficient pressure be exerted to open that suture, when it is undeveloped, when the arches have not united, or when there is hypertrophy, then we shall accomplish what we wish. If, however, we have hypertrophy of the suture, and are unable to move the lateral halves of the bone apart, it is difficult for me to understand how the nasal cavity is to be enlarged. I can conceive of such cases.

I have been asked what the material is that fills in that space. It is nothing more or less than an osseous formation. How quickly that will be formed depends on the nervous system. I can see very readily that the suture might close with new bone and hold the lateral halves in place in connection with the inferior maxilla within a few months. On the other hand, I can conceive of opening up that suture and never having it unite. I have seen such cases. Of course, they are rare. I have published a report of a case of suture in the temporal bone remaining ununited. It is not uncommon to find in degenerates an arrest of development of the suture of the frontal bone. There is a case recorded ("Osseous Deformities of the Head, Face, Jaws and Teeth") of lack of union of the superior maxillary bones at the thirty-sixth year.

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* Because of lack of space, part of this discussion, including the illustrations, is omitted. The full discussion with illustrations and with the complete text of the five articles by Drs. Dean, Talbot, Black and Brown appear in a reprint, a copy of which will be sent by the American Medical Association on receipt of four cents in stamps.

* The papers of Drs. Dean and Black appeared in The Journal last week.

Dr. E. A. Bogue, New York: Dr. Léopold Chasreau asserts that he has operated at birth for adenoids in fifty cases. I took occasion to inquire very carefully at four children's hospitals in New York about the age at which adenoids appear. The physicians at the Sloane Maternity Hospital said that they had not in five years had a single case of adenoids in children under 3 years of age. Perhaps they had not observed them. The mother of one of my own little patients says that her daughter had them at nine months. It seems to me that the tonsillar ring may be mistaken for adenoids. There are present in that only the elements of what may later become adenoids. Adenoids are pathologic and tonsils are not.

Dr. Stewart L. McCurdy, Pittsburg, Pa.: In the study of the development of tissue and the deformities of the extremities, we as orthopedic surgeons have changed entirely around from the original theory that pressure produces atrophy. This has come about since the deduction from the work of Wolff in Europe, known and accepted now as Wolff's law, that under pressure tissue develops rather than atrophies. This law applies to bow-leg and knock-knee. Bow-leg in children depends entirely on the weight that the legs carry originally. I have seen as many as five cases in one family and I have operated in one day in my clinic in Pittsburg seven cases of bow-leg or knock-knee in Italian and negro children. Yet how many cases do you see of bow-legs in adults? We do not operate in all these cases. Comparatively rarely do such patients come to us for operation; yet Nature herself rectifies those deformities because of the demand that is made on the tissue. As the bone develops, the tibia and fibula or the femur, the tendency is for it to develop in straight lines. These deformed bones are, therefore, rectified without any treatment at all, because as the epiphyses unite with the shafts of the bones the limbs become straightened. So we should, I believe, take this factor into consideration in studying the deformities of the face.

I am impressed with the advantage of the operation of Dr. Brown, because when he separates the maxilla there is a space left between these bones that is in proportion to the extent of space that is left between the teeth. If the piers of a bridge are moved apart and just the same amount of material used to reach across from one pier to another, the result must necessarily be an arch with less circumference. So f there is a very high arch before the separation is made, after separation the arch is lessened in circumference; it is brought down, and thus the material reaches across. The spreading of the maxilla causes the arch to drop down, and as t does so the septum will spread out to reach the same position. The tendency is, then, to develop in straight lines and to fill these spaces that are left.

Permanent deformity resulting from parturition is rare. I saw a case of permanent dislocation of one-half of the frontal bone, about four months after birth, and nothing could be done at that late time. In the practice of obstetrics we see great distortion of the skull immediately after birth, but my advice s not to try to reshape these heads; allow Nature to do this, which she always does, and there will probably not be any permanent deformity. I have operated on a number of cleft palates. In these cases there is a lack of material. The material was sufficient originally, but was not adjusted properly, and that results in a defect or cleft. We sometimes have this ondition in the anterior surface of the bladder, and the same ondition exists in spina bifida. In the latter case we can not, of course, bring the laminæ of the vertebræ together, because apparently the material present is not sufficient, but he soft tissues can be united with strong sutures, thereby making complete closure.

Dr. G. V. I. Brown, Milwaukee, Wis.: The common idea as expressed by one school of orthodontia is that malocclusion is the chief factor. I believe fully in that when malocclusion exists, but in order to have malocclusion there must be teeth to be occluded; in other words, the teeth must have erupted to the point at which there can be occlusion. Unless something disarranged those teeth from their natural position, they would meet in normal occlusion. Therefore, malocclusion is only a secondary factor. Perhaps the primary factor is early loss of teeth, but more often it is something which disarranged the developing teeth so that they developed in wrong positions. From that time on, when the occluding surfaces of the crowns can meet, then, of course, we can not avoid the fact that occlusion must be considered in everything done.

I believe that perhaps 75 per cent. of the orthodontia that is practiced would not be necessary if we would give plenty of room to the teeth. The natural thing for teeth to do when not locked is to come in in proper form if they have room to do it; if they have not room, they can not. The cases in which these separations occur do not keep the separation at all—the incisors move over together; many times when the incisors are in marked protrusion they will drop back quite naturally into almost the perfect form of the arch without being drawn back. I believe that retrusion on those projecting teeth ought to be applied very carefully, and certainly not until they have done all that they will do for themselves and which they have a natural tendency to do in every case. The appliance put in prevents the bones also from returning to their first position afterward. This appliance may be left on as long as may be necessary. Most people do not like to have it in so long, and in those cases we remove it and the very same day put back a very much simpler appliance, a hard rubber plate that goes over the palate, carefully cut to fit the lingual surfaces of the teeth. With that, people can be sent away to any part of the country; you do not have to bother with them any more because you know that the jaws will be held in the same position as when the first appliance was taken off. The patient is instructed to continue wearing it until it can be taken out over night without noticeable effect, and then left out for longer periods without the plate feeling tighter when reinserted. For young people, who would be likely to take the plate out and keep it out, I prefer to have a fixed appliance that will remain permanently, but I find that the more I leave these teeth free to find their own proper places, except in a direction I do not want them to go, the better result I get and the more quickly they find the position in which they will be comfortably retained. That is why I like the simple plate which only touches the lingual surfaces and leaves them free. When there is expansion sufficient to give the proper breathing space and to make the upper arch as it should be, then if the lower arch is not in right proportion it must also be expanded, and in most of these cases we have had the lower arch expanded in order to keep the upper one in place.

Clinical Notes

A NEW SAMPLE SPUTUM BOX

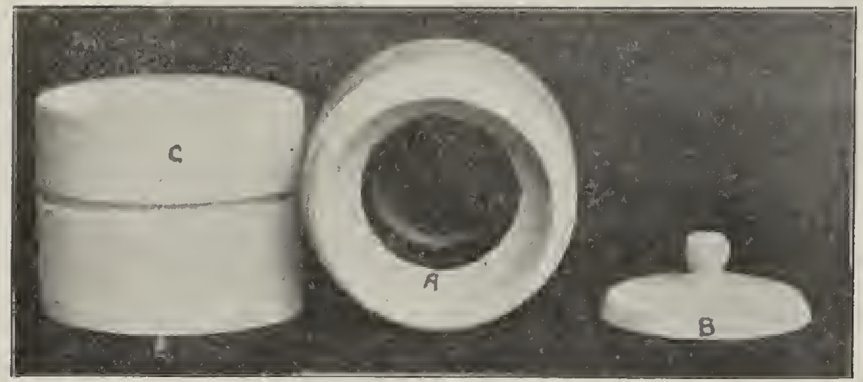
CHASE P. AMBLER, M.D.
ASHEVILLE, N. C.

To those who make microscopic examinations of sputum, either in private practice or in general laboratory work, it has all along been a question to secure a satisfactory receptacle in which the sample of sputum could be collected. Bottles, as a rule, are unsatisfactory from the difficulty of getting at their contents. The ordinary screw-top box comes back to the microscopist in such a condition that it is frequently unsafe, and certainly unsanitary, even to attempt to handle it. Moreover, the ordinary screw-top box swells on account of the moisture of the sample getting into the thread of the box, with the result that the box can frequently be opened only by breaking or splitting the lid.

To obviate these disagreeable features in the ordinary receptacle for securing such samples, I had made, over a year ago, a wooden box which consists of three pieces, as shown in the accompanying photograph. The base has an offset or shoulder at A on which the inside cap B rests, the interior of the base and the bottom of the cap being covered with asphalt, thus rendering the box impervious to moisture and also making a tight joint at the shoulder A. The knob on the top of the cap B projects slightly above the level of the base, thus allowing the cap C (when the top is screwed down on the box) to press on the knob of the inside cap, making a pressure at the shoulder A to insure a perfect joint at this point.

I have had these boxes in daily use for about a year and have found no objection to them since the shape of the cap has been changed and the knob supplied. The box can always be easily unfastened and the inside cap lifted out without soiling the hands.

The cost of these boxes is trifling, as they can be secured in ten-gross lots at $3.25 per gross. The boxes have been made for me (in wood) by E. B. Estes & Sons, New York City.



A new box for samples of sputum.

I am not interested in the manufacture of the boxes, but can recommend them to any one who has met with the annoying and disagreeable features above mentioned in the examination of sputum.

REMOVAL OF A FACIAL NEVUS

T. W. CURRY, A.B., M.D.
STREATOR, ILL.

History.—The patient, K. H., female, domestic, aged 15, had a hairy mole from birth, covering the entire right side of the face and raised above the surrounding skin, growing up into the hair, down along, close to and under the right eye, to within one-half inch of the ala of the nose and corner of the mouth down onto the neck, below the angle of the jaw and over onto the tragus of the right ear. The growth had given rise to no symptoms of any kind, but kept the patient a recluse, in order to avoid comment.

Operation.—This nevus was removed piecemeal, six different operations being performed, at intervals of two weeks. The first consisted in taking away a piece, three inches in width, on the neck over the angle of the jaw, undermining the free flap of skin on the neck, pulling it up and suturing it to the cut edge of the nevus. In the next stage, that part on the forehead was removed and a flap of skin, with the base attached, swung across from the middle of the forehead to cover in the defect. The remainder of the nevus was cut away in four sections, and ordinary Thiersch grafts, taken from the thighs of the patient at the time of operation, were used, the cut surface being thoroughly dried and the grafts placed directly thereon. After none of the operations did the grafts fail to grow, although the little patient could not be kept from talking. There was no suppuration at any time. That part of the nevus below and at the side of the eye was removed with the electric needle, since contraction of the scar and pulling of eyelids was feared if this portion were excised. The original intention of removing the mole *en masse* was later abandoned, for fear the cut edges of skin, retracting, would leave a space too large to cover. The grafts were dressed with gauze, held in place by small strips of adhesive plaster, with gutta percha tissue outside of this. In forty-eight hours, when the dressing was taken down, the gauze was found moist and easily detached from grafts. (Dr. L. L. McArthur, Chicago, gave me this useful suggestion when I was serving under him as an interne in St. Luke's Hospital.) It provides a sterile dressing next the wound, instead of the gutta percha which is difficult to render aseptic. As for the method of erecting a bridge over grafts, it would seem safer to place a dressing directly on so mobile a surface as the face and in this way prevent the grafts from slipping and becoming detached.

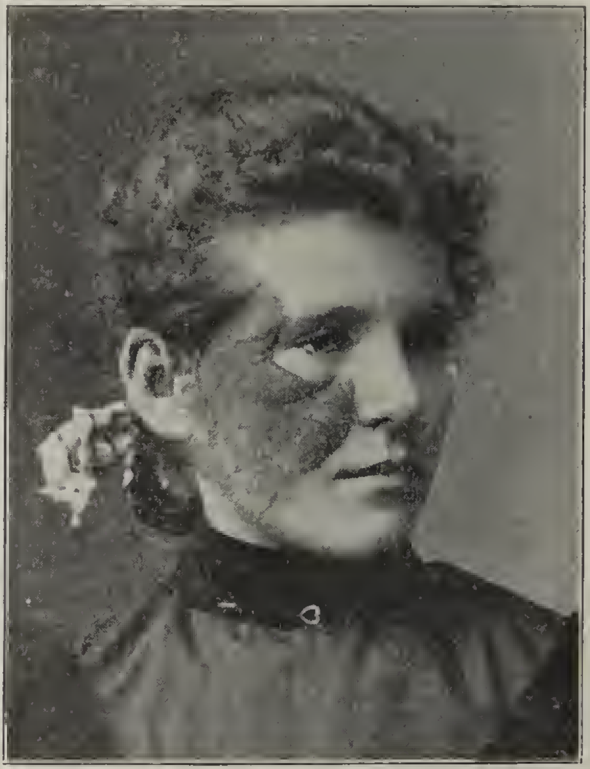


Fig. 1.—Patient with facial nevus.

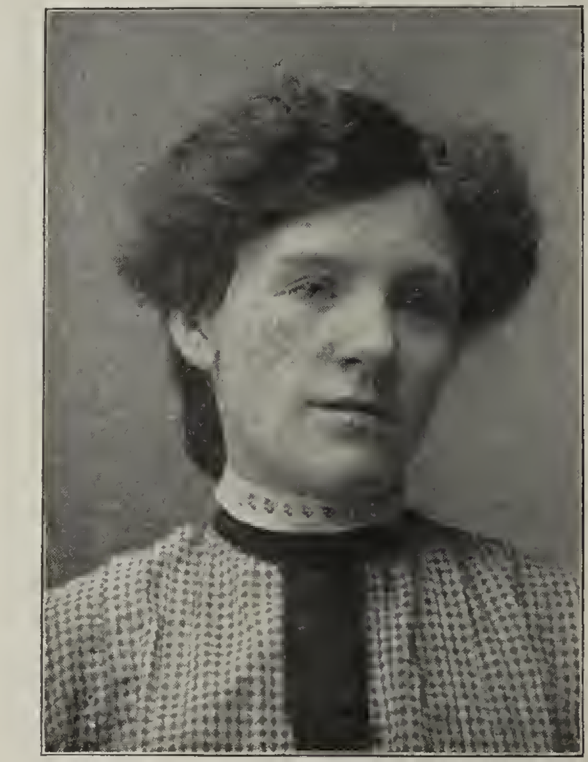


Fig. 2.—Patient after removal of facial nevus. Picture taken one year after that shown in Fig. 1.

Postoperative History.—The patient suffered no ill effects from the repeated short periods of ether anesthesia. She was kept on a liquid diet for four days after operation. For several weeks after the work was completed the side of face on which the operation was done presented a bluish tint, but this soon faded out and now is the same color as the opposite side. At present, two years after the operation, there is only a little scarring, no contractures, no disturbance from heat or cold, and the natural expression of the face, when smiling and when in repose, has been preserved.

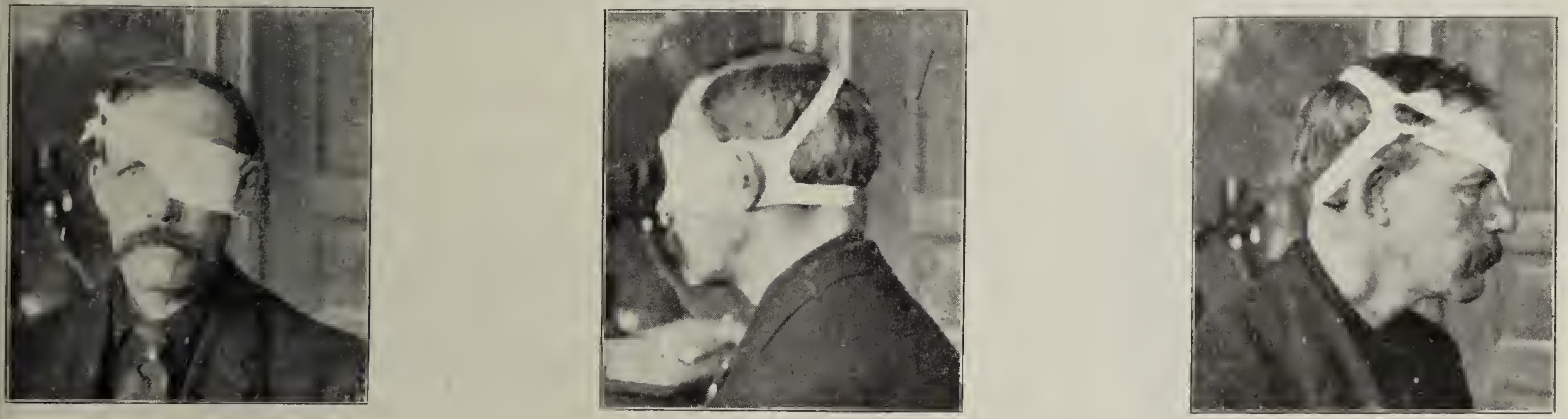
301 Main Street.

AN EYE BANDAGE AND ITS METHOD OF APPLICATION

G. A. MORLEY, M.D.
CROOKSTON, MINN.

I present herewith illustrations of an eye bandage and its method of application which I have found of great service in my practice. The bandage will remain in position on children and patients who are confined to bed; it is easily removed and reapplied; it is washable, and can be used several times; it is easily made and requires a small amount of material; it is light and cool.

To make the bandage, take a piece of muslin or gauze the desired width, long enough to go around the patient's head, and fold it in such a manner as to cut a hole for the ear equidistant from the ends, as shown in Figure 1. The bandage is then put on the patient with the ear through the opening just made, the distance from ear to nose is measured, and a curved piece is cut out in order not to obstruct the vision of the good eye (Fig. 2).



Figs. 2, 3, and 4.—Showing various views of the eye bandage applied.

With a little practice, the length of the oblong opening (Fig. 1) can be judged so that it will be cut of the proper size to permit of the upper part of the bandage to go high on the back of the head and the lower part to go low enough on the neck, as in Figure 3. The position of these strands (Figs. 3 and 4) regulate the staying quality of the bandage; if too far apart, the upper strand will slide forward over the top of the head; if too close together, both strands will slip up or down. Lastly, the tails for tying the bandage should be formed (Figs. 1 and 4).

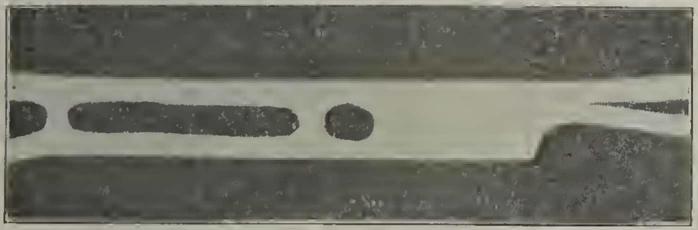


Fig. 1.—An improved bandage for the eye.

TREATMENT OF VARICOSE ULCERS BY LEGGINGS

J. B. MURPHY, M.D.
CHICAGO

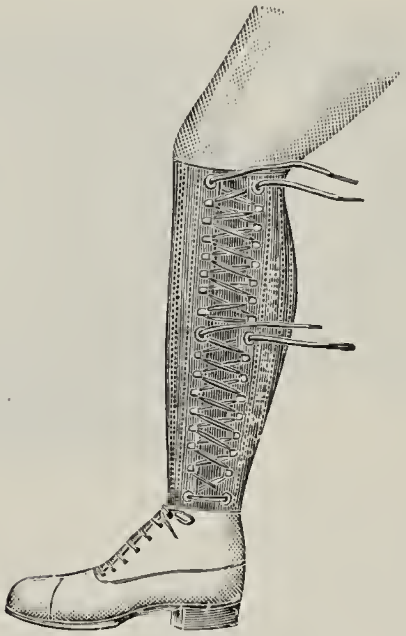
Varicose ulcers, in cases in which operation is refused or inadvisable, or in the smaller type of ulcers in which it is deemed unnecessary, can all be cured by the application of uniform, inelastic pressure from the ankle to the knee. The difficulties heretofore encountered have been, first, to obtain an apparatus which will give this uniform support, and, second, to have one that is convenient and easily applied. For many years I have used silicate of sodium to make a clam-shell cast to fit accurately and produce uniform compression over this entire area. It is put on in antero-posterior, anterolateral or lateral halves, and as the swelling and edema of the leg recede the edge of the cast can be cut so that the pressure or support of the vessels may not be diminished. The ulcerated area itself should be covered with a strip of gutta-percha paper or oiled silk overlapping it one-half inch on all sides, with no other antiseptic or aseptic dressings. There will be no discharge from this surface on account of the pressure, and the cast may remain for a week or ten days without odor or discomfort from the secretion, as it is a well-recognized fact that granulation tissue firmly compressed gives practically no secretion.

On account of the inconvenience of application and changing of this cast I have devised a "leg corset" or legging that fulfills all the physical requirements of the silicate splint. The pressure can be accurately regulated, and uniform inelastic support is given from the ankle to the knee. It is removed at night, if necessary, and replaced in the morning. The support should not be elastic. The great drawback of the stocking and the Martin bandage is that they are elastic and, therefore, do not give uniform, consistent and continuous support. The corset is made to accurately fit the leg, or is made over a plaster model of the leg, which is the better plan. The ulcer is dressed with a piece of gutta-percha paper overlapping it one-half inch on all sides, the latter covered, if desired, by a larger piece of oiled silk to protect the corset.

The corset or legging I now use is constructed of strong, heavy-grade linen or heavy silk and provided with a double lacer, as shown in the illustration. As the material is non-elastic, this is necessary to adjust the amount of compression accurately and readily at all points. The length of the legging must depend on the requirements of the case. It usually extends from the ankle to the head of the tibia. It should not, however, include the knee or ankle joints. If it is desirable to encompass the thigh as well as the lower leg, a second legging should be made similar to the first. Light, slender stays of material not affected by water are included in the body of the legging to prevent wrinkling. The tongue or flap is of specially firm material in order to avoid linear constriction, a condition that would otherwise occur when the lacers are tightened. All the material, including the lacers, is washable, thus securing sanitary conditions.

Careful measurements are necessary to obtain ideal results. In ordering from the instrument-maker measurements should be taken and a pen and ink drawing of the limb should be made showing the malleolus and popliteal line when the limb is flexed. The distance from the malleolus to the head of the tibia and popliteal fold should be stated; also the circumference of the limb one inch above the malleolus and at points above this up to and including the garter line at intervals of one inch. To secure accuracy these measurements should be noted on the drawing or chart.

Every varicose ulcer of the leg not involving an area of more than three-fifths of its circumference can be healed with this method without confining the patient to bed long. The mechanical support is so uniform and complete that the evil effect of the varicosity of the veins and the hydrostatic pressure is entirely overcome.



A "leg corset" for treatment of varicose ulcers

The corset is so light and so readily placed that it is no inconvenience to the patient. The sense of relief from the "leg fatigue" caused by varicose veins is striking. The process of repair of the ulcer is very much hastened. If the lacing line, as indicated in the drawing, comes over the ulcer, then it should be changed to some other position, preferably to the other side of the leg. With this inelastic binder one secures all the advantages formerly obtained with isinglass or silicate of sodium splint, while avoiding many of the disadvantages which the application of the splint entailed.

It will rarely be necessary to have a corset on the lower third of the thigh, and only occasionally is it needed around the foot. When, however, the enlargement of the veins in either of those positions indicates its application the support is made on exactly the same principles as in the corset encasing the leg. There is no elastic support, binder or stocking which favors the process of repair equal to the inelastic variety.

100 State Street.

A NEW CARDIOSCOPE TO BE USED WHILE ADMINISTERING CHLOROFORM OR ETHER*

ARCHIBALD W. ROBERTSON, M.D.
LITCHFIELD, MINN.

The accompanying illustrations show a new cardioscope which is useful in detecting any changes which may take place in the heart action during administration of chloroform or ether.

The disc or phonendoscope is small and flat with a metal tube protruding from one side to which is attached a long firm rubber tube divided by a Y at its distal end to connect with the rubber tubes which hold the small ear pieces. The disc is placed directly over that portion of the chest wall where the heart sounds are most distinctly heard and it is held firmly to the skin with a wide strip of adhesive plaster.

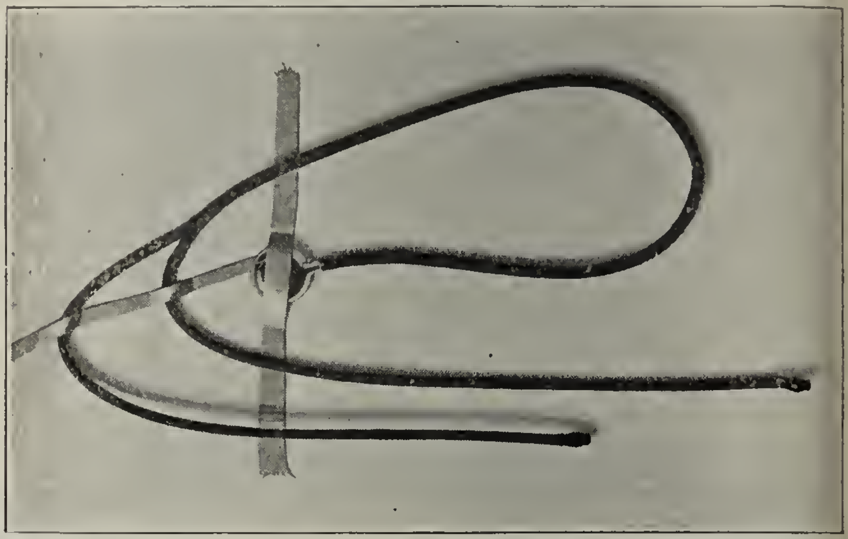


Fig. 1.—New cardioscope.

The rubber tubing passes backward under the clothing and up to the ears of the anesthetist. The anesthetist at any time can count the pulsations of the heart and at the same time have his two hands free to attend to his duties. The ear pieces are light and can be worn for hours without unusual discomfort and are not pressed against the head by springs as in the older styles of stethoscopes.

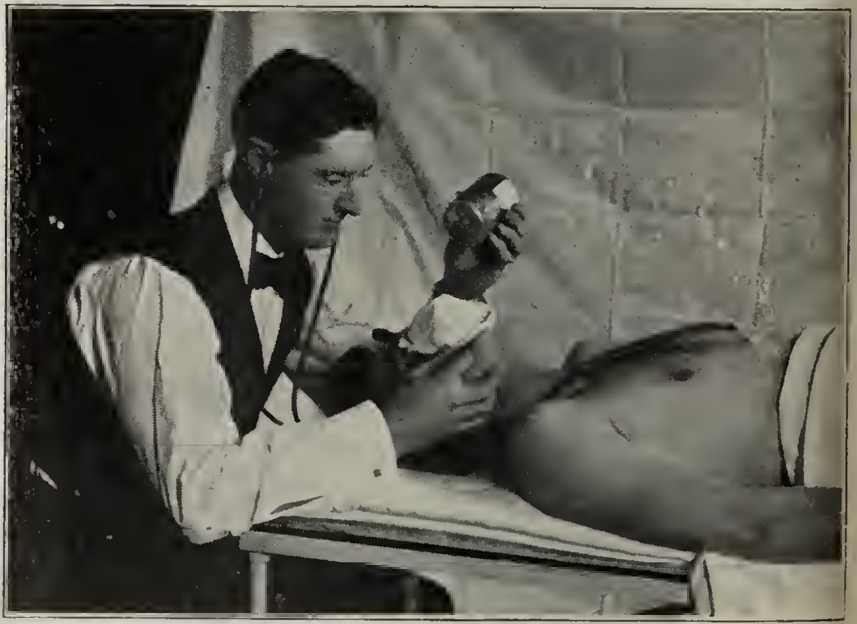


Fig. 2.—The cardioscope in use.

This device has been used in the Robertson Hospital, Litchfield, and in office work for some time with satisfactory results, and I think that it is a great aid to the anesthetist.

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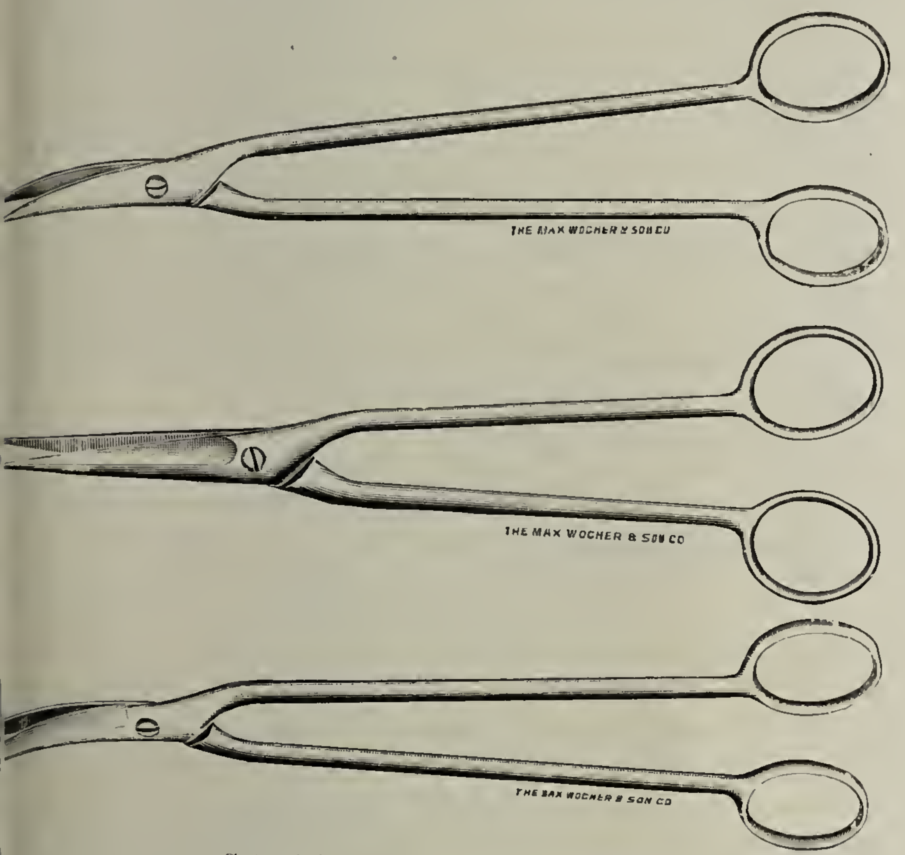
* Exhibited at the Crow River Valley Medical Society.

THREE NEW DESIGNS FOR OPERATING SCISSORS

JACKSON B. TAULBEE, M.D.
JOPLIN, MO.

The accompanying illustrations show a set of operating scissors designed by Dr. W. H. Taulbee, Maysville, Ky., and myself. The straight ones are combined puncture and dilating scissors. They can be obtained with needle or slightly rounded points. They are of special utility in puncturing, incising and dilating in operations for pelvic abscess and other conditions requiring vaginal incision and drainage. The others are, respectively, sharp-pointed and dull-pointed, right and left, curved dissecting and operating scissors. These are adapted to all work in deep cavities, such as the vagina, bladder, uterus, rectum and throat. The handles of each, being separated by a space when the scissors are closed, do not pinch or catch the folds of loose tissue, mucous membrane or gauze packing, as do those of other scissors; in addition, they may be used to great advantage in deep narrow spaces as retractors and depressors. The chief advantages common to all three instruments are the spaces between the bars of the handles of each, the length (8½ inches), weight and strength.



Set of improved operating scissors.

311 Wall Street.

BISMUTH POISONING

TWO CASES, WITH ONE FATALITY, FOLLOWING INJECTION OF BISMUTH-VASELIN PASTE

V. C. DAVID, M.D., AND J. R. KAUFFMAN, M.D.
Members of the House Staff of Cook County Hospital
CHICAGO

The injection of bismuth-vaselin paste for the treatment of tuberculous cavities, sinuses and fistulas was introduced by Dr. E. Beck in April, 1908. Its use has been enthusiastically advocated by many and it is now a routine procedure in many of our hospitals. Numerous brilliant results have been reported. The simplicity of the technic, the uncomplicated formula of the mixture, and the painlessness of its administration, appeal to all who have charge of these chronic cases.

At the Cook County Hospital bismuth-vaselin paste has been used extensively, not only for tuberculous cavities and sinuses, but for empyemas, fistulæ in ano, and as bone plugs after mastoid operations, without fear of toxic effect. It is therefore of marked interest to note that in the last four months two cases of bismuth poisoning have occurred following the use of a moderate amount of the paste.

A preliminary report of the cases is made at this time so that it may be more commonly known that toxic effects may result from the use of moderate amounts of bismuth-vaselin paste, and with the hope that conservatism may govern its use until further study establishes more clearly the limit of non-toxic dosage, the manner of its absorption, and the possibility of bismuth idiosyncrasy.

A more detailed report with the laboratory and autopsy findings of the fatal case and the further progress of the convalescent patient will be published later. The analysis of the bismuth used in the paste, and the urinary tests for bismuth, are under the consideration of Dr. Walter S. Haines.

It will be noticed that in both these cases the toxic effects were seemingly produced solely by the bismuth constituent of the subnitrate, no nitrite symptoms (dyspnea, cyanosis, etc.) being observed.

CASE 1.—*Patient.*—W. E., an American, aged 24, single, bookkeeper, entered Cook County Hospital Aug. 31, 1908, on Dr. Ryerson's service. He gave a history of discharging sinuses about the left hip, which had existed since an injury twenty-one years previously. Examination showed an ankylosed hip with healed and discharging sinuses anteriorly and posteriorly. A clinical diagnosis of tuberculous hip was made.

Bismuth Treatment.—On September 8 three ounces of 33⅓ per cent. bismuth-vaselin paste was injected into the sinus on the posterior aspect of the hip. On September 28 a second injection of about six ounces of bismuth paste caused considerable immediate pain to the patient.

Effects of Bismuth.—Pain continued through the night so severe that the patient got scarcely any sleep. On the next day the temperature, which had been normal, rose to 101 F., but returned to 98 in the course of forty-eight hours. The sinus remained open and discharged some pus and small amounts of bismuth paste. Eleven days after the second injection the patient complained, on awakening, of pain in the mouth. From this time on an intense stomatitis rapidly developed. Pain and burning were very severe, and increased so much on attempted mastication and deglutition that the patient took very little of even liquid diet. The gums were swollen and extremely sore. The teeth became loose. A gradually widening, heavy greenish-blue line showed on the gums and on the tip and margins of the tongue. On the left side of the tongue small superficial ulcers appeared, which increased and coalesced until larger than the thumb-nail; the ulcer was covered with a dirty blue-black membrane. The fauces and throat showed the same swollen and pigmented condition. Salivation was constant, intense, and very distressing. Accompanying the stomatitis was some headache and a very marked constipation. The general condition remained fairly good with normal temperature, running to 99 F. only occasionally.

After reaching its height the stomatitis gradually subsided so that at the end of six weeks the ulcerations and salivation had entirely disappeared and the patient was again on regular diet.

The patient complained of continued pain in the hip. An *x*-ray examination showed deposits of bismuth about the joint and a small necrotic focus in the great trochanter, which was removed by operation on December 7. An abscess, which formed in the thigh six days after the operation but which had no demonstrable connection with the operative wound, was aspirated twice under 2 per cent. cocain and finally freely incised. Large amounts of bloody pus and later masses of reddish discolored paste were discharged.

On December 21, several days after any cocain had been used, the patient, who previously had been quiet and well-mannered, became suddenly rather noisy, restless, and unable to sleep. During the day he was irritable, ugly, abusive to the nurse, and at times irrational. He also became very negligent about his person, showing a complete change in temperament.

At present, five months after the first injection of bismuth paste, the patient's general condition is much improved; the sinus is closed; the abscess nearly healed, and mental condition almost normal. The bluish deposit still remains on the gums in a deep blue line a little more than an eighth of an inch in width, extending to the very margin of the gums. Both the labial and lingual surfaces of the lower jaw are involved; more than those of the upper. Points of teeth contact on lips show blue outlines, especially marked opposite the canines. The tongue-tip and lateral margins extending to the under surface show areas of bluish discoloration, solid to first glance, but made up of punctate spots of bluish deposit slightly larger than a pin-point.

At no time was there any palpitation, dyspnea, cyanosis or dizziness.

Case 2.—*Patient.*—H. F., well-nourished white man, 21 years old, freight handler, entered Cook County Hospital on the service of Drs. Kahlke and Keyes, Dec. 31, 1908, complaining of lameness and presented a discharging sinus above inner third of right Poupart's ligament. The clinical diagnosis of tuberculous hip was made with some difficulty; but a skiagraph revealed an irregular area on the head of the femur. The patient's temperature varied from 98.6 to 103 for a few days after admission, depending somewhat on amount of pus discharge. Pulse was 80 to 90; respirations, 20.

Bismuth Treatment.—Six ounces of a 33⅓ per cent. bismuth-vaselin paste were injected into the sinus on Jan. 19, 1909; a skiagraph taken on the same day showed the bismuth shadow leading to the diseased head of the femur.

Effects of Bismuth.—Ten days after the injection the patient complained of soreness of his gums and an increased flow of saliva. An examination of the mouth revealed a light greenish-blue discoloration of the gums, linear in character, about one-sixteenth of an inch from the incisor teeth on the lower jaw. The line was composed of pin-point puncta at first, but later became solid. There was increased flow of saliva at this time and subjectively, some nausea and anorexia. The next two days saw a further progress of the stomatitis. The blue line extended over the gums of the lower jaw, involving both the lingual and labial surfaces and remaining a little way from the margin of the teeth and gums. There was also on the lower lip opposite the incisors and especially on the lateral edges of the tongue a distinct blue discoloration of the mucosa, which seemed to follow the configuration of the teeth contiguous to them. At this period the salivation was extreme, the patient lying with his head over the edge of the bed drooling and groaning. His breath was becoming foul and he was taking no diet but liquids and this only when forced on him. His temperature was 98.8 to 99.6; pulse, 80 to 96; respirations, 20. He had some headache and nausea, but no dyspnea, tinnitus aurium, palpitation, or cyanosis of mucous membranes, ears, nose or finger-tips. On February 2 the patient was nauseated and vomited several times. There was then some superficial ulceration on the lateral surface of the tongue and labial mucosa. The blue line had become darker, a grayish blue. There were a few erythemic blotches on neck and face. The patient was restless and did not sleep; took diet with difficulty.

In the following week the stomatitis increased greatly in severity and the general condition of the patient for the first time was bad. The tongue was swollen, about twice the normal size, and showed marked areas of necrosis on the lateral surfaces, corresponding to the teeth imprint, with central gray sloughing area and blue margins. The labial mucosa on lower lip became much pigmented, with irregular areas of superficial necrosis. The gums showed marked necrosis at the junction of the teeth, and the blue line was darker. Blue pigmentation and irregular superficial ulceration appeared on the fauces and right tonsil. The lower lip and face were edematous and salivation was marked. There was some tenderness over the parotid glands but no swelling; moderate cervical adenitis. The patient complained of pain in the mouth and great weakness. Speech was difficult. He groaned constantly; was becoming very emaciated; had no appetite, and was constantly nauseated. He had slight epistaxis once. His breath was putrid. The pulse was weak, 100 to 120; heart, lungs and abdomen negative; temperature, 99 to 100; respirations, 20 to 24.

From this time on the general condition of the patient became progressively worse. Nervous symptoms, as marked restlessness, choreiform movements and insomnia developed. Involuntary defecation and urination supervened. The patient's mentality gradually became less acute and for two days before his death he was constantly irrational and in continuous motion. Decubitus sores developed on sacrum and over hip in spite of every precaution. At the time of his death, twenty-seven days after the injection of the paste and seventeen days from the date of the first toxic symptoms, his tongue was almost twice the normal size and its lateral surface was the seat of ragged dirty blue areas of necrosis which were also present on the lower lip and on almost the entire inner surface of the cheek which came in contact with the teeth. The fauces and tonsils were partially covered with blue pigmentation. The gums of the lower jaw were soggy and ulcerated but still showed the now almost black line. The upper jaw, except on the lingual surface, was not affected at any time to the same extent as the lower jaw. Salivation had ceased. The breath was very foul. The face and lips were swollen. The patient's body was markedly emaciated. Temperature was 104 F. just prior to death, but until a few hours before death had been almost constantly 99 to 100; respirations, 24 to 26, and pulse, 120.

A SKIN REACTION IN CARCINOMA FROM THE SUBCUTANEOUS INJECTION OF HUMAN RED BLOOD CELLS

PRELIMINARY REPORT

CHARLES A. ELSBERG, M.D.
Adjunct Surgeon, Mount Sinai Hospital
NEW YORK

Numerous investigators have shown that if the blood serum of a patient suffering from carcinoma be mixed with normal human red blood cells hemolysis occurs. The reaction takes place in from 50 to 80 per cent. of cases of malignant disease. It occurs with considerable frequency in tuberculosis, and more rarely in other diseases.

It occurred to me that, by the injection of red blood cells under the skin of the carcinoma patient, it might be possible to produce a local reaction at the site of the injection. Logically, a local reaction should take place. Theoretically, such a reaction might prove to be a delicate one; it might give more positive and definite results than the test-tube method. In the technic which is used for the test-tube method the presence and degree of hemolysis is indicated by the amount of laking of the red cells—that is, by the amount of hemoglobin which has been set free. The tube reaction gives no evidence of substances which have been liberated other than the hemoglobin. A small amount of hemolysin in the serum which is being tested might not be capable of detection. If normal human blood cells are injected under the skin of a patient whose serum is hemolytic, fresh quantities of hemolysin would be continually carried to the cells, and, therefore, even a small amount of hemolysin might cause hemolysis of the cells. Every organic substance which was set free would enter the tissues and might there have its effect.

Accordingly, after some experimentation, and with the assistance of Dr. Nenhof and Dr. Geist of the house staff of Mount Sinai Hospital, normal blood was injected under the skin of patients suffering from a carcinoma or other disease. In patients with malignant disease a decided local reaction was observed. The technic employed was a very simple one. Under aseptic precautions, and with a syringe boiled in 0.85 per cent. salt solution, blood was aspirated from the median basilic vein of a normal individual (preferably a child), every possible precaution being taken to ascertain that the individual was healthy and free from hereditary or acquired disease. The blood was defibrinated and the cells washed four times in normal saline solution, care being taken that the washings and centrifugating was thoroughly done. A 20 per cent. emulsion of the red cells in normal saline solution was made and kept in the ice-box for twenty-four to forty-eight hours before it was used. Five minims of this twenty-four to forty-eight-hour old suspension of washed red blood cells were subcutaneously injected into the anterior surface of the forearm of the patient by means of a hypodermic syringe sterilized in normal salt solution. In the patients in whom a "reaction" was obtained the following changes were noted in the skin at the site of the injection: Three to twelve hours after the injection the affected area was slightly raised and slightly tender; it had a more or less well-defined margin; it measured 2 to 4 centimeters, and it was of a somewhat dusky red color. The changes in the skin reached their maximum within one to two hours, and the red area then began to fade, rapidly or slowly. Eight to twenty-four hours after the injection the skin lesion had either entirely disappeared, or, more often, a brownish, bluish or lemon-yellow discoloration remained, which persisted for a number of days.

In the patients who did not show this reaction there was either nothing to be seen at the site of the injection excepting the needle puncture, or a brownish discoloration of the skin, or a bluish discoloration, as is often seen after a hypodermic injection.

My investigations of this cutaneous lesion are very incomplete. I have given thirty-four injections to twenty patients with known carcinoma, and every case had a positive reaction. In most of the patients several injections were given of blood cells from various individuals. With succeeding injections the reaction was often less marked or absent. Of four patients with known sarcoma, three gave a positive reaction. Injections were given to over 100 normal individuals or to those suffering from diseases other than sarcoma or carcinoma. These included a variety of diseases, such as nephritis, tuberculosis of lungs, bladder, kidneys (seven cases), leukemia, syphilis (two cases), benign tumors, acute and chronic inflammatory affections, etc. In all but three cases the reaction was negative. One patient with a septic endocarditis gave a suspicious but not a positive reaction. Two other injections made in this patient were negative. This case was among the earliest of our series, and, therefore, must be accepted with caution. A patient who had been operated on for a large rapidly-growing lymphangioma of the suprapubic region, and who had a large postoperative hematoma of the scrotum, gave a marked positive reaction. A patient with gastric symptoms, absence of hydrochloric acid and presence of lactic acid, with a loss of thirty pounds in weight, gave a positive reaction. The operation failed to show any carcinoma. I obtained no reaction in several patients in whom malignant disease was suspected but in whom no malignant disease was found at operation or at autopsy, and have obtained positive reactions in several patients in whom carcinoma was not suspected but in whom carcinomatous disease was found at operation. Jaundice seemed to have no influence on the appearance of the reaction.

In order to gain a more definite idea of the causation of the skin changes described, normal defibrinated blood was laked with distilled water, and, after the tubes had been centrifuged, the supernatant fluid was injected into a number of patients. For purposes of control, hypodermic injections of sterile distilled water were given. All the patients, whether suffering from malignant disease or not, who received hypodermic injections of laked blood, presented a skin lesion similar to that described as present in carcinoma patients after the injection of washed red blood cells. This seemed to show that in the patients with carcinoma the reaction from the blood cell injection was due to a local hemolysis. In the normal individual or one suffering from some other disease, on the other hand, there was no hemolysis and, therefore, no reaction. When, however, the hemolyzable substances extracted from the red cells by laking were injected, the characteristic local lesions were observed. I have not yet been able to obtain pure human hemoglobin for injection purposes.

A fuller account of the technic employed and a more exact description of the cutaneous lesions observed, of the possible value of red blood cell mixtures, i. e., of suspensions of the mixed red blood cells of several individuals, of the possible value of some animal red blood cells for injection purposes, of the significance of the persistence or disappearance of the reaction after an operation, and many other aspects of the subject will be discussed in a future communication. The number of injections thus far given is far too small to allow of conclusions as to the reliability of this method for diagnostic purposes. The purpose of this preliminary report is to call attention to the fact that it is possible to cause a local reaction in the living body by the subcutaneous injection of washed normal human red blood cells, and that in patients with malignant disease, especially carcinoma, a characteristic and easily recognizable local skin lesion is caused by this injection.

Madison Avenue and Sixty-third Street.

A PRACTICAL METHOD OF DETERMINING THE OPSONIC INDEX *

E. F. McCAMPBELL
COLUMBUS, OHIO

The statement is frequently made by physicians that the technic of the Wright-Douglas vaccine treatment and the determination of the opsonic index is so complicated and burdensome that without a well-equipped laboratory the work can never become practicable.

While experimenting on some phases of opsonic work it occurred to me that some method should be devised to make the determination of the opsonic index available to the physician with limited laboratory facilities.

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* From the Bacteriological Laboratory of Ohio State University and the Pathological Laboratory of the Columbus State Hospital.

I have, therefore, devised and investigated the following method, which seems to be very efficient:

A culture of the bacterium to be opsonized is grown on agar-agar, blood serum or some other solid culture media and after incubation at 37 degrees C. for eighteen to twenty-four hours is washed off with a small amount of sterile 0.85 per cent. sodium chlorid and 0.8 per cent. sodium citrate solution.

In place of the regular capillary opsonic pipette the leucocyte counting pipette of a hemocytometer may be used. The bacterial emulsion is drawn up to the mark 0.5; then on up into the bulb. The blood of the patient whose opsonic index is to be determined is then drawn up to the mark 0.5, then on up into the bulb, where it is thoroughly mixed with the bacterial emulsion. The sodium citrate in the bacterial emulsion precipitates the calcium salts and prevents the coagulation of the blood which would occur without greater dilution with salt solution.

When the materials have been mixed the solutions are blown into the capillary portion of the pipette and a strong rubber band placed over the ends lengthwise, thus practically sealing it.

The pipette is now ready for incubation, which may be accomplished in a regular incubator at 37 C., or, if no incubator is available the pipettes may be incubated in the operator's axilla. The pipettes must be frequently rotated. After incubation for fifteen minutes or any desired period the material is blown out on a slide, the smear made and stained with carbo-thionin blue or some other equally good blood and bacterial stain.

The phagocytized bacteria may then be counted, averaged according to the regular methods, compared to a normal slide and the index thus determined.

It would seem from some of the experimental work that the sodium citrate caused a slight reduction in the amount of phagocytosis, probably due to some slight effect on the opsonins. I do not know whether this effect will be noted with all species of bacteria. This point will be determined later, as well as the most efficient concentration of sodium citrate and sodium chlorid combination. The action seems to be constant, however, and does not interfere with comparative tests. The erythrocytes seem to be slightly plasmolyzed by this method, but the leucocytes are unaltered.

By the above method the index may be determined in as short a time as an ordinary blood count can be made. Further results with this method will be reported later.

Therapeutics

ALKALIES

Few drugs are administered more frequently than are the alkalies, and they are often given, and frequently continued, without a perfect understanding of what they do in, and to, the system.

Dr. Eustace Smith, in the *British Medical Journal*, Jan. 30, 1909, opportunely instances the pathologic conditions for which alkalies are administered and the disturbances that their long administration may cause.

In the first place, it would be well to distinguish between antacids or drugs that act as alkalies in the stomach, and alkaline drugs that increase the alkalinity of the blood and tend to render the urine alkaline. The principal antacids are ammonia, chalk, lime water, magnesia, and sodium bicarbonate, while the drugs that are used to render the urine alkaline are, principally and best, the alkaline potassium salts such as the acetate, bicarbonate and citrate.

The antacids taken before meals, if in small doses and properly diluted, act locally to neutralize any stomach acidity that may be present, and are often soothing to an inflamed gastric mucous membrane. Smith advises that the dose of an antacid, if given three times a day, should be small, and that, as soon as it has ceased to be obviously beneficial, it should be discontinued. In large quantities on an empty stomach the antacids tend to increase the secretion of the hydrochloric acid, and if the stomach is stimulated day after day to combat this unnatural alkalinity the result can not be anything but deleterious, and they may cause the secreting glands to become enfeebled. Also if large doses of alkalies are administered they result in an imperfect gastric digestion.

If most alkalies are long continued the alkalinity of the blood is increased, secretions are modified, waste is promoted, and anemia may be the result. Even if the potassium salts are deemed advisable, they should not be too long continued, as a continued alkalinity of the urine is inadvisable on account of its tendency to cause cystitis. In some patients the bladder is very susceptible to the alkaline potassium salts and these individuals have an irritation of the bladder as soon as the urine becomes alkaline. It should also be recognized that, although we may render an acid urine alkaline, we still are often not treating the disturbance that causes the acid condition, and the disturbance may continue although the symptom of hyperacid urine has been changed.

Hyperacidity of the stomach, or hyperchlorhydria, is of frequent occurrence, due to too rapid eating, to the eating of too much meat, to the eating of too highly seasoned foods, to the use of too many irritant condiments, to nervous irritability, to high tension, and to worry. Such hyperacidity is better treated by eliminating, if possible, the cause of the trouble. Temporary relief, however, will always be afforded by the administration of an antacid, and the burning, distress, pyrosis, and flatulence that may be present will all be made immediately better by the administration of 1 gram (15 grains) of bicarbonate of soda. Such treatment is, of course, purely symptomatic. If it is advisable to give bicarbonate of soda, which is perhaps the best of all the antacids, three times a day, before meals, the dose should be smaller, perhaps generally 0.50 gram (7½ grains). It will act, as above stated, as a gastric sedative and will soothe the irritated mucous membrane, will cause a quicker outpouring of the hydrochloric acid, and will thus hasten the completion of the stomach proteid digestion; all of which will tend to make the disturbance and the dyspepsia better, but, unless there is actual inflammation of the stomach, is not treating the cause. If gastritis is present, no one treatment is perhaps more successful than the combination of bismuth and soda, as:

℞.	gm.		
Bismuthi subnitratis	20	or	ʒv
Sodii bicarbonatis	10		ʒiiss

M. et fac chartulas, 20.

Sig.: A powder three times a day, before meals.

A glass of hot water taken a half-hour before the meal to wash off the mucus from, and to deplete, the inflamed gastric mucosa is, of course, excellent treatment.

It is not the purpose of this article to discuss the diet in gastric disturbance. It may be stated, however, that if the antacid is given after a meal the digestion of the starchy foods will go on longer than usual on account of the alkali keeping the contents of the stomach longer alkaline, viz., free hydrochloric acid or a large amount of acid peptones will not so soon be present to inhibit further salivary digestion.

If with the dyspepsia, or gastritis, constipation is present, some magnesium oxid should be added to the above prescription or substituted for the sodium bicarbonate. Also in hyperacidity the precipitated carbonate of lime is used, and is often a most successful treatment.

If an antacid is indicated and diarrhea is present, it is advisable to use lime water.

If an acute hyperacidity is present and there is palpitation or cardiac disturbance, hysterical or other, the aromatic spirits of ammonia is perhaps the best antacid to use.

If for any reason alkalies must be administered for some time, it should be remembered that the sodium salts are better tolerated than the potassium salts, as potassium is depressent to muscles, while sodium is hardly a depressant at all.

If there is diarrhea with tendency to acidity of the intestinal contents, the official Mistura Rhei et Sodæ is often good treatment. Valuable also is the Pulvis Cretæ Aromaticus of the National Formulary, which may be given separately or combined with bismuth.

In combating intestinal acidity the alkalies should be the insoluble ones, of which magnesia is perhaps the best type.

The advisability or necessity for alkalizing the urine is not of very frequent occurrence. The administration of alkalies to render the blood more alkaline does not prevent gouty deposits and does not prevent the formation of uric acid. If the urine is hyperacid, or if there is a uric acid deposit in the urine, the administration of a sufficient amount of alkalies will prevent such deposit and prevent such acidity, but will not prevent the cause of the disturbance. As a solvent for crystalline or other deposits anywhere in the system nothing, perhaps, is better than pure distilled water. On the other hand, it is a fact that many lumbar backaches, with a tendency to the deposit of uric acid crystals in the urine, are made better by the administration of alkalizers of the urine.

When there is a tendency to myalgia or slight pains in the joints, and a physician is consulted, it is rarely that he orders alkalies without also regulating the diet, prescribing baths and exercise, and the drinking of more water. Consequently, it is doubtless rarely that the alkali alone renders the patient better.

In acute inflammations or irritations of the bladder or urethra alkalies should be administered, and generally with the result of modifying the irritation, the frequency of urination, and the pain.

The advantage derived from administering alkalies in sufficient amount to render the urine alkaline in acute rheumatism has not been completely demonstrated. Whether it is possible with alkalies to prevent or modify the cardiac complications is doubtful.

The salts best suited to render the urine alkaline are the salts of potassium, viz., the acetate, the citrate, and bicarbonate, and of these the citrate is the best, the best tasting and the least likely to cause stomach disturbance. The dose should be sufficient to render the urine alkaline, and should ordinarily be at least 2 grams (30 grains) three or four times a day, and more frequently if needed to accomplish the result aimed at. It may be administered in simple water or in an aromatic water, as:

℞.	gm.		
Potassii citratis	40	or	ʒix
Aquæ	200		fl.℥vi

M. et Sig.: Two teaspoonfuls, in water, three times a day, after meals.

There is no advantage in administering the lithium salts either as antidotes to gout, in gouty concretions or in uricacidemia, and large doses of lithia, or small doses long continued, are very sure to cause gastrointestinal indigestion.

Smith recommends the use of the citrate of sodium in the artificial food of infants. He adds 0.05 or 0.10 gram (1 or 2 grains) of the salt to each ounce of milk, and states that the alkali "joins with the caseinogen, displacing the calcium, while the citric acid unites with the latter base, forming a soluble salt which is absorbed into the circulation." By this method he forms clots that are easy of digestion.

When it is deemed advisable to give the bicarbonate of sodium in dyspepsia Smith advises the addition of a few grains of sodium chlorid to each dose, as "the latter salt has the property not only of aiding metabolism, but also of increasing the vitality and power of resistance of the red corpuscles. It also counteracts the tendency of the bicarbonate to form uric acid concretions."

In acute bronchitis "when the secretion is viscid and thick," Smith suggests the use of the alkalies, either the sodium or potassium salts, as tending "to increase the fluidity of the mucus and thus favor expectoration." He believes that the Liquor Potassæ, in small doses, is the best alkali to select for this purpose.

Smith calls attention to the value of bicarbonate of sodium solutions when applied externally to wounds or other lesions of the skin, such solutions being not only sedative but tending to promote healing.

Alkaline baths are, of course, used frequently to relieve irritation in such skin diseases as "eczema, psoriasis, urticaria, lichen, and prurigo." For this purpose from 5 to 10 ounces of the bicarbonate of sodium are dissolved in an ordinary bath.

For an ulcer that is slow in healing Smith recommends the use of a wash containing 1 gram (15 grains) to 30 c.c. (1 fluid ounce) of water, or a 3.5 per cent. solution. He has "seen large superficial ulcers which have resisted all previous measures begin at once to heal under the use of this simple alkaline dressing."

In whitlow, after the pus has been evacuated, "the bicarbonate of sodium solution, applied on lint under oiled silk, causes the pain and suppuration to disappear with remarkable quickness."

The advantage of the local application to inflamed parts is thought to be due to the raising of the alkalinity of the blood and thus promoting the phagocytic and healing activities of the blood.

Smith recommends the same alkaline wash "for burns, scalds, otorrhea and leucorrhea, and as a gargle in inflammations of the throat and tonsils." Also when there are decayed teeth the pain caused by the acid irritations is immediately stopped by the application of the bicarbonate of sodium solutions.

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[*For other information see second page following reading matter*]

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THE SYNTHESIS OF PROTEINS

A series of observations which followed one another within a comparatively short space of time led to the inevitable conclusion that the mammalian tissues must possess the power of synthesizing proteins from simple crystalloidal organic compounds. Kossel and Fischer have shown clearly that the enormous protein molecule is merely an aggregation of simpler molecules of definite and known composition, and the former has also found that in some simpler types of proteins, the protamins, the number of different constituent aminoacids present need not be very large—perhaps only four or five. Cohnheim found that the intestinal mucosa contained an enzyme, erepsin, specifically adapted to converting the various products of incomplete digestion of proteins into the elementary aminoacids, apparently for the purpose of reducing all the heterogeneous proteins of our food into their fundamental components in order that the body may again build up, by recombining these components, its own particular sorts of proteins. Abderhalden and Rona and others found that the nitrogenous equilibrium of animals could be maintained by feeding them a diet in which in place of proteins there were substituted the products of proteins digested by trypsin until there was left nothing giving reactions for proteins, or even for peptones and albumoses. This last fact is presumptive evidence that the animal body can build up its tissue proteins from nitrogenous substances much simpler than the proteins, but this was still far from the actual demonstration of such a process accomplished outside the living body.

One direction in which to seek for a possible synthesis of proteins in the laboratory was indicated by the fundamental observation of Croft Hill that enzyme reactions are reversible, and tend always to produce an equilibrium between the processes and products of combination and disintegration. Kastle and Loevenhart particularly brought this reversible reaction into the realm of the body processes by showing that the action of fat-splitting enzymes is reversible and that fatty acids and alcohols may unite under the influence of lipase. A. E. Taylor first accomplished the synthesis of a natural body fat, tri-olein, by the action of a lipase from the castor-oil bean on oleic acid and glycerin. These observations indicated that in all probability the splitting of proteins into aminoacids by enzymes might be a reversible reaction, in which case it should be possible to cause synthesis of proteins by the action of proteolytic enzymes on aminoacids, if only the proper conditions could be found. The earlier attempts to reach the long-sought goal by this route were not successful, if we except the so-called plastein reaction, which consists of the formation of an insoluble protein-like substance when pepsin or trypsin is added to a solution of albumoses.

About two years ago Taylor succeeded better by using the digestion products of one of the simplest known proteins, a protamin from the salmon sperm. The composition of this particular protamin is remarkably simple for a protein, since it seems to contain only four of the different aminoacids, while ordinary proteins contain a dozen or more, and therefore it is particularly suitable for such experiments. Another important element in the success of these experiments seems to have been the use of an enzyme of exceptional stability, a trypsin from the liver of a Pacific coast clam. When this trypsin was allowed to act for a long time on the products of digestion of the protamin there appeared in the solution a small amount of a substance with all the characteristics of the original protamin.

Much more striking, however, are the results which Taylor has just now reported.[1] In these later experiments the aminoacids of the protamin were isolated by chemical methods, thus eliminating the possibility of the presence of any incompletely disintegrated portions of protein molecules, and the free aminoacids were allowed to stand in solution with the trypsin of the clam for four months. At the end of this time it was possible to isolate from the mixture no less than five grams of what seems to have been pure protamin, and which must have been formed through synthetic combination of the aminoacids under the influence of the enzyme. Here we have a definite synthesis of a protein in the laboratory.

To be sure, the protein is one of the simplest known, but none the less a protein. Also, to accomplish the synthesis an essential constituent of living cells, an enzyme, was required to push the synthetic reaction at a rate sufficiently fast so that an appreciable quantity of protein could be obtained, and therefore the process is not entirely removed from the realm of the living. Nevertheless, with our present understanding of enzyme actions, the part played by the enzyme consists merely in hastening a reaction which goes on much more slowly without the presence of enzymes, and, synthesis having been accomplished by the aid of trypsin, there seems to be no fundamental reason why synthesis may not likewise be accomplished without trypsin or any other product or component of living cells taking part in the reaction.

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[1] Jour. Biol. Chem., February, 1909, page 381; abstracted in this issue, page 1064.

MEDICAL HISTORY AND NON-MEDICAL WRITERS

In medicine, as in other arts and sciences, the men who did things in the past have frequently failed to write accounts of what they did, or else have assumed that their readers must be familiar with the details and the circumstances, and therefore have omitted to describe the latter. The consequence is that there are many distinct gaps in the history of medicine; but, fortunately, these may sometimes be filled out by the chance references of non-medical writers. Some interesting and important facts may be thus secured.

For instance, we generally take it for granted that the clinical teaching of medicine is a modern institution. Even such men as Lancisi in Rome, who seems to have been the first in modern times to gather students around the bedside of patients for educational purposes, and Boerhaave, who first systematized the method, apparently adopted it only in a limited way. That clinical teaching must have been rather common in Rome nearly 2,000 years ago, however, is shown by a famous epigram of Martial,[1] which runs as follows in Witherington's translation:

> Languid I lay, and thou camest, O Symmachus, quickly to see me.
> Quickly thou camest, and with thee a hundred medical students.
> The hundred pawed me all over with hands congealed by the north wind.
> Ague before I had none, but now, by Apollo! I have it.

To take another illustration, Plato long ago said, "The trouble with the physicians in our times is that they pay too much attention to men's bodies and too little to their minds." This appears to be an anticipation of the theory which forms the basis of psychotherapeuties. Petronius Arbiter, in one of his satires, declared that the main business of a physician was "to furnish satisfaction of mind to his patient." Other instances to the same effect might be added showing how the commonplace of the past becomes the vaunted discovery of the present.

Again, many clues to the history of surgical anesthesia may be gathered from the poets and other non-medical writers. Dioscorides, for instance, alludes to the employment of mandragora to produce anesthesia when patients are cut or burnt. Pliny refers to the odor of mandragora as causing sleep if it was taken before cuttings or puncturings, "lest they be felt." Lucian speaks of mandragora as being used before the application of the cautery. In modern literature such references multiply. In the fourteenth century Boccaccio, in the story of Dioneus, describes the effects of an anesthesia mixture which "being drunk would throw a person asleep as long as the doctor judged it necessary." In the fifteenth century William Bullein described a concoction of an herb "which bringeth sleep," and "casteth man into a trance until he shall be cut out of the stone." Du Bartas, in the sixteenth century, described the surgeon as "bringing the patient in a senseless slumber before he put in use his violent engines." At about the beginning of the seventeenth century Thomas Middleton wrote of "the pities of old surgeons who cast one asleep, then cut the diseased part."

These are some of the facts which, too commonplace at the time for the medical writer to mention, were noted and recorded by the layman because of their quality of wonder and novelty to him. They testify that history repeats itself in many respects and that we progress, not along straight lines, but in wavelike alternations of improvement and stagnation or retrogression. They seem to indicate, too, that we have made one probably permanent gain, and that nothing short of a cataclysm can ever break the continuity of medical records in the future. Medical science, like the other sciences, has grown too self-conscious and too careful of her own reputation ever again to leave to the chance layman the task of recording methods and technic.

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[1] Languebam: sed tu comitatus protinus ad me
Venisti centum, Symmache, discipulis.
Centum me tetigere manus Aquilone gelatæ.
Non habui febrem, Symmache, nunc habeo.

BOVINE TUBERCULOSIS. FAMILY TUBERCULOSIS

The papers on tuberculosis contained in the present issue deal with two phases of the subject, one the relation of human to bovine tuberculosis, the other tuberculous infection within the family. Both have important bearing on the general problem of prevention, and can not be too often or too carefully considered so long as there are dubious points needing elucidation.

Pottenger's views, based on clinical observation of the reaction of patients with different forms of tuberculosis to human and bovine tuberculin, lead him to favor the idea that while both human and bovine bacilli may attack man the bovine bacilli gain a foothold with difficulty, probably on account of differences in the soil. Conversely, human bacilli gain a foothold in cattle with difficulty for the same reasons. In other words, while human and bovine bacilli are closely allied subspecies, which probably originated from a common ancestor, each has lived so long on a particular kind of soil that it develops poorly on any other. All this has been suggested before, and, indeed, this is not the most important part of Pottenger's paper. What is less well recognized is the fact that patients infected with human bacilli react less violently to bovine than to human tuberculin, and *vice versa*. In other words, as maintained by Raw,[1] immunity to human tubercle bacilli may be obtained by inoculating with tuberculin from bovine bacilli as surely as if tuberculin from human bacilli was used, and with much less risk of unduly violent reactions. In the case of gland, joint or meningeal tuberculosis, when due to bovine tubercle bacilli, tuberculin from human bacilli is the safest. The principle is essentially that of using a closely allied and less virulent disease to protect against a more virulent one, as is done in ordinary vaccination against smallpox. In patients with human infection in one organ and bovine in another, one or two instances of which are reported by Pottenger, the matter is complicated, as the bovine tuberculin aggravates the focus of bovine infection while alleviating the human infection. Hess' article is of interest in connection with Pottenger's views, as it not only shows how frequently bovine bacilli are found in the milk of a large city, but also clinically substantiates Pottenger's thesis that infection of human beings with bovine tubercle bacilli is not an easy matter, although long exposure to the infectious agent in the milk makes it possible.

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[1] The Journal, Oct. 10, 1908, p. 1259.

The paper of Miller and Woodruff gives some rather alarming data which should furnish much food for thought to those optimistic individuals who imagine that the stamping out of tuberculosis will be a comparatively easy matter. The first conclusion reached, that over one-half the children of tuberculous parents are infected, when taken in connection with the statement that the parents had not usually recognized that the child was ill, makes it clear that our recent warning[2] that the tuberculous individual must be sought out, was none too emphatic.

While some critics may consider that the criteria which have been adopted by Miller and Woodruff as evidence of tuberculosis are too lax, we believe that in all probability they are strict enough to prove with reasonable certainty that the children regarded as tuberculous were really suffering from the disease. The purely clinical observations of Miller and Woodruff, especially those regarding atypical lung signs, seem to be of great value and should certainly be heeded by the general practitioner.

In the brief course of medical training so much attention is of necessity placed on the typical, that the student—and sometimes the teacher, too, we fear—neglects to recognize the fact that typical symptoms and signs are often but slightly more prevalent than atypical ones. The good diagnostician is the one who can recognize the atypical forms of the common diseases.

A NEWSPAPER OPINION OF THE CAMPAIGN AGAINST TUBERCULOSIS

In these days when there seems to be a wide-spreading distrust of the medical profession — not, indeed, self-originating, but fomented by individuals and cults with axes of their own to grind—and especially when a large section of the newspaper press helps to spread this leaven of distrust, it is, indeed, cheering to read an article such as that in a recent number of the Philadelphia *North American*,[1] entitled "Our Debt to Our Doctors." We can not refrain from quoting the opening sentences:

"During thirty days the *North American* has watched a splendid humanitarian experiment. With constantly increasing admiration we have observed the effect on all classes of this city's people of the International Tuberculosis Exhibition. And our well-considered estimate of the result is that to-morrow and a hundred years hence alike this community will owe a debt of gratitude to the unselfish and devoted men of the medical profession of Philadelphia who made possible this achievement of education and civilization. Figures are eloquent sometimes. When the nature of the exhibit is recalled, it is interesting to note that on one day alone, last Sunday, 37,728 persons crowded into the building, and that the total attendance since the show opened, on February 15, reached 500,000 in round numbers, or fully one-third of the city's population."

After describing the wonderful work of the tuberculosis exhibition the *North American* adds: "It was made possible by a group of physicians who asked for no city appropriation, but went here and there among public-spirited men, explained their plans and, asking favors that they would not for themselves, obtained private subscriptions enough to bring the exhibit to Philadelphia."

From this the paper passes on to make the following appreciative remarks concerning the medical profession in general:

"Except when they have themselves an ache or pain most men and women are prone to ridicule and decry our doctors and their pills and their bills. . . . They are a constant target for the cheap wit. It is not only that these gifted men whose time means more than that of other men, because it means not only money, but the rest of which they are constantly deprived by being at the patient's call at any hour of the day or night, sacrificed much of their precious time throughout a month by their readiness to aid with educational addresses and other unpaid work. Back of all lies the fact that these men were striving in the highest spirit of humanitarian unselfishness to bring about a condition of general health which is bound to mean a pecuniary detriment to themselves. Every doctor who helps to promote hygiene and preventive medicine is helping to reduce disease. And in like ratio the earnings of the physicians would seem likely to decrease. Yet we find the ablest and best of them working in unison in a way that should convince the most flippant scoffer that they have the true conception of the noblest of callings."

While we may not linger over such an inspiriting appreciation of our work, it comes as grateful as a draught of water to the parched throats of those engaged in stemming a conflagration; for the work of the medical profession in fighting the conflagration of preventable disease calls also for unrelaxing effort, regardless of personal inconvenience and consequences, until the flames be subdued.

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[2] THE JOURNAL, Feb. 20, 1909, p. 639.

[1] March 16, 1909.

OPIUM TRAFFIC SUPPRESSION

The press dispatches from Shanghai announce that the international opium commission has practically concluded its work. It was almost a foregone conclusion that the resolutions it adopted should be all one way, the evidences of the evils of the opium traffic have been so self-evident in recent literature. While the evil of opium smoking is apparently greatest in China, we have the testimony of missionaries and other non-official witnesses, as well as the inferential evidence from such literature as Kipling's "Gate of a Hundred Sorrows," that it is an evil appreciated by disinterested observers in India. In the second resolution the commission finds, in agreement with American observers in the Philippines, that the use of opium is not confined to smoking alone, as the morphin habit shows signs of spreading and should be checked. The recommendation that the various governments holding concessions or settlements in China should close the opium dens within their limits will test the sincerity of the European powers more directly than perhaps anything else. That it is within their ability to do so can not be doubted, but their inclination may perhaps be questioned. If the chief offender, Great Britain, can not be induced to adopt measures more efficient than the tapering-off process which is proposed for China as regards its opium commerce, it is almost too much to expect it to sacrifice its commercial interests to such an extent. Nevertheless, the moral sense of the British people may bring it about in spite of the selfish, unprincipled exploiters of the Chinese race, for that is what the policy they have followed entitles them to be called, from the statesmen in the cabinet down to the keepers of the Shanghai and Hongkong opium dens. The resolution adopted advising a scientific investigation of the various opium remedies will do good mainly by exposing the frauds; we have but little faith in the efficacy of the measures suggested other than those which have been tested and found effective by years of medical experience.

THE CARNEGIE FOUNDATION, AND THE MEDICAL PROFESSION

The third annual report of the Carnegie Foundation for the Advancement of Teaching, recently issued, contains much of particular interest to members of the medical profession. Further, it indicates the enormous influence exerted by that body for uniformity of standards in education in this country. It shows that the poor work done in some of our high schools is due chiefly to the indifference of teachers and an unawakened public sentiment, and that the most serious obstacle to the development of the high schools is the ever-present competition for students between colleges, through which standards of admission are lowered. Thus the report shows that the colleges and medical schools, instead of helping, have been actually hindering the development of high schools by competing with them for students from the elementary grades. In the discussion of sectarian medicine the report indicates that if a man licensed to practice medicine is thoroughly grounded in the fundamental sciences on which the practice of medicine depends, such as anatomy, physiology, pathology and the like, then it matters little with what particular school of medicine he may ally himself. The overcrowding of the profession, according to the report, is particularly manifested in small towns of 500 families or less, where a half-dozen or more doctors are striving to make a living when two competent men could easily do the work. Moreover, the matters of right sanitation and the public health of the community would receive better attention if physicians were of a higher grade. Low educational standards, therefore, are both unjust to the public and demoralizing to the profession. They serve to lay in the path of ill-trained men temptations which otherwise would not exist, and the fruits of these low standards are reaped by the public. But of particular interest is the discussion of medicine as a business and medicine as a profession, the difference being that in the former a physician seeks only his own gain, whereas in the latter he assumes also his obligations to the profession itself and to the public. Every man who enters the profession of medicine assumes an obligation to prepare himself properly for it and in his practice to remember his duty to the public as well as to himself. The profession will remain a profession only through the observance of these ideals. This report is well worth a careful reading by every member of our profession.

Medical News

CALIFORNIA

Federal Health Officers to be Honored.—In recognition of the work done by Dr. Rupert Blue and his corps of assistants, the citizens' health committee of San Francisco, together with other influential men of the city and state, have arranged for a banquet to be given in their honor at the Fairmont Hotel, March 31.

Personal.—Dr. Alvin W. Hewlett, assistant professor of medicine in Cooper Medical College, has been appointed to succeed Dr. George Dock as professor of medicine in the University of Michigan, Ann Arbor.——Dr. Hugh Beattie. Elk Grove, has been made health officer of Sacramento county, vice Dr. George T. Hesser, Folsom City.

Guests from the East Honored.—Former students and graduates of the Albany (N. Y.) Medical College tendered a banquet to Dr. Albert Vander Veer at the California Club, Los Angeles, recently. Dr. Vander Veer addressed the county medical society a week later.——A lunch was given at the Hotel Maryland, Pasadena, February 26, for Dr. Wilfrid T. Grenfell, the surgeon-missionary of the Labrador coast.

GEORGIA

Found Guilty.—G. G. Swicard, a colored man claiming to be an "Indian Doctor," who has operated an alleged sanitarium in Atlanta, is said to have been found guilty of operating a sanitarium without a license or diploma and sentenced to thirty days in the city workhouse.

State Tuberculosis Sanatorium.—The president of the board of trustees of the proposed state tuberculosis sanatorium has advertised for bids for the location of the institution. The requirements are a tract of not less than 300 acres, in an elevated location, with no adjacent swamps or ponds, and susceptible of perfect drainage, lying in any part of the state north of an east and west line through the city of Macon.

Personal.—Dr. Stewart R. Roberts has been made examining physician of the public schools of Atlanta.——Dr. William W. Mangum, who has been practicing in the City of Mexico for two years, has returned and located in Rome, Ga.——Dr. A. D. Little has been made a member of the board of health of Thomasville.——Dr. Edward C. Goodrich, secretary of the Augusta board of health, has been given indefinite leave of absence on account of ill health, and Dr. S. C. Wilson is temporarily supplying his place.——Dr. Joseph H. Bradfield has been elected a member of the board of health of Atlanta, vice Dr. William B. Armstrong, deceased.

INDIANA

Society Raises Dues.—At the meeting of Allen County Medical Society, March 9, the constitution was amended, making the annual dues $5, including the assessment for the indigent fund for the year.

Hospital for Gary.—The contract for the United States Steel Corporation's new hospital at Gary was let March 6. The building will cost about $200,000 and will be located on the south bank of the Calumet river just east of Broadway.

Personal.—Dr. William G. Wegner, South Bend, has been reappointed secretary of the St. Joseph County Board of Health.——Dr. Patrick H. Caney, secretary of the Vincennes Board of Health, has been placed in charge of the city laboratory.

Contribution to Carroll Fund.—At the meeting of the Fountain-Warren Counties Medical Society, held in Covington, March 4, a collection amounting to $12.95 was taken in behalf of the family of the late Major James Carroll, Medical Corps, U. S. Army.

Fail to Regulate Itinerants.—The endeavor of the medical fraternity of Anderson and Madison county to secure an enactment of an ordinance taxing itinerant physicians $50 a day has failed, as the ordinance was voted down by the committee on ordinances.

IOWA

Personal.—Drs. Charles M. Wade and Ernest A. Jenkinson have been elected trustees of the Sioux City College of Medicine.——Dr. David S. Fairchild, Clinton, has been appointed surgeon general of Iowa.

Retreat for Consumptives.—The mayor of Sioux City has appointed a committee of business and professional men with Dr. Robert E. Conniff as chairman to locate a retreat for consumptives for Woodbury county and Sioux City.

Convicted.—Dr. Franklin W. Sells, Osceola, is said to have been convicted of criminal assault by a jury in the district court February 18, and sentenced to imprisonment for twenty years in the state penitentiary. Dr. Sells protests his innocence and has appealed to the supreme court.

Would Add Venereal to List of Contagious Diseases.—A resolution has been sent to the general assembly stating that more deaths in the state are traceable to gonorrhea and syphilis than to smallpox, cholera, yellow fever, diphtheria, scarlet fever, and measles combined; that from 10 to 20 per cent. of the blindness of the state and from 50 to 90 per cent. of the inflammatory diseases of the pelvis in women results from these diseases; that no person not guilty of a crime against the laws of the state would be inconvenienced by granting the request that follows, and petitioning the legislature to declare gonorrhea and syphilis to be contagious diseases and prescribing isolation, quarantine and control during the infectious stages.

MICHIGAN

Personal.—Dr. Thomas L. Ryan has been elected a member of the board of health of Saginaw.——Dr. William A. Stone, Kalamazoo, has been made secretary of the Kalamazoo State Hospital Board.——Dr. Arthur P. Schulz, Orion, has been appointed chief physician at the Ionia Reformatory, vice Dr. Wylie E. Woodbury, who accepted the position of assistant at the State Hospital.——Dr. L. M. Power, South Range, has succeeded Henry S. Cole as local surgeon of the Copper Range Railroad.

The Tuberculosis Fight.—Houghton County Antituberculosis Society, at its annual meeting, March 9, elected Dr. L. L. Hubbard, Houghton, president, and Dr. Albert B. Simonson, Calumet, second vice-president. Dr. Frederick Tice, Chicago, delivered two lectures on "Tuberculosis" under the auspices of the society, one in Calumet and one in Houghton.——At the annual meeting of the Kalamazoo Antituberculosis Society, Dr. Herman Ostrander was elected president; A. Gaylord Slocum, first vice-president; Dr. David J. Levy, second vice-president; and Dr. S. Rudolph Light, treasurer.——Dr. Edwin F. Beckwith, Ionia, has been elected president of the local branch of the Michigan Antituberculosis Association.

NEW JERSEY

Personal.—Dr. William P. Lamb, Newark, has been appointed district physician.——Dr. Edward F. Denner has been elected president, Dr. Frank J. Keller, secretary, and Drs. James O'Donnell and J. William Atkinson, members of the executive committee of the staff of St. Joseph's Hospital, Paterson.——Dr. Francis H. Todd has been appointed a member of the board of health of Paterson.——Dr. Joseph Welch has been elected president of the Long Branch Board of Health, vice Dr. John W. Bennett, resigned.

NEW YORK

Transfer Insane Patients.—As a result of the overcrowding of the State Hospital at King's Park, L. I., 150 patients have been transferred to other institutions, 100 being sent to Binghamton and the remainder to Willard.

Censors Cause Arrests.—The board of censors of the Cortland County Medical Society has caused the arrest of four individuals, charged with prescribing for and treating the sick without licenses. Of these four, Charles J. Andrus calls himself a "chiropractor," Charles A. Jennings a "magnetic healer," while W. B. Johnson and Patrick Ryan have electric bath and treatment establishments. The defendants are said to have been held to await the action of the grand jury.

Rabies on the Increase.—Dr. Veranus A. Moore, of the New York State College of Agriculture, states that recently rabies has shown a decided increase and that dog's heads are coming in daily for examination. Since January 1, 117 heads have been received and 77 of these have shown signs of rabies. During the first fifteen days of March 35 animals were received. During the year 1908, 315 cases in all were tested. The increase has been so rapid of late that quarantine restrictions seem to be imminent.

McGrath Bill Passed.—This measure aims to take from boards of supervisors and town boards the power of determining whether a tuberculosis hospital or camp shall be erected within their jurisdiction and provides that this power be given to the State Commissioner of Health and the local health officer after a hearing. If they are unable to agree in approving or disapproving of the location applied for within thirty days, the applicant can, within ten days, file in the office of the State Commissioner of Health a request that the petition be referred to a board consisting of the lieutenant governor, the speaker of the assembly and the commissioner. This is the first important bill passed as a result of the recommendation of the governor that it be acted on favorably during the session.

Report of Tuberculosis Committee.—The Tuberculosis Commitee of the State Charities Aid Association, in its annual report, states that the following cities had been visited with a traveling tuberculosis exhibition in the course of the cooperative campaign carried on by the association and the State Department of Health: Canandaigua, Geneva, Auburn, Cortland, Elmira, Binghamton, Oswego, Cohoes and Poughkeepsie. There are 108 public meetings held in connection with the exhibit, at which addresses were made by 243 individuals, and more than 300,000 pieces of literature were distributed. Exhibits on the nature, cure and prevention of tuberculosis were also sent to 36 county fairs. As a result of the campaign, Oneida, Ontario and Rensselaer counties and the city of Elmira will establish hospitals for the care of advanced cases of tuberculosis, and Albany, Schenectady and Dobbs Ferry will have day camps. Dispensaries have already been opened in Utica, Rome, Troy, Albany and Schenectady, and visiting nurses have been provided in these places. After the close of the exhibition in Yonkers March 22, the exhibition and propaganda work will go on in Newburgh, Middletown and Kingston, where the campaign closes May 22.

New York City

Colony for Defectives.—A site for the Eastern New York Custodial Asylum has been selected at Thiells, Rockland county. The commission in its report to the legislature recommends that the colony be named Letchworth Village in recognition of the services of William Pryor Letchworth in behalf of the defective wards of the state.

In the Interest of Medical Education.—The Association of American Medical Colleges held a special meeting in the New York Academy of Medicine on March 15. Dr. John A. Wyeth, president of the Academy of Medicine, gave an address on "The Medical Student of 1867." Dr. Eli H. Long read a paper on "The Functions of the Medical School," and Henry S. Pritchard, president of the Carnegie Foundation for the Advancement of Teaching, spoke on "Standards of Medical Education."

Annex to St. Luke's Hospital.—Plans have been filed for the proposed enlargement of St. Luke's Hospital by a nine-story addition to be known as the Travers Pavilion. It will be seventy feet front and of a similar depth, and will harmonize in appearance with the existing group of buildings. Some of the special features will be a series of surgical operating rooms and examining rooms, an electrical room, a laboratory, a solarium and a roof garden. The building will cost $200,000 and will accommodate non-resident patients.

Personal.—Dr. Wolff Freudenthal has been appointed a corresponding member of the Laryngologic Society of Berlin, Germany.——Dr. William T. Godfrey, former house surgeon at the New York Post-Graduate Hospital, has opened an office in Stamford, Conn.——Dr. George M. Bennett, house surgeon at the Harlem Hospital, is reported to be in a serious condition from septicemia, due to an operation wound.——Dr. James P. Tuttle spent March 15 and 16 with friends in Nashville, and was the guest of honor at the Nashville Academy of Medicine, March 16, delivering an address on "Persigmoiditis."

In Memory of Dr. Bull.—Mrs. Bull has presented a bronze bust of the late Dr. William T. Bull, executed by Enid Yandell, to the New York Academy of Medicine.——Mrs. Bull has authorized the statement that she will build a hospital for the treatment of tuberculosis as a memorial to her husband. The amount of the endowment, location, and other details will be announced later.——The medical board of the General Memorial Hospital has adopted resolutions regretting the death of Dr. William Tillinghast Bull, a distinguished member of its staff, and one of the founders of the hospital, expressing its appreciation of the services rendered by Dr. Bull, and placing on record its own sense of great personal grief at the loss of a distinguished colleague and a warm personal friend.——A meeting was recently held at the home of Dr. L. Bolton Bangs, and a committee was appointed to discuss the question of erecting a fitting memorial to the late Dr. William T. Bull. It has been proposed to establish an institution for surgical research in connection with the Medical Department of Columbia University.

NORTH CAROLINA

January Deaths.—During January 278 deaths were reported in the state, equivalent to an annual mortality of 12.9 per 1,000. Chief among death causes were consumption, 56; pneumonia, 33; heart diseases, 32; and brain diseases, 16.

Personal.—Dr. Marshall H. Fletcher, Asheville, has been appointed a member of the city police commission.——Dr. Mont. R. Farrar, Greensboro, has removed to Nashville, Tenn.——Dr. Andrew H. Harriss, Wilmington, has been appointed major and surgeon, N. C. State Guard, vice Dr. Frank H. Holmes, Clinton, resigned.

Injunction Modified.—Judge Ferguson, in the superior court at Asheville, has made an order modifying his temporary injunction in the case of the Forest Hill Company and the Sisters of Mercy of North Carolina, restraining the sisters from continuing the construction of a tuberculosis sanatorium in Asheville. The modification of the original order permits the sisters to establish a sanatorium at "Ridgewood," but restrains them from the care of tubercular patients nearer the street than 190 feet, and nearer adjoining property than 30 feet. This permanently restrains the location of patients in tents close to the street or adjoining property.

OHIO

Fails to Prove Illegal Sale of Cocain.—Contradictory evidence offered in the case caused the discharge in the police court, March 6, of Dr. Frank J. Collison, Columbus, charged with the illegal sale of cocain. One witness for the pharmacy board admitted that he had served a term in prison, and the testimony of a colored witness was contradicted at every point.

Congratulation on Conviction.—Dr. George H. Matson, secretary of the State Board of Medical Examination and Registration, has written to the Cleveland *News* to congratulate it on the successful issue of the case against A. C. Goode and Adolph Slaughter, the men connected with the Dr. Boyd medical offices, who were arrested and prosecuted on the charge of conducting an immoral exhibition, on information furnished by the *News*.

Tuberculosis Sanatorium.—Ground has been broken for the erection of a temporary structure to be utilized by the Dayton Tuberculosis Society as a sanatorium. The building is located about six miles north of the city and will be ready for occupancy April 1. It will have two wards, one for men and one for women, and will accommodate twenty patients. Dr. E. B. Markey has been made physician in charge, and Drs. John S. Beck, Horace Bonner, Francis C. Gray and James M. Weaver make up the consulting staff of the institution.

PENNSYLVANIA

Medical Society Condemns Food Bill.—The Bedford County Medical Society at its recent meeting condemned the Todd pure food bill as reported by the senate committee on public health and sanitation.

Osteopath Bill Signed.—The bill creating a board of five examiners, before which every osteopath shall undergo examination before receiving a license to practice was signed March 19. The governor vetoed a bill of this character two years ago.

Trachoma Hospital Planned.—A bill introduced into the senate, March 17, asks for an appropriation of $22,000 to establish a trachoma hospital at Marcus Hook, the state quarantine station; $10,000 to provide a hospital for temporary treatment, $10,000 for an emergency fund, and $2,000 to support a resident ophthalmologist.

Philadelphia

Diphtheria at the University.—Four cases of diphtheria were reported among the students of the University of Pennsylvania, March 15. Four cases were also reported on the same date among the pupils of the Catto public school.

Visiting Nurses.—The report of the Visiting Nurse Society for 1908 shows that the nurses made 51,181 visits. The society reports that the expense of a nurse is about $900 per year and that she pays from 2,000 to 2,100 visits during that period.

Tuberculosis Camp for Poor.—Councils' finance committee has reported favorably on the ordinance to purchase seventeen acres of ground in the vicinity of Bartrum's Gardens for park purposes at a cost of $125,000. This site was selected by Mayor Reyburn as a tuberculosis camp for the city's poor.

Dr. Bennett Honored.—Dr. William H. Bennett, the founder of St. Christopher's Hospital for Children and instrumental in establishing the Children's Seashore Home at Atlantic City, has been honored by the establishment with an endowment of $6,000, of a free ward in the latter institution, to be known as the William H. Bennett ward.

Dinner to Dr. Mills.—About one hundred representative physicians of the city assembled at the Bellevue-Stratford, March 13, for the testimonial dinner to Dr. Charles Karsner Mills, the occasion marking the fortieth anniversary of his entrance into the medical profession, Dr. George E. de Schweinitz acting as toastmaster. Addresses were made by Drs. S. Weir Mitchell, James J. Putnam, Boston; Abraham Jacobi, New York City; William H. Welch, Baltimore; Charles L. Dana, New York City; Rev. Arthur B. Conger, and Provost C. C. Harrison of the University of Pennsylvania. A silver loving-cup was presented to Dr. Mills by Dr. William W. Keen on behalf of those present.

GENERAL NEWS AND COMMENT

The President's Physicians.—President Taft has selected Lieutenant-Colonel Guy L. Edie and Captain Matthew A. DeLaney, Medical Corps, U. S. Army, as his physicians during his term in the White House.

Archives Discontinued.—The editors of the *Archives of Otology*, Drs. Herman Knapp and Arnold Knapp, New York City, announce that this publication came to a close with the number for December, 1908, which completed the thirty-seventh volume.

Warning Concerning Agent.—Physicians are cautioned to pay no money for The Journal or the Association to one giving the name of J. W. Holman or P. W. Corzilius. He has recently been working the profession in Ohio around Cincinnati and Dayton. He is of medium height, rather stout, and about 60 years of age. Any information as to his present whereabouts will be appreciated.

Hamlet with Hamlet Left Out.—According to *Signs of the Times*, the Sacramento, Cal., Ad Club recently presented an advertising tragedy of Hamlet with the part of Hamlet left out. It discussed the to it important question, "Should the Medical Profession Advertise?" from the viewpoints of ad man, druggist, newspaper, and layman. The viewpoint of the physician presumably is too insignificant for consideration; or perhaps it may be that the physicians of Sacramento are solid in supporting the traditional view, and do not consider the question one open for discussion.

LONDON LETTER

(From Our Regular Correspondent)

London, March 13, 1909.

Death of the Editor of the Lancet

Thomas Wakley, L.R.C.P., editor of the *Lancet*, died at his residence, Hyde Park Gate, from hepatitis. He was 58 years old and was the only son of Mr. Thomas Henry Wakley, the late editor of the same journal, who died nearly two years ago, and a grandson of Thomas Wakley, who founded the *Lancet* in 1823. During its long career the journal has been owned and edited by members of the Wakley family. The late editor was the fourth to occupy the chair, and well maintained the traditions of the *Lancet* as the leading medical journal in the British empire, whether as a record of scientific progress or as a champion of the interests of the profession. Like his father and his uncle who preceded him, he did not write much himself, but he was keen in discovering men who could write and what they could write. He read carefully all his proofs and was punctilious in correcting them and in maintaining the high literary standard which has always distinguished the *Lancet*. He leaves a son, aged 4, and for the first time since its foundation the editorship of the *Lancet* has necessarily passed out of the Wakley family, but it will probably be conducted on the same lines as heretofore.

Smallpox

An outbreak of smallpox has occurred in Bristol under peculiar circumstances. The first case was that of a dock-laborer who had been unloading barley, and it was thought that the disease was brought from eastern Europe. Twenty-three cases followed, with three deaths. In one case the disease was not diagnosed, and the patient was removed to a hospital with the result that the ambulance driver and others were infected. The patient died, the body was taken home, and his friends held a wake, which was attended by 40 or 50 people, several of whom contracted the disease. At Bolton two cotton-mill workers have contracted smallpox. It is suggested that the disease was derived from bales of imported cotton. After enjoying an immunity of the disease for five years, two cases of smallpox have occurred in London.

Importation of Diseased Meat

Dr. H. Williams, health officer of the port of London, has made a serious report on a consignment of offal which arrived from the United States. It consisted of 654 cases of ox tongues, ox kidneys, ox livers, ox tails, tripe, lamb sweetbreads, lamb livers, lamb plucks and calves' tongues. There were 250 boxes of plucks, of which 13 were thawed for examination. Each box contained 12 sheep plucks, and out of the 156 no fewer than 16 of the livers and one of the lungs were found diseased. It was therefore decided to examine a further 45 boxes, with the result that 45 livers and 3 lungs were found diseased. The remainder were then examined, and in 2,400 plucks there were found 528 diseased sheep livers and 130 diseased lungs. All the boxes bore a label stating that they had been examined in the United States. On the same ship were 300 frozen pig carcasses; 15 of them were thawed and found to be minus the lymphatic glands, in addition to one which showed tuberculosis. The removal of the lymphatic glands was considered evidence that when examined in the United States they had shown signs of disease.

PARIS LETTER

(From Our Regular Correspondent)

Paris, March 9, 1909.

Election of M. Paul Strauss to the Academy of Medicine

At its last session the *Académie de Médecine* had to elect an *associé libre* in place of M. Chamberland, deceased. On the first ballot, M. Paul Strauss was elected by 66 votes against 12 for Dr. Voisin, physician to the Salpêtrière, 3 for Dr. Capitan, professor at the School of Anthropology, and 1 for Dr. Caster, a well-known laryngologist. M. Strauss, who is senator for the Seine department, has won a prominent position in parliament by his studies of questions of public hygiene, hospitalization, assistance, etc. He presides over the superior council of the *Assistance Publique* and the superior council for infant wards of the state. He has published some works that are highly esteemed, among them "*Dépopulation et Puériculture*," "*La Croisade sanitaire*," and "*Habitations à bon marché*." He is editor of the *Revue philanthropique*, a magazine devoted to questions of medical assistance, the struggle against alcoholism and tuberculosis, unhealthy dwellings, etc.

The Examination Determining Eligibility to Assistant Professorships

March 3 a deputation of candidates for the *concours d'admissibilité à l'agrégation* accompanied by representatives of the *Société de l'internat des hôpitaux*, the *Association corporative des étudiants en médecine*, the *Syndicat des médecins du departement de la Seine*, etc., waited on the minister of education and presented a document summarizing the objections of the rank and file of the profession to the new regulation restricting the competition for professorships to those who have passed this preliminary "admissibility" examination. [The history of this new *concours* has been related in preceding Paris letters and also in Osler's "Impressions of Paris" in The Journal, Feb. 27, page 703.] Chief among the numerous objections to it is its tendency to emphasize and reward didactic theory rather than the practical side of medicine. The minister received the deputation cordially and promised to weigh carefully the arguments presented, but he has declared himself resolutely opposed to the introduction of the German system of privat-docents and to the autonomy of the medical schools.

The Prophylaxis of Contagious Diseases in the Army

The undersecretary of the war department ordered some months ago that all cases of contagious disease that should appear at any point whatever should be reported to him daily by telegraph. In order to ensure—independently of the measures taken under such circumstances in virtue of other regulations—rapid and systematic prophylactic action, he has recently organized at the war department a permanent technical section for the prophylaxis of infectious diseases in the army. This section, which will be presided over by Vaillard, and of which the professor of epidemiology and microbiology at the *école d'application du service de santé* shall be *ex officio* a member, will consist of ten military medical officers. It will have as its duty, from the commencement of a disease capable of epidemic development, to send one of its members to the threatened point, that he may make on the spot the necessary technical investigations and apply every measure to prevent the spread of the disease, if these measures have not been already applied. The technical section thus created will be provided with all the material appropriate for its duties, and particularly for the necessary bacteriologic examinations and researches. It will be a sort of flying column charged with the duty of detecting and giving battle to the contagious diseases wherever they may appear.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 3, 1909.

National Association for Reduction of Infant Mortality

A week ago a German association for the care of infants was formed, to centralize the various state societies which have already been formed in most German states and which are otherwise independent. The first general meeting of the new organization will occur at Dresden in June of this year.

Personal

Ludolph Brauer, professor of internal medicine at the University of Marburg, has been called to Greifswald in place of Minkowski. It is not certain that the call will be accepted.

A few weeks ago Professor Pflüger celebrated the rare event of a 50 years' jubilee as a regular professor. He has spent the whole time in Bonn. On this occasion he received the great gold medal for science.

Official Medical Oversight of Industries in Bavaria

While in England, Switzerland, Belgium and the Netherlands, physicians have for a long time assisted in carrying out the provisions of the laws for protecting laborers, no provision for medical inspection of trades or medical improvement of factory hygiene was made in Germany until a few years ago, when in Baden and Würtemberg a physician was appointed *(im Nebenamt)* advisor of the government department of labor and medical inspector of industries. This year a physician was for the first time appointed in Bavaria *(im Hauptamt)* as official expert advisor of the central inspection service for trades and factories, with the title of *Landes-Gewerbearzt*. He has the oversight of the hygienic protection of laborers within the limits of the trade laws and is also charged with ascertaining and removing conditions harmful to the workman or his environment. In addition, it is his business to investigate all injurious industrial conditions on notice of the trade inspection authorities, mine inspectors, official or private physicians, or the *Krankenkassen*. He is expected to supervise the hygienic relations of home workers and the smaller shops, as well as those of the larger industries. Finally he has charge of the royal museum of labor so far as the exhibits are of medical and hygienic interest as well as in regard to traveling exhibitions, lectures, etc. The instruction of workmen as to the special dangers incident to their trade and the means of preventing them and education in special and general hygiene will also form an important function of this official.

Spa Treatment for Relatives of German Soldiers

The soldiers of the German army, if hospital treatment is unsuccessful, are given, on the order of the regiment physician, a course of treatment at some spa, generally in Germany, but exceptionally even at Carlsbad, Marienbad, or Teplitz. Tuberculous soldiers are generally sent only to closed sanatoria, but in exceptional cases they also are treated at the public health resorts. Among the institutions available are the tuberculosis wards of the hospitals and a number of sanatoria for pulmonary disease. The members of the families of soldiers in active service also receive such treatment, and even tuberculous patients belonging to the families of the under officers who live in the garrison are sent to the tuberculosis sanatoria, if their residence in the garrison would endanger their environment. At Frankfurt a. M. there is a special society which provides a sanatorium at Idstein for the relatives of soldiers.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 6, 1909.

The Affair of Professor Strümpell

After the death of Professor von Schrötter, medical circles, through the senate of the medical faculty, recommended the appointment of Professor Strümpell, of Breslau, to succeed the former. The negotiations with Strümpell were conducted seriously; the latter has severed his connection with the university at Breslau, and Professor Chvostek, the temporary director of the deceased Schrötter's clinic, was recently notified that Strümpell would take over the clinic at the beginning of the summer term, one week after the Easter holidays. Yet up to the present the official appointment has not been announced in the *Wiener Zeitung*, the paper which publishes all government appointments. It is rumored that powerful influences are at work to hinder the appointment at the last moment. Such things have happened repeatedly before, and the senate of the university has decided to make this the last time by resigning in a body if the government rescinds its decision to appoint Strümpell. The affair sheds no favorable light on the university of Vienna, and the difficulty of inducing a good man to accept an appointment here will be markedly increased unless a radical change is effected.

Snow and the Purity of Air

The recent enormous snowfalls in this city have enabled the city analytical chemist to make a series of investigations on the purity of the air. The entire quantity of snow deposited during twelve hours was collected from the roofs of a number of houses in various quarters on week-days and on Sundays, and then analyzed. The amount of mineral matter was rather astonishing: besides coal particles, about 0.5 gm. of soot and common salt per ten kilos of snow, or about twenty tons of mineral and organic matter in the air covering Vienna. Free ammonia, organic ammonia and sulphuric acid were found in traces only in the Sunday snow, but the week-day snow held more, especially of sulphuric acid. Bacteriologic results were negative, the experiments offering no reliable data. It has been found that the amount of snow which descended over Vienna will be sufficient to prevent a water famine in 1909.

Pharmacology

Pharmacopeial Board Meets

The board of trustees of the United States Pharmacopeial Convention held a special meeting at the Hotel Stafford, Baltimore, March 12 and 13, 1909. A special committee, consisting of Dr. James H. Beal, Dr. H. M. Whelpley and Prof. Joseph P. Remington, was appointed to prepare a report of the work of the board of trustees since 1900 and make recommendations to be submitted with this report at the 1910 convention. Arrangements are being made for the convention, which will be held at Washington, May 10, 1910. Medical and pharmaceutical teaching institutions and state organizations are requested to send credentials for delegates to the secretary of the board of trustees, Dr. Murray Galt Motter, Hygienic Laboratory, Twenty-fifth and E streets, N. W., Washington, D. C. The board adjourned after voting to hold the annual meeting at Chicago, May 21.

[Contribution from the Chemical Laboratory of the American Medical Association.]

UNGUENTINE

W. A. Puckner and A. H. Clark

Attention has been called at various times to the fact that the value of a published "formula" to a proprietary remedy is in direct ratio to the reliability of the manufacturer publishing it. When medical journals first insisted on their advertisers letting physicians know the contents of the remedies they wished to sell them, medical literature reeked with formulas—some of them of weird and wonderful design. Since the advent of the Food and Drugs Act, which requires that labels shall approximate truthfulness, and particularly since the Council on Pharmacy and Chemistry has investigated a number of proprietary remedies, the publication of "formulas" is not so common.

Unguentine, manufactured by the Norwich Pharmacal Co., is one of those remedies whose advertisement for years always included "a formula"; more recently, however, this is not in evidence. In an advertisement which appeared about ten years ago, the "formula" given is:

"Carbolic acid	2 per cent.
"Ichthyol	5 per cent.
"Alum	15 to 16 per cent."

It was claimed that by a special process of their own, the manufacturers had eliminated most of the astringent properties of the alum rendering it non-irritant. It was also stated that "the base of Unguentine is pure petrolatum." Later the manufacturers seem to have changed the composition of their product, or at least the "formula" given in the advertisements was changed. Thus it appeared:

"Alum	15 per cent.
"Zinc oxid	5 per cent.
"Carbolic acid	2 per cent.
"Ichthyol	5 per cent.

"Aromatics and antiseptic oils with specially prepared petrolatum and animal fat base."

The introduction of zinc oxid, aromatic and antiseptic oils and animal fat was a new feature. Somewhat later, and particularly since the passage of the national Food and Drugs Act, no formula or other statement in regard to the composition seems to have appeared in the advertisements in the medical press. In the 1906 price-list (p. 170) the following formula appears:

"Unguentine represents:

"Alum (non-irritating)	15 per cent.
"Phenol	2 per cent.
"Ichthyol	5 per cent.
"Zinc oxid	5 per cent.

"Aromatic and antiseptic oils, with especially prepared petrolatum and purified animal fat."

In the price-list issued for 1908—after the Food and Drugs Act went into effect—the following appears:

"Unguentine represents:
"Alum compound (non-irritating)
"Phenol,
"Ichthyol,
"Zinc oxid,
"Aromatic and antiseptic oils, with especially prepared petrolatum and purified animal fat."

Thus the proportions are omitted, and alum becomes "alum compound," whatever that may mean.

In view of the conflicting statements made by the Norwich Pharmacal Company, in regard to their leading specialty, Unguentine, and especially because much stress was laid on the filing of their "guarantee" under the Food and Drugs Act, it was decided to ascertain of what Unguentine really consists.

From our analysis published in detail below,[1] we conclude that Unguentine contains not alum but aluminum acetate (small amounts of alum may be present as impurities in the aluminum acetate), zinc oxid, or more probably impure zinc carbonate, and that the entire quantity of both does not exceed 5 per cent. It contains no ichthyol, or if any but the merest traces, and less than 1 per cent. of phenol. The aromatic oils amount to not more than approximately 1 per cent. in all. The ointment-base is, in the main, petrolatum.

In Unguentine we have, therefore, another proprietary "specialty," regarding the composition of which indefinite, false or misleading statements have been made—this irrespective of protestation of honesty by the firm.

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[1] Analysis of Unguentine: Aluminum, zinc and sulphate ions were found in the residue after ignition, by the usual tests. Also on boiling Unguentine with dilute hydrochloric acid, aluminum, zinc and sulphate ions are found in the acid solution by the usual tests.

Phenol: Unguentine has the odor of phenol and a portion distilled in a current of steam gives a distillate which absorbs bromin and gives the ferric chlorid reaction for phenols.

Ichthyol: The presence of ichthyol in unguentine could not be shown by any test. As little as 1 per cent. ichthyol imparts to petrolatum the characteristic odor of ichthyol and a dark color. On boiling such a mixture with water, ichthyol will pass into the water and color it brown. Unguentine has no odor of ichthyol and on boiling with water no color is imparted to the water.

Carbonate: On extracting Unguentine with carbon disulphid a brownish white residue remains which effervesces with dilute hydrochloric acid. The gas has no odor. A part of this residue is granular and has a reddish brown color and the appearance of impure zinc carbonate.

Acetate: The residue insoluble in carbon disulphid when rendered acid with phosphoric acid and subjected to steam distillation yields a distillate which has an acid reaction. This distillate on neutralization with sodium hydroxid and evaporating to dryness leaves a residue a portion of which treated with concentrated sulphuric acid and alcohol gives a distinct odor of ethyl acetate. Another portion dissolved in water on adding ferric chlorid turns red and on boiling this mixture a reddish brown precipitate forms.

The portion soluble in carbon disulphid (the ointment base) when boiled with repeated separate portions of alcohol dissolves to some extent in the hot alcohol and on evaporation of the alcohol a residue remains which closely resembles the product claimed when beeswax is treated in the same way. The carbon-disulphid-soluble matter has a low iodin number and a low saponification value, indicating that it contains very little fat.

Substance insoluble in carbon disulphid. Twenty grams of unguentine was thoroughly extracted with carbon disulphid and the residue dried to constant weight at 100 C. In one experiment the residue weighed 0.9944 gm., or 4.97 per cent. A duplicate gave 0.9898 gm. residue, or 4.95 per cent.

Matter volatile at 100 C. Five grams dried to constant weight at 100 C. lost 0.109 gm. in weight, or 2.18 per cent.

Determination of aluminum zinc and sulphate. Ten grams of unguentine was boiled repeatedly with diluted hydrochloric acid. "In the solution obtained the aluminum (Al), estimated as aluminum oxid in the usual way, was found to be 0.216 per cent. and 0.205 per cent., average 0.211 per cent. of the unguentine taken. The filtrate from the aluminum estimation was made up to 500 c.c. In portion of 100 c.c. the zinc was determined as $Zn\ NH_4PO_4$ (*Ztschr. f. anal. Chem.*, 1900, xxxix, p. 273) and found to be 2.19 per cent. and 2.24 per cent., average 2.27 per cent. zinc (Zn). In another 100 c.c. the sulphate was determined as barium sulphate and 0.658 per cent. and 0.656 per cent., average 0.657 per cent. sulphate (SO_4) was found.

If unguentine contains alum, the amount of alum, as indicated by the aluminum found, should agree with the amount indicated by the sulphate found. The amount of aluminum found would indicate nearly 4 per cent. alum, while the sulphate is equivalent to only about 1.5 per cent. Since an acetate is present, we conclude that the substance spoken of as "alum," "alum compound" or alum "deprived of its astringent properties" is not alum, but, instead, aluminum acetate or probably a basic aluminum acetate, together with some alum. The per cent. of zinc found corresponds to 2.6 per cent. zinc oxid; since a carbonate is present, we conclude that some of the zinc is present as carbonate.

The combined amounts of zinc oxid or carbonate and aluminum acetate can not exceed 5 per cent. of the ointment, since approximately 95 per cent. of unguentine is soluble in carbon disulphid. Also the total amount of phenol and aromatic and antiseptic oils can not exceed 2.18 per cent., since that is all that is volatile at 100 C.

Phenol: The estimation of phenol, according to the method which we devised (The Journal, July 25, 1908, p. 330), indicated that unguentine contained 0.81 per cent. and 0.77 per cent., average 0.78 per cent. phenol.

Correspondence

The Evolution of Refraction and Its Necessity

To the Editor:—Notwithstanding the chaos that has apparently existed in medical literature and among ophthalmologists in reference to cause and effect of eyestrain, there has been evolved a well-defined consensus of opinion on the subject that to-day is recognized by the vast majority of the medical profession.

It is as great an error to be blindly conservative as to be wildly radical in reaching conclusions deduced from new problems that have been presented to the ophthalmologist during the past twenty-five years. During the formative period, the period of investigation, there is no doubt that too many ocular muscles were cut; too much stress laid on the disastrous effects of eyestrain, but from this experience have been established well-settled principles of optics and treatment. We still make our tenotomies, we refract more accurately than ever before, but in doing either we are guided by clinical experience that has made us conservative in both.

In this connection, it was with much surprise that I read some of the statements contained in the paper by the late Dr. St. John Roosa, which appeared in The Journal, February 13, p. 543. My own personal and clinical experience are so greatly at variance with the conclusions of Dr. Roosa that it is but just that they be recorded.

The last word on refraction was not said by Donders, in fact, has not yet been said. Among certain facts, self-evident to 90 per cent. of the ophthalmologic world to-day, are these: First, that accurate refraction was the exception rather than the rule until a very recent period. Second, no pardon need be asked of the profession or the laity if we demand that only the most accurate scientific work be done in correcting errors of refraction. This is the criterion in the surgical world, why, then, be satisfied with less than this in ophthalmology? No writer has ever demanded more than correct refraction; objection has been made to the slovenly methods often used by men who would disdain to do such work in other branches of medicine. Third, it is a well-established fact that eyestrain does cause "morbid conditions of body and mind." The 10,000 cases reported by an army of ophthalmologists have led to these conclusions, the statements of no one man will be accepted by the profession as an explanation to dissipate this array of evidence. Many ophthalmologists, myself included, can give personal experience to negative such assertions as: "An eye of a moderate degree of hypermetropia without corneal astigmatism, other conditions being favorable, will do its work in a thoroughly satisfactory manner." I never had "conjunctivitis, blepharitis ciliaris, mild forms of lachrymal catarrh, diplopia, vertigo and nausea," but I did have persistent migraine for fifteen years, which was entirely relieved by spheres. My hypermetropia was under + 2.00. I began using + .75 R. and L. for distance, gradually increasing to + 1.50. For ten years since using the above I have never had an attack of migraine. I am sure that the ophthalmologic world agrees with Parsons of London ("Diseases of the Eye," 1907) "Typical migraine may occur" as a result of hypermetropia. I have the record of 1,000 cases to controvert such a statement as "the fact is if glasses do not improve the vision . . . they are absolutely of no use."

One case more: In 1901, a well-known physician of Oklahoma asked me to refract his son who had been a confirmed epileptic for years. The father stated that the son had averaged twenty-five paroxysms a month for the prior six months. The week he came he had three in one day. They had tried all known remedies for epilepsy without avail. He was a muscular robust boy of 16 years. I gave him:

R. + .50 sph. + 2.00 cyl. axis 90 = 20/20
L. + 3.50 cyl. axis 90 = 20/25

Later the father wrote me that in the six months following the use of glasses the son had had five paroxysms, going eight weeks at one time without any. The family removed from the state, and I only heard from them once afterward, on

Aug. 2, 1905, the father called and stated that the son had had no paroxysms since the previous April. This is history. I have no explanation. I have no idea that spectacles are a cure-all for epilepsy.

"There is no special difficulty in the attainment of this knowledge-refraction." How pleasing this must be to the spectacle vendor and the "three-months course" man, a graduate of a diploma mill optical school—it is so easy. As for myself and many other ophthalmologists I can say that after twenty-five years of work, both in America and Europe, no more perplexing problems confront us to-day than those of optical anomalies of the eye.

The position of retinoscopy to-day in the ophthalmologic world, in determining the refraction of the eye, is well stated by Parsons: "Retinoscopy is the most accurate method of refraction." And Jackson: "No other method (retinoscopy) is worthy of being used alone or having sole dependence placed on it."

The statement, "It is often interesting to see how well some of these do their work without being accurately fitted and nothing detrimental to the general health results," is but an illustration of the abuse the human body has endured, and will endure, but we do not often find the medical profession advising neglect and abuse because of this fact. If work is worth doing, it is worth doing well. To condone inexact, unscientific optical work is inexcusable. To be sure, the old world moved on "tolerable" without chloroform, morphin, quinin or antitoxin. The old doctors tell us how they "cut off legs" and had great success before the day of asepsis. The old Egyptians produced wonders without electricity, steam, the telephone or the mariner's compass. Moses and Socrates, Homer and Horace, Praxiteles and Demosthenes lived in those good old days without the telescope, microscope or printing press; notwithstanding all this, the world will, I imagine, cling for some time to these later-day baubles.

It is well known that many hyperopic children soon after birth develop squint, and that an early correction of the strabismus re-establishes ocular equilibrium. Here we find a moderate amount of refractive error producing in a marked degree muscular disturbance. In other cases it may not be squint, but a decided neurotic disturbance which results.

The thousands of individuals with no special ocular symptoms, no "watering of the conjunctiva of the lachrymal sac, inflammation of the edges of the lids, hordeola," who in 1908 went to the ophthalmologists seeking and obtaining relief from headaches, could hardly be convinced that an "almost infallible evidence against the existence of eyestrain in a given case is absence of ocular symptoms."

The dangers of papers of the nature of Dr. Roosa's lies, first, in that they are addressed to the general practitioner and might cause him to think that the last word had been said on this subject, and hence influence him to ignore ocular errors in which there was not marked loss of sight; second, the traveling glass peddler will take advantage of these extreme views to divert refraction into incompetent hands.

In the sharp criticism of the ophthalmologists who differ from us we must remember that we have no oracle of Delphi who by the wave of the pen can read out of the profession whom he will. L. Haynes Buxton, Oklahoma City.

The Collargol Report and the Practitioner's Need for the Council on Pharmacy

To the Editor:—The result of the collargol report[1] has been to intensify the feeling of distrust that has been growing during the last few years, of all pharmaceutical products that have not been absolutely proved of value. That sense of awe and unconscious tendency to "uncover" in the presence of an imposing row of new and expensive pharmaceutical products is disappearing. Am I missing important scientific facts, or has the physician become familiar with these products through gazing on artistically labeled packages recently received through the mail or from the hand of an agent, and by reading "incontrovertible facts" in a very dignified piece of advertising literature, closely resembling a reprint from a medical journal? Am I wrong to shun these bright labeled products, which the manufacturer tells me have certain definite actions, and "proves" it by extracts from papers by well-known men? These abstracts we seldom read, or merely glance at, and usually fail to perceive that they prove nothing and that the author never intended they should. We only see the well-known name and think, "He evidently uses and has had success with this product."

Am I right in using pharmacopeial drugs, the actions of which are fairly definite and among which we can find something to get any physiologic action which is capable of being produced by drugs? But we know that such products as phenacetin, hexamethylenamin, etc., are valuable additions to our drug equipment, and yet they once were in the awe-inspiring row. How are we to distinguish the good from the bad, as the "literature" of the producers is in a large measure unreliable? The ordinary practitioner has not the facilities nor time to study out the useful new preparations, and why should he be any more ready to take the producer's word for a drug action than he would be to use every new serum or other biologic product before there is proof that its action is harmless, definite and useful? It is not scientific to accept everything that is brought to our attention by the producer. Why can not we have a tribunal to which these new products may be referred and let it throw out the useless and pass on the useful with a statement of definite action? It seems to me that the American Medical Association is the body to handle this problem and that an enlargement of the activities of the Council on Pharmacy and Chemistry would, to a large extent, settle this matter. We want reliable information on every new product that comes out that has any virtue and we do not want to do the experimenting ourselves.

H. S. Willson, Crystal, N. D.

Nature and Causes of Eczema

To the Editor:—In reading the article of Dr. M. B. Hartzell, on "The Nature and Causes of Eczema" in The Journal, Nov. 28, 1908, one can not fail to observe with surprise that only one physician, Dr. Henry C. Baum, Syracuse, in discussing the causes referred to hyperacidity as an internal cause. I have seen many cases of eczema, not due to occupation, local irritation or poisoning through dyestuffs, and in which it seemed reasonable to look for other causes—internal causes, such as the ingestion of acid fruits, *e. g.*, plums, lemons or tomatoes. I have seen several patients who developed acute and extensive eruptions, after eating these acid fruits, and in whom the prompt use of sodium bicarbonate, or salicylate in full doses, internally, rapidly relieved the symptoms. Many cases of eczema may be classed with rheumatism, neuralgia and urticaria, as diseases due to uric acidemia, or hyperacidity of the blood. W. A. Waters, M.D., Columbus, Miss.

Function of Adrenal Cortex

To the Editor:—In an editorial (March 13, 1909, p. 892) you refer to Dr. Guthrie's cases of infantile gigantism, in all of which, using this observer's own words, "adrenal tumors existed." As Dr. Guthrie fails to explain this phenomenon, I beg to state that six years ago I pointed out ("Internal Secretions," Vol. 1, 1903, ed. 1, p. 192 et seq.) that the overgrowth of acromegaly and gigantism was produced through the intermediary of the adrenals. I urged at the time that the adrenal secretion, after reducing the amount of oxygen in the pulmonary air became the constituent of hemoglobin which deals out this gas to the tissues and thus sustains (in so far as the rôle of oxygen is concerned) oxidation, metabolism and nutrition. That lesions of the adrenals *per se* capable of greatly exciting their functional activity should, under these conditions, likewise cause excessive nutrition and overgrowth, as in Dr. Guthrie's cases, is self-evident. I may add that these interesting cases contribute additional evidence to the many data, experimental and clinical (see *New York Medical Journal*, Feb. 20, 1909, p. 362), which have emphasized the correctness of my interpretation of the functions of the adrenals. C. E. de M. Sajous, Philadelphia.

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[1] The Journal A. M. A., Mar. 13, 1909, pages 862, 893 and 903.

Unauthorized Use of Names

To the Editor:—Is there any possible way of stopping the publication of one's name by the Imperial Information Bureau of St. Paul, Minn., in the so-called *Expert?* Mine is published in the volume just issued (vol. xi, No. 1), absolutely without any authority; and the names of many excellent men throughout the country, who I am sure would not lend their names to such publication. Even the name of a physician dead three years is contained in the list. The lay mind can hardly realize how painful and unjust such a publication is to us.

Andrew P. Biddle, Detroit.

Book Notices

New and Nonofficial Remedies, 1909. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association, Prior to Jan. 1, 1909. Cloth. Pp. 168. Price, 50 cents. Chicago: American Medical Association, 103 Dearborn Ave.

This book and the quarterly supplements thereto which are to be published will be great time-savers to those physicians who have determined to use only such proprietary products as have been approved by the Council on Pharmacy and Chemistry of the American Medical Association. This compilation is really the first regular edition and presents the work of the Council in a new dress and with some desirable advances. The classification adopted permits an easy comparison of remedies of similar origin and properties. The most significant changes are the relegation of mixtures to the appendix and the introduction of a number of non-proprietary remedies which for various reasons have not been admitted to the Pharmacopeia. Therapeutic indications are omitted on the assumption that the physician will be able to apply his knowledge of the properties of the ingredients without aid, either from the Council or from the manufacturers. The non-proprietary remedies admitted to the body of the work are described as accurately and carefully as a painstaking search of the literature will permit.

The descriptions of processes of preparation, physical and chemical properties and physiologic action, contain a wealth of information concerning nonofficial remedies that can not fail to be of immense value to pharmacists and physicians. It is to be regretted that it has been impossible for the Council to publish equally authoritative facts and opinions regarding the therapeutic properties of the synthetics placed before the medical profession. Here, however, the book must be interpreted as a representation in the main of the claims of the manufacturers. This fact is shown by the prevailing use of the phrases "it is claimed" and "it is said to be useful"' applied in some cases to statements of the truth of which there can be little doubt, but for which the Council evidently did not wish to take the responsibility. While this cautious course is much the safest, it is to be regretted that, so far, little has been done to test these remedies in the practice of disinterested clinicians who could speak with authority as to their therapeutic value.

The book contains a description of over 200 distinct remedies. Some of these already have an assured position; others are likely to fall into disuse, but the true attitude toward them should be a readiness to try them critically rather than reject them in a spirit of nihilism. The work is convenient in size and yet presents all the essentials.

Clinical Lectures and Addresses on Surgery. By C. B. Lockwood, Surgeon to St. Bartholomew's Hospital. Flexible Cloth. Pp. 307. Price, $1.50. New York: Oxford University Press, 1907.

This is the second edition of Lockwood's lectures and addresses, most of which have previously appeared in medical journals. The material, which includes such subjects as the essentials of diagnosis on intra-abdominal inflammations, the immediate microscopic diagnosis of tumors during the course of operations, the relation of clinical pathology to diagnosis and treatment, etc., is drawn almost entirely from Lockwood's personal experience. His easy colloquial, personal style is a pleasant variation from the more didactic tone of many surgical text-books, even the occasional ramblings and diversions being interesting and profitable. In these later days of medical teaching, when the old plan of instruction by the preceptor has entirely gone out of vogue, we often miss the personal element in teaching due to the tendency to confine clinical work largely to laboratory methods. Such books as Lockwood's are not only full of instruction, but also possess an interest not always found in more formal writings.

Cataract Extraction. By H. Herbert, F.R.C.S., Professor of Ophthalmic Medicine and Surgery, Grant Medical College. Cloth. Pp. 391, with illustrations. Price, $3.75. New York: William Wood & Co., 1908.

This complete work on cataract is timely now that we are hearing so much of the various methods of operating on cataract in India. Five thousand cataract extractions form the basis of the work. The illustrations are in black and white and give many interesting details of the various stages of operation. Detail is the keynote of the book, many points being brought forth which are too frequently left to the imagination in similar reports. The intracapsular operation revived by Major Smith of Jullundur is thoroughly discussed and the results compared with the intracapsular operations of other Indian surgeons, and also with the results of the more usual forms of extraction.

Treatment of Gonorrhea in the Female. By Charles Leedham-Green, M.B., F.R.C.P., Surgeon to the Queen's Hospital, Birmingham. Second Edition. Cloth. Price, $2.00. Pp. 160. New York: William Wood & Co., 1908.

This handbook has been revised and a number of corrections and additions made. Of the latter are a description of Goldschmidt's new urethroscope, and a consideration of Bier's hyperemic treatment in gonorrheal arthritis. A number of new illustrations have been added to the text.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HOMES COMMISSION REPORT

To the Editor:—In The Journal of March 13, page 895, reference is made to the "Report of the President's Homes Commission." How can I obtain this book?

C. F. Horner, M.D., Tiskilwa, Ill.

Answer.—This report, which contains a vast amount of information of interest and value to physicians and to the public, is known as Senate Document No. 644. Write to your senator for a copy; if he fails to send one, write to the Superintendent, Senate Document Room, U. S. Senate, Washington, D. C.

DISINFECTION AFTER TUBERCULOSIS

To the Editor:—Please give information regarding the method of disinfection after death from tuberculosis. How should carpets and furniture be treated?

J. P. Brandon, M.D., Essex, Mo.

Answer.—The best method of disinfection of the rooms is by formaldehyd gas and a very practical method of applying this agent is given in The Journal, July 14, 1906, p. 139. Other articles on the same subject appeared July 28, 1906, p. 288; August 18, p. 523; September 22, p. 952, and Jan. 12, 1907, p. 159. Carpets should be left in the room, and after the gaseous disinfection is over they should be subjected to thorough mechanical cleansing, and finally exposure to fresh air and sunshine if possible. The same treatment should be accorded to upholstered furniture. If parts of the carpet or furniture have been soiled by sputum or other discharges they should be wet with a strong solution of formaldehyd

UNTRAPPED SEWER-INLETS

To the Editor:—In a recent discussion pertaining to untrapped gullies a prominent manufacturer of sewer-pipe maintained that the sewer-gas escaping from these gullies or untrapped sewer-inlets placed at the edge of the sidewalk was practically innocuous to public health. While I am aware that sewer-gas is not as morbific as it was at one time held to be, and that flushing and ventilation palliate both the nuisance and the danger, I held that these inlets on the street and alley corners should be trapped. The odors issuing from them are often very offensive, and it seems self-evident

that hundreds of these untrapped sewer-inlets would not be without danger to the community. Kindly give me the benefit of your opinion.
G. C. W.

Answer.—There seems to be no evidence that under ordinary conditions the air of sewers contains any appreciable number of pathogenic bacteria. The tendency of a current of air passing over moist surfaces to rid itself of all floating particles is undoubtedly in part responsible for the relative freedom of sewer-air from bacteria of all kinds . Professor Winslow of the Massachusetts Institute of Technology has recently completed an exhaustive series of investigations for the National Association of Master Plumbers on the danger of the spread of bacterial diseases through sewer-air, and his careful quantitative experiments have shown that this danger is so slight as to be practically negligible. On the other hand, if offensive gases escape from sewer-inlets in sufficient quantities to prove an active nuisance, such a condition would seem to call for remedy, even if on other grounds than those relating to public health. There should be little trouble on this score, however, if the gradient of the sewerage system is properly laid down.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending March 20, 1909:

Shimer, I. A., major, died at Camp Overton, Mindanao, P. I., March 13, 1909.

Roberts, W. M., capt., ordered, in addition to other duties, to perform duty as surgeon at Sandy Hook Proving Ground, N. J.

Morse, A. W., Baker, F. C., and Reynolds, C. R., capts., ordered to Washington, D. C., for examination for promotion.

Rockhill, E. P., Kiersted, H. S., and Yost, J. D., capts., ordered to San Francisco for examination for promotion.

Roberts, W. M., capt., granted leave of absence for one month.

Siler, J. F., capt., detailed to represent Medical Department of the Army at the meeting of the American Society of Tropical Medicine, Washington, D. C., April 10, 1909.

Ashburn, P. M., major, relieved from duty at Fort Bauks, Mass., and ordered to San Francisco for duty at the Army General Hospital.

Geddings, E. F., capt., ordered to Fort Howard, Md., for duty on return from Cuba.

Gunckel, G. I., dent.-surg., ordered to Fort Caswell, N. C., for temporary duty.

Hussey, S. W., dent.-surg., ordered to visit successively for temporary duty Forts Wayne and Brady, Mich.

Ware, W. H., dent.-surg., relieved from duty in the Philippines division and ordered to the United States; granted leave of absence for three months.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending March 20, 1909:

Edgar, J. M., medical inspector, detached from the Navy Yard, Boston, and ordered to the *Connecticut* as fleet surgeon of the Atlantic fleet.

Curtis, L. W., surgeon, detached from duty as fleet surgeon of the Atlantic fleet and ordered to the Naval Torpedo Station, Newport, R. I.

Spear, R., surgeon, detached from the *Rhode Island* and ordered to the Naval Medical School Hospital, Washington, D. C.

Peck, A. E., P. A. surgeon, detached from the Naval Torpedo Station, Newport, R. I., and ordered to the Naval Medical School, Washington, D. C., for instruction.

Gardner, J. E., medical inspector, detached from the Naval Recruiting Station, Boston, and ordered to continue duty at the Marine Recruiting Station at that city.

Thompson, E., surgeon, detached from the Naval Station, Guantanamo, Cuba, and ordered to the Naval Station, Charleston, S. C.

Snyder, J. J., surgeon, detached from duty in connection with the marine detachment at Port Royal, S. C., and ordered to the *Rhode Island*.

Riggs, C. E., surgeon, detached from duty with the Legation Guard at Pekin, China, and ordered home to wait orders.

Grow, E. J., surgeon, ordered to additional duty at the Naval Dispensary, Naval Medical School Hospital, Washington, D. C.

De Lancy, C. H., P. A. surgeon, retired, ordered home when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

Porter, F. E., P. A. surgeon, detached from the Naval Recruiting Station, Detroit, and ordered to the Naval Recruiting Station, Boston.

Backus, J. W., P. A. surgeon, detached from duty at the Naval Hospital, Naval Training Station, Detroit.

Farwell, W. G., P. A. surgeon, detached from duty at the Naval Hospital, Naval Home, Philadelphia, March 22, and ordered to the Naval Station, Guantanamo, Cuba, sailing from New York about March 26.

Owens, W. D., P. A. surgeon, detached from the *Southery* and ordered to temporary duty on board the *Buffalo* and thence to duty with the marine detachment, Legation guard, Pekin, China.

Riggs, R. E., P. A. surgeon, detached from the *Texas* and ordered to duty with the marine detachment, Port Royal, S. C.

Winn, C. K., asst.-surgeon, detached from the *Missouri* and ordered to duty at the Naval Hospital, Newport, R. I.

Ames, M. H., asst.-surgeon, detached from the *New Jersey* and ordered to the *Southery*.

Ledbetter, R. E., surgeon, detached from the Navy Yard, Norfolk, Va., and ordered to the Naval Medical School, Washington, D. C., for instruction, April 15.

Murphy, J. F., P. A. surgeon, detached from the Naval Station, Culebra, W. I., and ordered to the Naval Medical School, Washington, D. C., for instruction, April 15.

Asserson, F. A., P. A. surgeon, detached from the *Konsos* and ordered to the Naval Hospital, Boston.

Fiske, C. N., P. A. surgeon, detached from the Naval Recruiting Station, Minneapolis, and ordered to Washington, D. C., March 31, for examination for promotion, and then to wait order.

Flint, J., asst.-surgeon, detached from the *Connecticut* and ordered to the Naval Hospital, Naval Home, Philadelphia.

Haynes, J. P., asst.-surgeon, detached from the *Virginio* and ordered to the Navy Yard, Norfolk, Va., April 10.

Persons, R. V., detached from the Naval Hospital (command of), Mare Island, Cal., and ordered to command the Naval Hospital, Naval Home, Philadelphia.

Simons, M. H., medical inspector, detached from command of the Naval Hospital, Philadelphia, and ordered to command the Naval Hospital, Mare Island, Cal.

McDonald, P. E., P. A. surgeon, detached from the Naval Training Station, Newport, R. I., and ordered to duty at the Naval Hospital, New York.

Hoen, W. S., P. A. surgeon, detached from the Naval Recruiting Station, Oklahoma, Okla., and ordered to the Naval Hospital, Las Animas, Colo.

Rodman, S. S., P. A. surgeon, detached from the Naval Recruiting Station, Chicago, and ordered to the Naval Medical School, Washington, D. C., for instruction, April.

Geiger, A. J., P. A. surgeon, detached from the *Supply* and ordered to the Naval Hospital, Mare Island, Cal.

Munger, C. B., asst.-surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Naval Medical School, Washington, D. C., for instruction, April 15.

Reed, T. W., asst.-surgeon, detached from the *Colorado* and ordered to the Navy Yard, Mare Island, Cal.

Kuder, W. S., asst.-surgeon, detached from the *Minnesota* and ordered to the Navy Yard, Philadelphia.

Hayward, A. B., asst.-surgeon, detached from the Naval Recruiting Station, Dallas, Texas., and ordered to temporary duty on board the *Independence* and thence to the *Colorado*.

(Orders issued by the commander-in-chief of the Pacific Fleet:)

Farenholt, A., surgeon, detached from the *Maryland* and ordered to the *West Virginia*.

Raison, T. M., asst.-surgeon, detached from the *West Virginio* and ordered to the *Maryland*.

Bertolette, D. N., medical director, detached from the Naval Recruiting Station, Philadelphia, and ordered to command the Naval Hospital, Washington, D. C.

Nash, F. S., surgeon, detached from the Navy Yard, Washington, D. C., and ordered to the Naval Recruiting Station, Philadelphia.

Stone, E. P., surgeon, detached from the *Rhode Island*, and ordered to the Navy Yard, Boston.

Allen, A. H., asst.-surgeon, detached from duty at the Naval Hospital, Las Animas, Colo., and ordered to the Naval Recruiting Station, Oklahoma, Okla.

The following assistant-surgeons have been detached from instruction at the Naval Medical School, Washington, D. C.:

Lane, H. H., to the Naval Station, Hawaii.

Allen, D. G., to third squadron, Pacific Fleet. (Passage on *Buffalo*, May 15.)

Smith, C. W., to Naval Hospital, Naval Home, Philadelphia.

Whiteside, L. C., to the *New Jersey*.

Pollard, J. B., to the *Missouri*.

Stanley, A. C., to the *Virginia*.

McDowell, R. W., to the *Connecticut*.

Mackenzie, E. G., to the *Kansas*.

Shippen, L. P., to the Naval Recruiting Station, Minneapolis.

Schmidt, L. M., to the Naval Recruiting Station, Chicago.

Sterne, C. F., to the Naval Recruiting Station, St. Louis.

Shepard, G. W., to the Naval Station, Culebra, W. I., March 27, 1909.

Toulon, A. J., to the *Supply*, April 10, 1909.

Johnson, L. W., to the *Minnesota*.

Chambers, W., to the Naval Recruiting Station, Dallas, Texas.

Noble, D. H., and Dodge, A. H., to Naval Hospital, Las Animas, Colo.

Henry, R. B., to the Naval Magazine, Iona Island, N. Y.

Whitmore, G. B., to the Naval Proving Ground, Indian Head, Md.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended March 17, 1909:

Cobb, J. O., surgeon, granted 2 days' leave of absence from March 9, 1909, on account of sickness.

Wertenbaker, C. P., surgeon, directed to report at Bureau on special temporary duty, and on completion of the duty to rejoin his station.

Young, G. B., surgeon, detailed to represent the service at the fifth annual conference of the Council on Medical Education of the American Medical Association to be held in Chicago April 5, 1909.

Rosenau, M. J., surgeon, directed to proceed to Philadelphia on special temporary duty.

Nydegger, James A., surgeon, on the arrival of P. A. Surgeon Charles W. Vogel, directed to proceed to Pittsburg, Pa., and assume charge of the Service.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at the sixth annual meeting of the American Society of Tropical Medicine, to be held in Washington, D. C., April 10, 1909.

Anderson, John F., P. A. surgeon, directed to proceed to Detroit on special temporary duty.

Ramus, Carl, P. A. surgeon, granted 2 days' leave of absence from March 4, 1909, on account of sickness.

Vogel, Charles W., P. A. surgeon, relieved from temporary duty at the Hygienic Laboratory and directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

McCoy, George W., P. A. surgeon, directed to proceed to Berkeley, Cal., on special temporary duty.

Creel, Richard H., P. A. surgeon, relieved from temporary duty at the Hygienic Laboratory and directed to proceed to Chicago and report to the medical officer in command for duty and assignment to quarters.

Creel, Richard H., P. A. surgeon, granted 4 days' leave of absence en route to station.

Ashford, Francis A., asst.-surgeon, on arrival of Asst.-Surgeon R. M. Grimm directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Grimm, R. M., asst.-surgeon, on the arrival of P. A. Surgeon R. H. Creel directed to proceed to San Juan, P. R., and report to the commanding officer of the U. S. Revenue Cutter *Algonquin*.

Fogarty, J. M., acting asst.-surgeon, granted 10 days' leave of absence from March 16, 1909.

Health Reports

The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General. Public Health and Marine-Hospital Service during the week ended March 19, 1909.

SMALLPOX—UNITED STATES

Arkansas: Bethal, Jan. 25, 3 cases; Jonesboro, Jan.20-March 1, 20 cases; Paragould, Feb. 1-March 9, 7 cases.

California: Oakland, Jan. 1-31, 4 cases; San Francisco, Feb. 20-27, 6 cases.

District of Columbia: Washington, Feb. 20-27, 1 case.

Illinois: Benld, Feb. 15-18, 2 cases; Chicago, Feb. 27- March 6, 2 cases; Danville, March 1-7, 4 cases; Galesburg, Feb. 27-March 6, 1 case.

Indiana: Elkhart, Feb. 28-March 6, 2 cases; Lafayette, March 1-8, 1 case.

Iowa: Council Bluffs, Jan. 1-31, 9 cases; Feb. 1-28, 4 cases.

Kansas: Kansas City, Feb. 27-March 6, 1 case; Topeka, Feb. 20-27, 6 cases.

Kentucky: Covington, Feb. 27-March 6, 3 cases; Georgetown, Dec. 2-March 4, 31 cases; Paducah, March 1-7, 2 cases

Louisiana: Alexandria, Feb. 1-28, 9 cases; New Orleans, Feb. 29-March 6, 1 case, imported.

Michigan: Detroit, Feb. 20-March 6, 2 cases.

Minnesota: Minneapolis, Feb. 27-March 6, 11 cases.

Missouri: Kansas City, Feb. 27-March 6, 2 cases; St. Louis, Feb. 27-March 6. 2 cases.

Montana: Butte, Feb. 16-March 2, 2 cases.

Nebraska: Arlington, Jan. 25, 1 case; South Omaha, Feb 20-27, 5 cases.

New Jersey: Camden, Feb. 27-March 6, 2 cases; Perth Amboy, March 10, 6 cases.

New York: Buffalo, Feb. 28-March 6, 1 case; New York, Feb. 22-27, 1 case, 1 death.

Ohio: Cincinnati, Feb. 26-March 5, 9 cases; Cleveland, Feb. 26-March 5, 2 cases; Columbus, Feb. 28-March 6, 1 case.

Pennsylvania: New Castle, Feb. 1-28, 2 cases; Prompton, Feb. 2-March 4, 8 cases.

Tennessee: Memphis, Jan. 1-31, 61 cases; Nashville, Feb. 28-March 6, 10 cases.

Texas: El Paso, Feb. 23-March 2, 1 death; San Antonio, Feb. 27-March 6, 3 cases.

Utah: General, Jan. 1-31, 237 cases, 1 death.

Virginia: Caroline county, March 9, 1 case.

Washington: Tacoma: Feb. 14-March 7, 8 cases.

Wisconsin: La Crosse, Feb. 27-March 6, 2 cases.

SMALLPOX—FOREIGN

Algeria: Algiers, Jan. 1-31, 29 deaths.

Canada: Halifax, Feb. 20-27, 6 cases.

China: Dalny, Jan. 23-30, 1 death; Tientsin, Jan. 23-30, 5 cases, 1 death.

Egypt: Alexandria, Jan. 1-31, 8 cases; Cairo, Jan. 28-Feb. 4, 33 cases, 12 deaths.

France: Paris, Feb. 6-12, 4 cases, 1 death.

Germany: Brunswick, Feb. 13-20, 1 case.

Great Britain: Bristol, Feb. 13-20, 4 cases.

India: Bombay, Feb. 2-9, 12 deaths; Calcutta, Jan. 16-30, 181 deaths; Madras, Jan. 30-Feb. 5, 1 death; Rangoon, Jan. 23-30, 2 deaths.

Italy: General, Feb. 14-28, 15 cases; Naples, Feb. 14-21, 21 cases, 5 deaths; Palermo, Jan. 23-30, 1 case.

Java: Batavia, Jan. 16-23, 3 cases.

Malta: Feb. 1-13, 2 cases.

Mexico: Jan. 23-Feb. 6, 19 deaths; Veracruz, Feb. 1-27, 1 case.

Persia; Arabistan, Feb. 3, present; Mechedisser, Feb. 3, present; Mohammerah, Feb. 3, present.

Portugal: Lisbon, Feb. 13-20, 1 case.

Russia: Moscow, Jan. 30-Feb. 13, 2 cases; St. Petersburg, Jan. 30-Feb. 6, 7 cases, 5 deaths; Warsaw, Jan. 2-9, 1 death.

Spain: Almeria, Jan. 1-31, 1 death; Barcelona, Jan. 23-Feb. 13, 15 deaths, Valencia, Feb. 6-13, 3 cases.

Tripoli: Tripoli, Feb. 6-13, 4 cases.

Turkey: Constantinople, Feb. 7-21, 4 deaths; Trebizond, Feb. 6-20, present.

YELLOW FEVER

Barbadoes: General, to Feb. 27, 54 cases, 16 deaths; Feb. 27-March 6, 2 cases.

Ecuador: Guayaquil, Feb. 6-13, 4 deaths.

Mexico: Merida, Feb. 21-March 6, 2 cases, 1 death; Ticul, Feb. 21-March 6, 1 case.

CHOLERA

India: Bombay, Feb. 2-9, 4 deaths; Calcutta, Jan. 16-30, 26 cases; Madras, Jan. 30-Feb. 5, 2 deaths; Rangoon, Jan. 23-30, 1 death.

Russia: General, Jan. 17-24, 304 cases, 129 deaths; Jan. 24-30, 201 cases, 60 deaths; St. Petersburg, Jan. 24-30, 193 cases, 52 deaths; Feb. 12, 43 cases.

PLAGUE

China: Amoy, March 16, present.

Ecuador: Guayaquil, Jan. 6-23, 14 deaths.

Egypt: Suakim, Feb. 1, 1 case.

India: General, Jan. 30-Feb. 6, 3,663 cases, 3,076 deaths; Bombay, Feb. 2-9, 28 deaths; Calcutta, Jan. 16-30, 27 deaths; Rangoon, Jan. 23-30, 21 deaths.

Turkey: Bagdad, Jan. 16-23, 4 cases, 2 deaths.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 5-6. Sec., Dr. Ancil Martin.

Arkansas; Three boards, each at Little Rock, April 13. Regular Sec., Dr. F. T. Murphy, Brinkley; Homeopathic Sec., Dr. P. C. Williams, Texarkana; Eclectic Sec., Dr. A. J. Widener, Little Rock.

California: San Francisco, April 6. Sec., Dr. Charles L. Tisdale, Butler Bldg.

Colorado: Denver, April 6. Sec., Dr. S. D. VanMeter, 1723 Tremont St.

District of Columbia: Washington, April 13-16. Sec., Dr. George C. Ober, 210 B St., S. E.

Idaho: Boise, April 6-7. Sec., Dr. W. F. Howard, Pocatello.

Illinois: Northwestern University Bldg., Chicago, April 15-17. Sec., Dr. J. A. Egan, Springfield.

Minnesota: Old Capitol, St. Paul, April 6-9. Sec., Dr. W. S. Fullerton, 214 Am. National Bank Bldg.

Montana: The Capitol, Helena, April 6. Sec., Dr. W. C. Riddell

New Mexico: Santa Fe, April 12. Sec., Dr. J. A. Massie.

North Dakota: Grand Forks, April 6-8. Sec., Dr. H. M. Wheeler.

Oklahoma: Guthrie, April 13. Sec., Dr. Frank P. Davis, Enid.

Rhode Island: State House, Providence, April 1-2. Sec., Dr. Gardner T. Swarts, 315 State House.

Utah: Salt Lake City, April 5-6. Sec., Dr. R. W. Fisher.

West Virginia: Huntington, April 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Arizona January Report

Dr. Aneil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, January 4-5, 1909. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 4, of whom 2 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED.		
Georgetown University	(1907)	88.2
College of Physicians and Surgeons, Baltimore	(1889)	87.7
FAILED		
Western Reserve University	(1896)	42.9
Willamette University	(1902)	69.6

Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, January 7-8, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 8, of whom 4 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Baltimore Medical College (1907) 80;	(1908)	90.1
Jefferson Medical College	(1904)	86.1
Laval University, Quebec	(1908)	80.6
FAILED		
Baltimore Medical College (1905) 72.9;	(1907)	72.6
Laval University, Quebec	(1905)	69.2
University of Naples, Italy	(1905)	68.6

Marriages

Horace T. Sadler, M.D., to Miss Helen Bosler, both of Carlisle, Pa., March 6.

George W. Famous, M.D., Berwyn, Pa., to Miss J. Gertrude Cope, of Philadelphia, Pa., March 9.

Carl Stoehr, M.D., Big Stone Gap, Va., to Miss Elizabeth Rucker, of Washington, D. C., March 6.

Harry Hugh Ells, M.D., Charlotte, Mich., to Miss Marie Rowland Van Verst, of Detroit, March 18.

John Adam Kappelmann, M.D., Evanston, Ill., to Miss Jennie Hanson of Oak Park, Ill., March 18.

D. M. Ryan, M.D., Indian Mills, W. Va., to Miss Norene Myrtle Garten, of Forest Hill, W. Va., March 3.

Alfred B. Tucker, M.D., to Miss Martha Jones, both of Berryville, Va., at Waynesboro, N. C., March 11.

Archelaus Ernest Turrentine, M.D., Charleston, Miss., to Miss Mildred Davis, of Blytheville, Ark., March 16.

Deaths

Ferdinand Carl Hotz, M.D., one of the oldest and best known ophthalmologists of Chicago, died March 21, from pneumonia, aged 65. He was born in Wertheim, Germany, and after study in Jena graduated in medicine from the University of Heidelberg in 1865. He served as surgeon in the South German Army during the Austro-Prussian war in 1866, during 1867 and 1868 he was assistant surgeon to Knapp's Eye Clinic, Heidelberg, and a year later came to the United States and located in Chicago. He has been ophthalmic surgeon to the Illinois Charitable Eye and Ear Infirmary since 1876; professor of ophthalmology in the Chicago Polyclinic since 1888, and professor of ophthalmology and otology in Rush Medical College since 1898, and oculist to Cook County and Presbyterian hospitals. He was a member of the American Medical Association; one of the founders and once president of the Chicago Ophthalmological Society. He was made a director of the Chicago Public Library in 1875 and held this position until his death. His contributions to ophthalmologic literature have been frequent and valuable.

John C. Corbus, M.D. Cleveland (Ohio) Medical College, 1855; a member of the American Medical Association; surgeon of the Seventy-fifth Illinois Volunteer Infantry during the Civil War; for 27 years a member and for 12 years president of the State Board of Charities; from 1898 to 1906 superintendent of the Illinois Eastern Hospital for the Insane, Hospital; and for fifteen years a member of the board of U. S. Pension Examining Surgeons; died at the home of his son in Mendota, March 17, aged 75.

Dillon Brown, M.D. Harvard Medical School, Boston, 1885; professor of diseases of children in the University of Vermont; and adjunct professor of diseases of children in the New York Polyclinic; professor of pediatrics in the New York School of Clinical Medicine; physician to the New York Children's Hospital; editor of the *Journal of Pediatrics;* for many years house physician for the Savoy and Netherlands hotels, died at his home in New York City, March 16, from malignant disease, aged 48.

John Samuel Brownlee, M.D. Missouri Medical College, St. Louis, 1890; a member of the State Medical Association of Texas; and for 31 years a practitioner of that state; for eight years a member of the district examining board; for fifteen years health officer of Burnet county; and for several terms president of the Burnet County Medical Society; died at his home in Burnet, February 8, from heart disease, aged 56.

Robert George Redd, M.D. Ohio Medical College, Cincinnati, 1869; Bellevue Hospital Medical College, New York City, 1871; surgeon in the Army for about twenty years; and later surgeon for the Northern Pacific Railroad at Miles City, Mont.; at one time mayor of that city, and a member of the state senate; died at the home of his son in Crab Orchard, Ky., February 21, from locomotor ataxia, aged 66.

Hamilton Dox Wey, M.D. New York University, New York City, 1878; a member of the American Medical Association; president of the Medical Society of the State of New York in 1904 and 1905; a member of the Elmira Academy of Medicine; consulting physician to the Arnot-Ogden Memorial Hospital, Elmira; died in Callao, Peru, where he had gone for his health, March 16, aged 54.

John Lawrence Cleary, M.D. Pulte Medical College, Cincinnati, 1878; a veteran of the Civil War; a member of the State Medical Society of Wisconsin, and a charter member of the Kenosha County Medical Society; for two terms a member of the Wisconsin State Board of Control; died at his home in Kenosha, from cancer of the face, March 12, aged 62.

James H. Hamilton, M.D. Castleton (Vt.) Medical College, 1859; a member of the American Medical Association; acting assistant surgeon in the P. H. and M.-H. Service; for many years secretary of the Vermont State Board of Health; and at one time a member of the state legislature; died at his home in Richford, Vt., March 14, from nephritis, aged 73.

Alonzo Bishop Adams, M.D. Medical School of Maine, Brunswick, 1869; of East Wilton, Maine; a member of the Maine Medical Association; a veteran of the Civil War; secretary of the local board of health; and a member of the local board of U. S. Pension Examining Surgeons; died March 10, two days after an operation for appendicitis, aged 68.

Elias Carey Kitchin, M.D. Castleton (Vt.) Medical College, 1850; assistant surgeon of the Twenty-first Pennsylvania Volunteer Cavalry, and surgeon of the One Hundred and Fifty-fifth Pennsylvania Volunteer Infantry during the Civil War; died at his home near Brumfieldville, Pa., March 13, from senile debility, aged 81.

Sinclair Holden Glasgow, M.B. University of Toronto, 1878; M.D. University of the Victoria College, Coburg, Ont., 1878; lieutenant colonel of the Second Dragoons; president of the Ontario Medical Association; and division surgeon of the Grand Trunk Railway; died at his home in Welland, Ont., March 13, aged 53.

James B. R. Purnell, M.D. University of Maryland, Baltimore, 1850; vice-president of the Medical and Chirurgical Faculty of Maryland in 1900 and 1901; formerly physician to the county almshouse and health officer of Worcester county; died at his home in Snow Hill, March 7, from senile debility, aged 80.

James E. C. Sullivan, M.D. Louisville (Ky.) Medical College, 1872; of Cairo, Ill.; for many years a member of the American Medical Association; and a member of the Illinois State Board of Health; died in the Alexian Brothers Hospital, St. Louis, March 12, after a prolonged illness, aged 64.

George A. Dougherty, M.B.; C.M. University of Glasgow, Scotland, 1865; a member of the Medical Society of the State of Pensylvania; a member of the staff of the City Hospital, Washington, Pa.; died at his home in that city, March 12, from valvular heart disease, aged 69.

James William Walker, M.D. Bellevue Hospital Medical College, New York City, 1893; health officer and coroner of Lincoln, and later health officer of Pawtucket, R. I.; died at the Brown Hospital, Providence, R. I., March 13, after an operation for intestinal obstruction, aged 47.

James W. Bennett, M.D. Tulane University, New Orleans, 1859; a member of the Mississippi State Medical Association; and one of the oldest and most esteemed practitioners of southern Mississippi; died at his home in Brookhaven, March 13, from heart disease, aged 81.

John Franklin Minor, M.D. University of California, San Francisco, 1876; for several years surgeon on steamers of the Pacific Mail Steamship Company; and a practitioner of Alameda, Cal.; died suddenly in that city, from heart disease, March 11, aged about 50.

John James O'Connor, M.D. Harvard Medical School, Boston, 1888; a member of the American Medical Association; and for twenty years a practitioner of Holyoke, Mass.; died in the House of Providence Hospital, in that city, March 13, from nephritis, aged 44.

F. A. Alcibiades Belinge, M.D. Cooper Medical College, San Francisco, 1870; of Los Gatos, Cal.; formerly president of the Medico-Chirurgical Society of San Francisco; and a member of the commission on insanity; died in Lane Hospital, San Francisco, March 14.

Henry Tilford Nock, M.D. Hospital College of Medicine, Louisville, 1907; interne in the Kingston Avenue Hospital for Contagious Diseases, Brooklyn, N. Y.; died in the Kings County Hospital, Brooklyn, February 19, from yellow atrophy of the liver, aged 24.

Robert Andrews, M.D. Eclectic Medical College of Philadelphia, 1861; a member of the Medical Society of the State of New York and president of the village of Bergen for five terms; died at his home March 9, from dilatation of the heart, aged 72.

Erastus L. Wilson, M.D. College of Physicians and Surgeons, Baltimore, 1889; physician to the town of Lisbon, Maine; formerly a practitioner of Howard, R. I.; died suddenly while making a professional call in Durham, Maine, March 1.

Joseph J. Lawrence, M.D. Eclectic Medical Institute, Cincinnati, 1858; founder and for many years editor of the *Medical Brief*, St. Louis; a Confederate veteran; died at his home in New York City, March 14, from cerebral hemorrhage, aged 72.

Jabez V. Childers, M.D. University of Pennsylvania, Philadelphia, 1859; surgeon of the Third Tennessee Infantry, C. S. A., throughout the Civil War; a resident of Dallas, Texas, for 37 years; died at his home in that city, March 9, aged 76.

John G. Duckworth, M.D. College of Physicians and Surgeons, Baltimore, 1875; a member of the South Carolina Medical Association; died at his home near Anderson, S. C., from cerebral hemorrhage, February 10, aged about 60.

Noah F. Baker, M.D. St. Louis (Mo.) Medical College, 1868; a member of the American Medical Association; a Confederate veteran; died at his home in Fulton, Mo., March 2, from septicemia, due to an operation wound, aged 63.

J. Norman Davies, M.D. Hahnemann Medical College, Chicago, 1891; a member of the visiting staff of the Warren (Pa.) Emergency Hospital; died suddenly at his home in Warren, February 28, from heart disease, aged 38.

William R. Briscoe, M.D. Dublin, Ireland, 1859; of Arthur City, Texas; a member of the State Medical Association of Texas; a veteran of the Civil War; died at the home of his daughter near Direct, Texas, January 29.

Abram H. Wallace, M.D. Kentucky School of Medicine, Louisville, 1892; a member of the Medical Society of the State of California; died suddenly from heart disease in his office in Los Angeles, March 8, aged 47.

Harrison Allison Winters, M.D. Rush Medical College, Chicago, 1881; of Chattanooga, Tenn.; died at the Erlanger Hospital in that city, March 7, from the effects of a fracture of the femur in June last, aged 55.

Edmund Cantwell Gibbs, M.D. University of Maryland, Baltimore, 1884; a member of the Medical and Chirurgical Faculty of Maryland; died at his home in North Baltimore, March 8, from nephritis, aged 52.

Albert F. Lange, M.D. St. Louis College of Physicians and Surgeons, 1903; who was struck by an automobile, February 24, and seriously injured, died at his home in St. Louis from thrombosis, March 5, aged 34.

Samuel Groome Fisher, M.D. University of Maryland, Baltimore, 1854; for more than 50 years a practitioner of Chestertown, Md.; died at the home of his son in Port Deposit, Md., February 22, aged 77.

George B. Christy, M.D. Western Reserve University, Cleveland, 1859; chief surgeon of the Fifth Army Corps during the Civil War; died at his home in Dunlap, Iowa, February 26, from pneumonia, aged 79.

Benjamin Franklin Laughlin, M.D. University of Maryland, Baltimore, 1904; of Kingwood, W. Va.; died at the home of his father in Deer Park, Md., from paralysis, March 9, aged 31.

William H. Sage, M.D. Yale University, New Haven, 1849; for 30 years a practitioner of New Haven; died from cerebral hemorrhage at his home in Woodbury, Conn., March 10, aged 83.

Charles Miller Dalsen, M.D. Jefferson Medical College, Philadelphia, 1880; of Philadelphia; died at the home of his daughter in that city, March 2, from senile debility, aged 82.

Howard H. Cheyney, M.D. Hahnemann Medical College, Philadelphia, 1875; of Williamsport, Pa.; died in the Hahnemann Hospital, Philadelphia, March 5, from nephritis, aged 54.

George Waters Cleland, M.D. Savannah (Ga.) Medical College, 1854; of Wagoner, Okla.; died at the home of his daughter in that city, January 21, from nephritis, aged 80.

William Edmund Burgar, M.D. College of Physicians and Surgeons, Ont., 1868; died suddenly at his home in Welland, Ont., March 14, from cerebral hemorrhage, aged 68.

Samuel C. Price, M.D. Kansas City (Mo.) Medical College, 1870; of Joplin, Mo.; a veteran of the Civil War; died in Los Angeles, Cal., February 28, aged 69.

Francis V. Schley, M.D. Atlanta (Ga.) Medical College, 1891; city physician of Columbus, Ga., since 1898; died at his home from meningitis, March 14, aged 50.

Olin J. DeLoach, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1906; of Mascotte, Fla.; died at his old home in Glennville, Ga., March 11, aged 24.

Herman Louis Molter, M.D. Baltimore (Md.) Medical College, 1900; died at his home in North Plymouth, Mass., Februrary 20, from pneumonia, aged 31.

Allen Victor Kelly, M.D. Baltimore (Md.) University, 1892; died at his home in Waterbury, Conn., March 10, from typhoid fever, aged 44.

Robert Ingram Wilson, M.D. New York University, New York City, 1879; died at his home near Swannanoa, N. C., March 8.

Charles Edward Barnhart, M.D. Toronto School of Medicine, 1859; died at his home in Owen Sound, Ont., February 10, aged 76.

L. J. Turner, M.D. University of Georgia, Augusta, 1876; died at his home near Rockdale, Texas, January 30, aged 69.

P. S. Tribbey, M.D. Cincinnati College of Medicine and Surgery, 1871; died at his home in Secor, Ill., March 9, aged 87.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Medical Expert Testimony

The report of the committee on the regulation of the introduction of medical expert testimony, presented at the annual meeting of the New York State Bar Association, has just been received. This committee, of which Hon. A. T. Clearwater of Albany is chairman, and which consists of one member from each judicial district of the state, was instructed to confer with a committee appointed by the Medical Society of the State of New York regarding medical expert testimony. The New York Academy of Medicine and the Homeopathic Medical Society of New York were also invited to participate in the conference through properly appointed committees. A joint meeting of the entire committee was held in New York City and the subject thoroughly discussed.

The committee is of the opinion that, theoretically, an expert is a scientist interested solely in facts, who should retain freedom of judgment and liberty of speech and should be free from the embarrassment of any personal relations to or with the parties to an action. He should speak judicially as the representative of the special branch of science which he invokes and should at all times be treated with respect and have the protection of the court. No one should be permitted to distort, pervert or misrepresent his testimony. He should have no client to serve and no partisan interests or opinions to vindicate.

Not until the expert witness complies with these conditions is it possible to rescue expert testimony from the disrepute into which it has fallen and elevate it to its true position. Scientific open-mindedness is almost impossible where the expert depends entirely for his emolument on the good graces of the contending parties. The commercializing of scientific knowledge under the existing conditions lessens its accuracy and value. The enormous modern development of special knowledge makes doubt and controversy among experts hired to create it inevitable. The gravest abuses, not to say scandals, have arisen in the introduction of medical expert testimony, until it has come commonly to be believed that such witnesses are so biased that hardly any weight should be given to their opinions. The committee unanimously agreed that the methods now pursued do not subserve the ends of justice, and summarize the existing evils as follows:

1. Want of satisfactory standards of expertness, with the result of inviting the testimony of charlatans.
2. The partisan conflicting and hence unreliable character of the evidence often given by so-called expert witnesses.
3. The prolongation of trials and the consequent increase of expense on account of the number of witnesses.
4. The confusing effect on juries of the contradictory testimony of expert witnesses of apparently equal standing.
5. Lack of scruple on the part of some members of the bar in countenancing the hiring by their clients of unprincipled self-styled experts to support causes by specious and untruthful testimony.
6. An unfortunate tendency on the part of some trial judges to permit incompetent, so-called medical experts to testify to opinions predicated on widely unrelated facts and under oath to express views which are but the speculative vagaries of ill-informed minds.

The committee concludes that the remedy for these evils lies with the bench and bar rather than with resort to restrictive legislation, and recommends that judges require a greater degree of competence on the part of persons claiming to be experts by the simple but effective method of defining to a jury with force and precision the distinction between a witness proved to be thoroughly qualified and one whose claim to speak is predicated principally on the fact that he is paid to do so. The committee holds that the bar is not blameless for the present condition of affairs, as some of its members connive at the hiring of corrupt and incompetent so-called experts and also are responsible for the practice of discrediting the testimony of the witness by disconcerting him in cross-examination. The committee presented the bill which it had framed for presentation to the legislature and asked for the adoption of a resolution approving of the bill and urging its passage.

The bill referred to provides that within ninety days after the passage of the act that justices of the Supreme Court of the state shall designate not less than ten nor more than sixty physicians in each judicial district, who may be called as medical expert witnesses by the trial court or by any party to a civil or criminal action in any courts of the state, and who shall when so called, testify and be subject to full examination and cross-examination as are other witnesses. This act is not intended to limit the right of parties to call other expert witnesses as heretofore, but establishes a corps of recognized experts in each judicial district, who have the stamp of approval of the court, and who may be called by the trial judge to testify regarding scientific matters.

The investigations of the committee showed that only two states, Michigan and Rhode Island, have any statutory provisions regulating expert testimony. A bill has this year been introduced into the Maine legislature, mention of which has already been made in The Journal. It is gratifying to note this evidence of interest in this important subject, and it is to be hoped that cooperation between medical and legal organizations may be secured in other states and that the solution of this important but perplexing problem may be worked out.

The Future of Osteopathy

A summary of the bills now before the Massachusetts legislature of interest to physicians appears in the *Boston Medical and Surgical Journal*, March 11. Most of the measures commented on have already been mentioned in The Journal. One bill not yet mentioned is House Bill 1340, which relates to the granting of degrees by the Massachusetts College of Osteopathy. It provides that this institution shall be empowered to grant the degree of doctor of medicine to its graduates.

To those who have followed the history and development of osteopathy in the past ten years, this is exceedingly significant. At the time that the osteopathic advocates first appeared before state legislatures asking for legal recognition of their cult and the establishment of state boards of examiners for their followers, it was insisted on by members of the medical profession, interested in maintaining a high standard of medical education that this new movement, like all sectarian movements, was merely an effort to introduce a cheaper and less scientifically educated class of physicians and that, in reality, it was merely a "back door" to the medical profession, admitting persons to the duties, responsibilities and privileges of physicians who had not complied with the existing standards of qualification. This was indignantly denied by the osteopathic advocates, who declared that osteopathy was not a practice of medicine, that it was something entirely different and that it was not and never would become a "school" of medicine. The fields of obstetrics, surgery, both major and minor, contagious diseases, issuing of birth and death certificates, and even in some cases, the appointment of quarantine and health officers, all, so far as possible, have been invaded by these people who have nevertheless insisted constantly that "osteopathy and the practice of medicine are two separate and distinct things." The introduction of courses in surgery, the attempts at instruction in asepsis and antisepsis and bacteriology in the "progressive" osteopathic schools are but tacit acknowledgments of the objects more clearly avowed by the Massachusetts College of Osteopathy.

We venture the assertion that if this sect is still in existence at the end of ten years, the schools of instruction maintained by its adherents will all have become "schools" of medicine, conferring the degree of doctor of medicine and constituting another group of poorly equipped schools with low standards of admission and instruction, analogous to the lower grade medical colleges of the present day and constituting additional material for the reputable and progressive portion of the medical profession to digest and assimilate slowly at the cost of great labor and with the lowering of the general standards of the profession.

The effort of the Massachusetts College of Osteopathy to gain such a right should be noted in all of the states in which osteopathic legislation is being urged as an evidence of the manifest tendency of this sect and the speciousness of its arguments and claims.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Fourth Weekly Meeting

COMBINED SYSTEM DISEASES

Ataxic Paraplegia.—Pathology: Changes in dorsal and lateral columns. Arterial changes. Symptoms: Sensory symptoms, gait, reflexes, muscular rigidity, incoördination.

Primary Combined Sclerosis (Putnam).—Changes in cord. Age, sex, association with anemia. Symptoms.

Hereditary (Friedrich's) Ataxia.—Symptoms. Characteristic gait, ataxia of arms, static ataxia. Reflexes, sensory symptoms, nystagmus. Deformities. Speech.

DISEASES OF THE NERVES

Neuritis.—1. Localized.—Etiology: Cold, trauma, occupation palsies, pressure from tumors, etc. Symptoms: Pain; location, character, distribution. Local manifestations. Motor disturbances. Migratory neuritis. Electrical reactions. Prognosis.

2. Multiple.—Etiology: Infectious diseases, organic poisons, in cachexia of anemia, cancer, etc., beri-beri. Pathology: (a) Interstitial, (b) parenchymatous neuritis. Symptoms: (a) Acute Febrile Polyneuritis. Onset, clinical history, sensory and motor disturbances. Course, differentiation. Recurring polyneuritis. (b) Alcoholic Neuritis. Onset, clinical course, sensory and motor manifestations, mental symptoms. Prognosis. (c) Multiple Neuritis in Infections Diseases. Diphtheria, tuberculosis, typhoid, scarlatina, etc. Course and prognosis. (d) Neuritis from Metallic Poisons. Arsenic from medicinal use, food and drink. Lead, mercury and zinc. (e) Beri-beri. Distribution. Theories of causation.

DISEASES OF SPINAL NERVES

Cervical Plexus.—1. Occipito-Cervical Neuralgia. Etiology. Nerves involved. Symptoms.

2. Phrenic Nerve. (a) Paralysis: Etiology; lesions of cord, compression, neuritis, diphtheria, lead, etc. Symptoms. (b) Hiccough: Etiologic classification (Symes), inflammatory, irritative, specific, neurotic; causes of each.

Brachial Plexus.—1. Combined Paralysis. Etiology: compression, trauma, fractures, dislocations, neuritis, "obstetrical palsy."

2. Individual Nerves. (a) Long thoracic, (b) circumflex, (c) musculo-spiral, radial, (d) ulnar, (e) median; etiology and symptoms of each.

Lumbar Plexus.—(a) Obturator, (b) anterior crural, (c) gluteal, (d) external cutaneous, "meralgia paresthetica."

Sacral Plexus.—Pelvic inflammation or tumors, parturition, neuritis. Paralysis of (a) sciatic, (b) small sciatic, (c) external popliteal, (d) internal popliteal. Sciatica: Etiology: age, sex, rheumatism, injury, compression, spinal arthritis. Treatment. Mechanical, constitutional, rest and fixation; local treatment.

Monthly Meeting

The Topical Diagnosis of Lesions of the Cord.
Early Diagnosis and Treatment of Locomotor Ataxia.
Etiology and Symptomatology of Acute Anterior Poliomyelitis.

Miscellany

A Newspaper's Views of the Antivivisectionists

The following is from the *North American*, Philadelphia, Feb. 8, 1909:

“All history, we believe, bears out our belief that most of the deadly errors, the suffering and the calamities of the world have been caused less by malice and conscious criminality than by well-meaning ignorance. Within the past week Philadelphia has seen an instance of that type of ignorance which is an infectious disease, curable only by copious and repeated doses of truth, administered before the ailment has progressed into the acute stages of hysteria and fanaticism.

“Ordinarily the *North American* would not feel called on to discuss seriously the utterances of a young woman who adopts as the premises for her public arguments flat, dogmatic denials of the incontestably proved truths of science and the vital statistics of all civilized nations.

“But our legislative records prove only too plainly that the doctrine of which the attractive and plausible young woman from Sweden is a high priestess has found too many adherents for the safety of the community.

“Only the veto of the governor prevented this state from taking a long step back toward the dark ages by the passage of acts weakening the vaccination law and forbidding animal experimentation. And in the present session of the legislature there already is proof, in the harmful Article XV of the proposed public school law, that there is deliberate and organized purpose to force through legislation that will menace life and health and obstruct the progress of all preventive medicine.

“Concerning the various horrors of the torture of helpless animals in laboratories, which Miss Lind-af-Hageby details to her shuddering audiences, we can say only that in the exhaustive investigations of the Royal Commission on Vivisection in Great Britain there was utter failure to substantiate similar charges. And in the most noted case that has reached the courts, the defendant, who had quoted from an antivivisection book, was condemned to pay $10,000 damages and heavy costs, while the publisher withdrew the book from sale and made public apology to the libeled scientists.

“Incidentally, the author of that book was Miss Lind-af-Hageby.

“But it is easy to make arbitrary assertions and by dealing in generalities convey the impression that inhumane practices are prevalent. For most people do not know that there are only some forty laboratories in Germany, twenty in France, twenty in England, twenty in Italy and fifty in all other countries in which experiments on animals are made. An exceedingly large supposition would be the sacrifice of five victims a day in each of those 150 institutions.

“Considering the fact that at least two thousand million mammals die every year—in this country alone we slay and eat 50,000,000 beeves, sheep and hogs and 250,000,000 fowls annually—the number used for experimentation hardly seems to deserve the antivivisectionists' favorite term, ‘holocaust.’

“Let it be remembered also that under the carefully enforced British act of Parliament it was shown last year that of 73,000 operations on animals, 96.5 per cent. were inoculations or hypodermic injections of a wholly painless character, while the remaining 3.5 per cent. were effectively anesthetized, according to the sworn testimony of the government inspectors.

“Such facts do not, however, apply to the theories of Miss Lind-af-Hageby, which we may summarize thus, in her own words:

“ ‘I know that the torturing of a thousand dogs could never prevent the death of a single child.

“ ‘I do not believe any benefit whatever can come to human beings through experiments made on animals.

“ ‘I believe absolutely that all inoculation of children or grown persons with serum obtained from the diseased blood of animals is dangerous, and that in a large number of cases the serum introduced into the human blood is worse in its effect than the disease it is said to prevent or cure.

“ ‘I do not believe that there has been any decrease in deaths from diphtheria since the introduction of the antitoxin.

“ ‘Animal experimentation is wrong for two reasons: First, it is wrong to assume that man can in any way benefit by experiments made on animals

“ ‘In the second place, it is wrong because it is possible to arrive at just as conclusive results through chemical experimentation as through vivisection.’

“Now, apart from all recent discoveries in bacteriology, it is beyond dispute that all we know of the circulation of the blood, the processes of digestion, the growth of bone and the motor centers of the brain are due directly to experiments on animals.

“It was vivisection of what we may be asked to consider a ‘sub-human’—a tadpole, to be exact—that led to our modern effective methods of combating most forms of blood-poisoning.

“It was vivisection and inoculation of animals that led to the discovery of tuberculin; of the serums, vaccines and antitoxins for lockjaw, rabies, cholera, plague, typhoid, cerebrospinal meningitis, diphtheria. It was vivisection and animal experiment that aided in the discovery of antiseptics and anesthetics—the entire basis of modern surgery.

“Surely none need be told that tuberculosis is not the hopeless curse it was. Were it not for animal experimentation the prospects of ultimately lifting this great burden of suffering and death from the human race would be as dark as it was before Klencke, in 1843, and Villemin, in 1865, succeeded in proving its infectious nature by experiments on animals with tuberculous material, and thus paved the way for Koch's discovery, in 1882, of the tubercle bacillus. The many researches which have flowed from the study of this germ have taught us already how to protect the healthy from infection, and are daily teaching us how we may restore to health those already infected.

“Concerning the calm assertion that no good has come of the diphtheria antitoxin, we have at hand indisputable statistics showing that in one country alone—France—the lives of 1,350,000 children have been saved in fifteen years.

“In the words of Dr. Charles Richet, ‘this would be sufficient to justify the death of the twenty-five dogs and the 100 rabbits which I sacrificed, and of the 200 horses which Behring and Roux used for the preparation of the antidiphtheria serum.’

“A little sense of proportion is an excellent thing. A hundred weeping mothers; a hundred children gasping vainly for breath, the hope of a hundred mourning homes dead in the cradle—are we to count these nothing beside a rabbit which has had to receive a little blood of a dog into its abdomen?

“By animal experimentation yellow fever and the plague have been practically conquered. Meningitis is losing its terrors. We know how to prevent typhoid, and hope is strong that a cure for cancer may yet be discovered by the research that alone can make that possible.

“Our wish is to refrain from anything resembling the violence with which the antivivisectionists preach their beliefs. Yet it is difficult to refrain from impatience when we read in one of their official publications this summary of the lifework of one of the greatest benefactors of the human race:

“ ‘Pasteur and his followers increased a very rare disease called rabies and are making fortunes out of the antirabic virus.’

“Read that and then remember that before Pasteur's day the mortality rate in the maternity hospitals of Europe of puerperal fever was 40 per cent. Remember that it was Pasteur who reduced that rate to the present one of 0.02. And then remember that there are women who now sneer at him who did more than any other to lighten ‘the curse of Eve.’

“Condemnation of Pasteur coming from a woman's mouth is an example of such ingratitude that we say without reservation that the woman who assails his services to humanity must be motherless, childless, ignorant or bad.

“We do not for a moment question the sincerity of the young woman we have quoted nor that of her sympathizers. We share their abhorrence of anything savoring of needless cruelty. We do question the accuracy of their knowledge, and consider them lacking utterly in sense of proportion and the true mercy that lies in sane humanitarianism.

"We deny absolutely their contention that animal experimentation has accomplished no good, unless, in truth, 'Life and Death and Motherhood be naught.'

"And to all we commend this thought of President Eliot of Harvard: 'Let me call your attention also to the fact that the humanity which would prevent human suffering is a deeper and truer humanity than the humanity which would save pain or death to animals.'"

Cook Rescue Expedition.—An effort is being made to raise the necessary sum of $35,000 or $40,000 to fit out an expedition for the relief and rescue of the well-known arctic explorer, Dr. Frederick Cook. Dr. Cook is a graduate of the College of Physicians and Surgeons of New York. He was a member of the Peary expedition in 1902, of the Belgian antarctic expedition, 1897-99, and the organizer and leader of the subarctic Alaska expeditions of 1903-06. He is well-known to the public as the author of books on arctic travel and as a contributor to the magazines on polar exploration, and has received many official honors. He started out in May, 1907, with the view of reaching the highest northern point possible during the long period of darkness, so that by the coming on of twilight he would be in the best possible position to reach and circumnavigate the north pole successfully. In the last letter received, dated March 17, 1908, he was forty miles above Cape Thomas Hubbard, Jr., the highest point of land on the north polar sea. He was well supplied and equipped and expressed himself as confident that he would succeed in reaching the north pole and returning to Etah, in Greenland, by September, 1908. His friends are satisfied that he has accomplished much valuable work and that his records will be important to the United States for all time to come. It is, however, six months since the time at which he should have been back at the base of his supplies, and it is feared that he may be in trouble. Hence it is proposed to fit out a rescue party with an equipment and provisions for a two years' stay, to consist only of such men as are willing to remain until either Dr. Cook and his records are rescued, or his fate is established. The expedition will be under the command of Mr. Dillon Wallace, who has had considerable arctic experience in the Leonidas Hubbard, Jr., Labrador expedition of 1903, and other expeditions. Mr. Wallace will land at Etah, and if no traces of Dr. Cook are found, will push northward on his intended course in search of him. Dr. Cook has a wife and two little girls now living in Brooklyn, and was, prior to his undertaking exploration work, a medical practitioner of good standing and acknowledged ability. A central committee appointed jointly by the Explorers' Club and the Arctic Club of America (of which Rear Admiral Schley is president) is responsible for the getting up of the expedition. Contributions should be sent direct to F. S. Dellenbaugh, secretary Cook Relief and Rescue Expedition, 224 West Fifty-second Street, New York City.

Cells with Basophile Granules in the Blood and Connective Tissue.—According to F. Weidenreich (*Folia haematol*, 1908, V, No. 3), those cells with basophile granules occurring in the blood and termed mast-leucocytes are not the same as the mast-cells of the tissues. The latter are also to be distinguished from the clasmatocytes of Ranvier, as well as from the wandering cells of Maximow. The mast-leucocytes of the human being are degenerating large mononuclear leucocytes. The clasmatocytes and round wandering cells are emigrating lymphocytes and motile fibroblasts, which have acquired a high phagocytic power.

Eclampsia.—J. E. Welch, in the *American Journal of Obstetrics and Diseases of Children*, states that the perplexing aspect of the subject of eclampsia is the fact that under apparently similar conditions one individual will have eclampsia while another will not. This may be explained, he says, by the side chain theory of immunity; in one instance, enough side chains are formed to neutralize the poison, while in another this capacity is exhausted and the cell is destroyed.

Medicolegal

Physical Examination, Competency of Witness and Prior Disease

The Supreme Court of Florida, Division A, says, in Atlantic Coast Line Railroad Co. vs. Dees, a personal injury case brought by the latter party, that it seems never to have construed the statute enacted in 1899, and now known as Section 3151 of the General Statutes of Florida of 1906, which provides that: "In all actions brought in the courts of this state to recover damages for personal injuries alleged to have been sustained, it shall be discretionary with the trial court, on motion of the defendant, to require the injured party, if living, either before or at the time of the trial of the cause, to submit to such physical examination of his or her person as shall be reasonably sufficient to determine physical condition at the time of trial and the nature and extent of the alleged injuries. The physical examination provided shall be made by a physician to be named by the court in the presence of one or more physicians or attendants of the injured party, if the party so desires. The compensation of the examining physician shall be fixed by the court in each particular case, and shall be in the first instance paid by the party petitioning for such examination but shall be taxed up as a part of the costs of the case subject to the final disposition of the same." The court now holds that this section makes it discretionary with the trial court to require such examination, and an order of such court denying the motion or application of the defendant for such physical examination will not be disturbed by an appellate court unless an abuse of discretion is clearly made to appear.

The court also holds that where a witness, who has been introduced on behalf of the plaintiff in an action brought to recover damages for personal injuries alleged to have been caused by the negligence of the defendant, has testified that he is a physician engaged in general practice, has resided in a certain designated town in the state for four years, and that the plaintiff has been his patient for some months past, a proper and sufficient foundation has been laid to warrant the witness being permitted to testify as to what symptoms he found when he was first called to see such patient.

When a witness is offered either as an expert or a skilled witness, it is for the trial court to determine whether or not the witness has been shown to possess the requisite qualifications and special knowledge to warrant his so testifying, and the decision of such trial court is conclusive on this point unless it appears from the transcript to have been erroneous or to have been founded on some error in law.

In an action brought by a passenger against a railroad company to recover damages for personal injuries alleged to have been caused by the negligence of the defendant, and such passenger was at the time the injuries were received suffering from some disease or illness which tends to aggravate the injuries, such previous infirmity will not excuse the carrier from damages to the full extent of all injuries caused by such negligence, and the fact that such carrier was not informed of the passenger's condition will make no difference.

Duty of Parents to Care for Adult Children Rendered Helpless by Accident or Disease.

The Court of Appeals of Kentucky says in the case of Crain vs. Mallone, that the duty and obligation of a parent to care for his offspring does not necessarily terminate when the child arrives at age or becomes an adult; nor is it limited to infants and children of tender years. An adult child may from accident or disease be as helpless and incapable of making his support as an infant, and the court sees no difference in principle between the duty imposed on the parent to support the infant and the obligation to care for the adult, who is equally, if not more, dependent on the parent. In either case the natural, as well as the legal obligation is the same, if the parent is financially able to furnish the necessary assistance. If the parent has no estate, or is indigent or otherwise unable to support his infant child, who is possessed with ample means, the chancellor when appealed to might make an allowance out of the child's estate; and, in the case of an unfortunate adult, the court under similar circumstances would grant relief.

Declarations of Sick Persons

The Supreme Court of Alabama says in Stowers Furniture Co. vs. Brake, that it is the subject of express decision by it that declarations of a sick person, relative to the symptoms and nature of the disease or injury under which he is laboring, whether made to a physician or other person, are admissible as original evidence. Such declarations are admissible as explanatory of the present condition of the declarant, on the principle of res gestæ (that is, as being a part of the essential elements of the case), as well as on the necessity of the case.

What Constitutes Moral Turpitude Authorizing Revocation of License

The Supreme Court of Arkansas says, in Fort vs. City of Brinkley, that the statute of that state provides that: "Whenever any physician and surgeon or person engaged in the practice of medicine or surgery in this state shall be convicted of any crime and misdemeanor involving moral turpitude, in addition to the other penalty or penalties imposed on him, shall be added a revocation of his license to practice medicine and surgery."—Section 5247 of Kirby's Digest. This section makes the revocation of the license a part of the punishment for the offense, and contemplates that it shall be imposed by the court in which the case is tried.

"Moral turpitude is defined to be an act of baseness, vileness or depravity in the private and social duties which a man owes to his fellowmen or to society in general." Moral turpitude implies something immoral in itself, regardless of the fact whether it is punishable by law. The doing of the act itself, and not its prohibition by statute, fixes the moral turpitude.

It seems clearly deducible from the authorities that the words "moral turpitude" had a positive and fixed meaning at common law, and that the illegal sale of intoxicating liquors, not being an offense punishable at common law, does not come within the definition of a crime involving moral turpitude. In a statute using a word, the meaning of which is well-known, and which has a definite sense at common law, the word will be restricted to that sense.

Presumption That Ordinary Faculties Are Possessed

The Court of Appeals of Georgia holds, in Holcombe vs. State, that there is a general presumption that the ordinary human faculties are possessed by every individual (a) In the absence of proof to the contrary, the law presumes soundness both as to mental and bodily functions. (b) A person is presumed to have an ordinary capacity for hearing, in the absence of some reason shown to the contrary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 11

1 *Medical Treatment of Malignant Disease. G. W. Gay, Boston.
2 Early Treatment of Some Epitheliomas by Pure Radium Salts. F. H. Williams, Boston.
3 An Accurate, Rapid Method for Quantitative Determination of Chlorin in Urine. A Critical Study of the Short Methods in Vogue. H. W. Goodall, Boston.
4 *Mysticism and Medicine. J. E. Donley, Providence.

1. **Malignant Disease.**—Gay discusses the delay in diagnosis and submission to surgical treatment, and, in regard to tumors of the breast, holds that practically all occurring in women over 30 years of age should be removed, or at least examined through an incision. Malignant disease may be a local affection in its early stages, and early and thorough removal is likely to result in permanent cure, while procrastination diminishes the chances of relief. It would be well if all tumors could be removed as soon after discovery as possible; thus malignant tumors would be removed before the clinical signs of malignancy had developed. Gay deprecates, however, the custom of resorting to operative measures in cases of malignant infection, though suitable, and, when these measures are exhausted, telling the patient that the case is helpless and hopeless, that nothing further can be done and leaving the victim to her fate. These patients, more than others, require the services and attendance of a cheerful, hopeful, discreet physician, to assist them through the valley of the shadow, relieving them and friends of as much responsibility as possible, calming their anxiety, and helping them to bear the burden. Gay then discusses what can be done by the physician in inoperable or postoperative malignant disease. It has been his custom for years to give patients with inoperable malignant disease, and also after operation, compound tincture of iodin, from 2 to 5 drops, two or three times daily in water or milk, on a full stomach and with or without arsenic bromid, for long periods of time. The doses are increased daily by one drop, until the patient takes from 45 to 75 drops a day. Irritation of the stomach or throat is a contraindication. He gives instances in which life and working capacity were prolonged under this or similar treatment, quoting also the work of others. He refers to Coley's treatment with the mixed toxins and discusses psychotherapy as an aid in treatment. His argument is that the fact that the nature of the malady precludes recovery is not an adequate reason why a reputable physician should refuse to treat them along whatever lines afford the most comfort, mental and physical, so long as life endures.

4. **Mysticism and Medicine.**—Donley discusses philosophically the natural mystic and rationalistic phases of man: in some, the one phase predominating and in others the other. Each, if sincere, will live his life in his own way, and is not unlikely to misjudge the aims and misunderstand the motives of the others. In this light Donley discusses psychotherapy, to which, he says, singular ambiguity attaches, according as it is used of a religious movement or of a scientific procedure. Whether in the hands of the clergyman or the physician, mystical psychotherapy has to do with the meaning of life. It preaches that life is ultimately spiritual and attempts to inculcate attitudes of mind and of heart with such spiritual meaning. In a word, it preaches the laws of the spiritual life. This is the legitimate field of its endeavor, and to this it should be strictly limited. It has no right to encroach on the domain of scientific psychotherapy. Thus defined and limited, mystical psychotherapy is an affair of ethics and religion, the proper sphere of the clergyman.

New York Medical Journal

March 13

5 The Life and Work of Darwin. A. E. Brown, Philadelphia.
6 Penetrating Wounds of the Abdomen. F. W. McRae, Atlanta, Ga.
7 *The Urine in Diseases of Infancy. J. L. Morse and B. Crothers, Boston.
8 Greek for Physicans. C. W. Super, Athens, O.
9 *New Method for Radical Cure of Indirect Inguinal Hernia. C. F. Kivlin, Troy, N. Y.
10 A Ureterorenal Decalogue. B. Robinson, Chicago.
11 Studies in Metabolism of Certain Skin Disorders. J. C. Johnston and H. J. Schwartz, New York.
12 Successful Medical Treatment of Appendicitis. E. Palier, New York.
13 Climates for Consumptives. E. E. Elliot, Chicago.

7. **The Urine in Diseases of Infancy.**—Morse and Crothers give the results of the examination of urine of 667 babies at the Infant's Hospital and the Floating Hospital. The examination was usually made within the 48 hours after admission. Only 13 were suffering from diseases of the urinary tract not connected with other conditions. In this paper, the authors do not refer to the renal complications of diseases of the gastrointestinal tract, but discuss those of diseases of the respiratory tract, the nervous system, nutrition, and some unclassified conditions. Analysis of these cases shows that, putting aside diseases of the gastrointestinal tract, albuminuria and casts are more often found in pneumonia and meningitis than in other acute diseases in infancy. It does not corroborate the statements of Cassel and Simmonds as to the importance of otitis media in the etiology of nephritis in infancy, or those of many Italian and French authors as to the fre-

quency of renal complications in eczema. It shows that the kidneys are not, as a rule, affected in the diseases of nutrition, although in scurvy and severe anemia the urine may show the evidences of the hemorrhagic tendency characteristic of these diseases. It also shows that affections of the kidneys secondary to other diseases in infancy do not usually produce edema, and conversely that edema in infancy is usually due to some other cause than disease of the kidneys.

The study of these cases seems to justify the conclusions that the presence of albumin and casts in the urine in the acute diseases of infancy is the manifestation of an unusual degree of toxemia and is, to a slight extent, of bad prognostic import. However, many infants showing albuminuria and casts recovered and many others in whom the urine was normal did not. There was nothing about these cases to show that the renal condition had any direct influence on the fatal outcome; it was merely an index of the toxemia. So few pathologic examinations were made that no statement is justified as to the pathologic changes in the kidneys. It seems fair to assume from the changes in the urine, however, that in the vast majority of cases the pathologic condition did not go beyond an acute degenerative nephritis and that a definite parenchymatous or interstitial nephritis was very uncommon. It seems evident that febrile albuminuria and acute degenerative nephritis occur in the same conditions and at least as frequently in infancy as in childhood and adult life.

9. **Radical Cure of Hernia.**—Kivlin describes an operation for the radical cure of indirect inguinal hernia, differing from the Bassini operation in that Kivlin closes the opening of the internal ring, and does not transplant the cord; and from Coley's operation in that he closes the ring and Coley does not. Kivlin claims for his method a stronger support of the weakest point in the whole canal.

Medical Record, New York

March 13

14 *Principles and Technic of the Wassermann Reaction and Its Modifications. H. Fox, New York.
15 *Non-Gastric Malignant Disease and Secretion of Gastric Juice. L. A. Levison, Toledo, O.
16 The Problem of Epilepsy. R. H. Porter, Chicago.
17 *Acute Postoperative Jaundice. C. G. Cumston, Boston.
18 *Egg Poisoning. D. J. M. Miller, Atlantic City, N. J.

14. **The Wassermann Reaction.**—Fox illustrates the principle of the fixation of the complement by an ingenious diagram, suggested by Dr. Wood MacMurtry, of a swinging pendulum. The pendulum representing the complement swings to one side and completes the bacteriolytic system, or to the other side and completes the hemolytic system. In the first case, antibody being present, the complement is fixed in the bacteriolytic system, and consequently no hemolysis occurs; but when antibody is absent, the complement attaches to the hemolytic system and hemolysis occurs. Fox describes in detail the substances used in performing the Wassermann reaction, the steps necessary to prepare them, and the technic of the operation. He discusses the sources of inaccuracy, and in four tables illustrates the result of the reaction, respectively, in 46 cases of clinically positive syphilis, 21 cases of undoubted syphilis, a small series of dermatologic cases in which syphilis could be excluded, and a series of cases in which the diagnosis was in doubt.

15. **Free Hydrochloric Acid in Malignant Disease.**—Levison concludes that free hydrochloric acid is diminished, not only in gastric carcinoma, but in local carcinoma also, in fact, in all cancers.

17. **Postoperative Jaundice.**—Cumston says that the existence of acute postoperative jaundice can not be denied merely from the fact that few cases are encountered. It is probably due to several causes. The serious form of acute postoperative jaundice is almost always due to the toxic action of the anesthetic, particularly chloroform, which attacks the hepatic cells, whose normal condition is below par, so that the surgeon should avoid interference, save in extreme emergency, when the liver gives evidence of disease. Occasionally there may be a spasm of the biliary tract produced by manipulation of the parietal peritoneum, while in other cases it is due to an emotional reflex.

18. **Egg Poisoning.**—Miller reports a case of egg poisoning in a girl of 11, and discusses the condition. He thinks the conclusion is warranted that the majority of instances of egg poisoning are really cases of so-called ptomain poisoning; i. e., that they are due to toxic substances developed in apparently fresh eggs by the processes of digestion, or to unrecognized changes—unrecognizable, that is, to the ordinary senses—in the eggs themselves. He suggests that as the symptoms of ptomain poisoning are in many cases strikingly similar to those produced by muscarin (the active principle of the poisonous mushroom), to which atropin is a perfectly physiologic antidote, the latter drug may be found useful in severe forms of egg poisoning.

Lancet-Clinic, Cincinnati

March 13

19 *Nervous Children. I. A. Abt, Chicago.
20 *Differentiation of Oft-Recurring Gastric From Gallstone and Other Visceral Pain and Distress. N. Rosewater, Cleveland. O.
21 Vibrotherapy. F. L. Davis, Evansville, Ind.

19. **The Nervous Child.**—Abt discusses the causes of nervousness in children (of which heredity and predisposition are important factors), the acquired causes, the child's pleasures and amusements, troubles and griefs, in regard to which last he particularly condemns the habit of asking suggestive questions after an accident. He urges regularity of habits, discusses the effect of training, describes the forms of nervousness in children, and points out that it is necessary to manage not only the child, but also the parents and sometimes the grandparents.

20. Abstracted in The Journal, Nov. 21, 1908, p. 1805.

Medical Fortnightly, St. Louis

March 10

22 Touring the Lands Where Medical Science Evolved, Medieval and Renaissant. R. G. Eccles, Brooklyn.
23 Deep Alcohol Injections in Facial Neuralgia. B. L. Hale, Cherryville, Kan.

Northwestern Lancet, Minneapolis

March 1

24 *A Clinic on Insanity. D. R. Brower, Chicago.
25 Angiomata of the Face and Sinuses—Report of a Case of Angioma of the Antrum of Highmore. E. F. Reamer, Mitchell, S. D.
26 Sporadic Trichiniasis. G. D. Head, Minneapolis.
27 Clinical Demonstration of Three Cases After Perineal Prostatectomy. H. Bouman, Minneapolis.
28 Hydronephrosis in a Child 18 Months Old. M. K. Knauff, Two Harbors, Minn.
29 Cardiospasm. O. R. Bryant, Minneapolis.

24. **Insanity.**—Brower insists on the extreme difficulty of giving a definition of insanity that can not be severely criticized, but a definition, even if it can be criticized, is an advantage. He suggests that "insanity is a more or less permanent disease or derangement of the brain, producing disordered action of the mind in such a way as to put the subject in a condition varying from his normal self and out of relation with his environment." He refers to pathologic specimens of kidney, liver, spleen and heart from the insane, illustrating the fact that insanity is a disease of the brain in a certain number of cases brought about by disease of the various organs of the body that are concerned in blood making, blood purification and blood distribution. The brain receives more blood than any organ of the body not concerned in the business of blood making, and the quality of it is of the utmost importance. He refers to the great increase in the number of cases of insanity in the present day, and says that a perfect classification of insanity has not yet been made, because no classification can be perfect unless it is based on pathology. He divides insanities, however, into first, those that are acquired—that is, the insanities that occur in brains that are normal in structure and that have been functionating properly; second, the cases that are due to a degenerative process in the brain—brains that were never quite built up on the standard lines; we call these degenerative psychoses; third, another class, in which he places the insanities of the critical periods of life, developmental and involuntary; fourth, a class in which belong the borderline cases, the obsessions and the phobias, the impulses and the sexual perversions; and, finally, a fifth class, the terminal dementias, a condition toward which all the others are traveling. He then

discusses cases of melancholia, mania, confusional insanity and paretic dementia. Cases of paresis are becoming much more frequent, the factors producing them being syphilis, alcohol and stress; the type, however, is changing. In Brower's earlier experience with general paralysis the cases were all of the grand delusion type, but now some are melancholic, others being of the simple dementia type. Further, he thinks that some of these patients improve, and once in a long while cases seem to reach a symptomatic cure through a long space of time. As to its causation, he refers to his investigations in the Hawaiian Islands, in Cairo and at Tokio some years ago, when he was unable to find a single case of the disease, and at present, though syphilis is now more generally prevalent in those countries than in America, the disease is still practically unknown, so that there must be some other factor added to syphilis in its production, and this factor he believes to be alcohol. Early recognition of general paresis with vigorous antisyphilitic treatment, tonics of the phosphorus class, and complete rest, will sometimes produce improvement.

Journal of Medical Research, Boston

February

30 Effect of Dilution on the Flocculation of Colloids. B. H. Buxton and A. H. Rahe, New York.
31 *Enterokinase in Infancy. A. E. Austin, Boston.
32 *Physiology and Chemistry of the Parathyroid Gland. W. N. Berkeley and S. P. Beebe, New York.
33 *A Transmissible Cancer of the Rat Considered from the Standpoint of Immunity. F. P. Gay.

31. **Enterokinase in Infants.**—Austin finds that kinase, like that present in the natural intestinal secretion, can be isolated from the intestines of some, but not all, infants, from 24 days of age on.

32. **The Parathyroid Gland.**—Berkeley and Beebe say that the nucleoproteid of the parathyroid relieves the symptoms of acute tetany in dogs, but the globulin has no such power. Boiling or heating the nucleoproteid solution to 80 C. for half an hour destroys its activity, and it deteriorates rapidly when kept in solution or frozen. The nucleoproteid relieves tetany by the mouth, but more effectively when given subcutaneously or intraperitoneally. Tetany is regarded as due to a metabolic poisoning accompanied by a large increase in the secretion of ammonia, and the authors are inclined to believe that the parathyroids are chiefly concerned in furnishing enzymes of prime importance in the intermediary metabolism of nitrogen.

33. **Transmissible Rat Cancer.**—Perhaps the most striking of Gay's results is that during the premetastatic period after tumor implantation there was evidence of active defense on the part of the animal, indicated by the presence of antibodies, and during this period reimplantation seemed still further to increase the resistance, so that the original tumor was destroyed; but when this period was passed, metastases occurred and the second tumor grafts grew. The presence of antibodies was demonstrated by means of complement fixation in mixtures of cancer extracts and the serum of rats. As stated, complement fixation was obtained during the premetastatic period, but never during the metastatic period.

American Journal of Physiology, Boston

February

34 *Acapnia and Shock:—II A Principle Underlying the Normal Variations in the Volume of the Blood Stream, and the Deviation from this Principle in Shock. Y. Henderson, New Haven, Conn.
35 *Influence of Sodium Chlorid and Calcium Chlorid in Potassium Contraction. W. D. Zoethout, Champaign, Ill.

34. **Acapnia and Shock.**—Henderson concludes that the chief element regulating the volume of the arterial blood stream is the distensibility of the ventricle during diastole, and the volume of blood ejected by the ventricle varies with the pulse rate in such a way that the minute volume of the ventricular output is nearly constant at pulse rates above 60. Deviations from these maxima are caused by insufficient venous supply to the right heart. Failure of the circulation in shock is due primarily to abolition of venous, not arterial, tonus. Stimulation of the vagus and accelerator nerves does not induce the heart to deviate from this "uniformity of behavior." The pulse pressure, which is now generally taken as giving a measure of the heart's action, is not a reliable index of the systolic discharge.

35. **Influence of Sodium and Calcium Chlorid in the Potassium Contraction.**—Zoethout concludes as follows:

1. The amount of sodium in the muscle is sufficient to counteract the stimulating effect of a small quantity of potassium salt. The removal of this sodium by immersion in a 6 per cent. cane-sugar solution renders the muscles more irritable toward potassium.

2. The same is most likely true for the calcium.

3. Both sodium and calcium favor the relaxation of a muscle in potassium contraction.

4. Ringer solution and a 0.7 per cent. sodium-chlorid solution very speedily reduce the irritability of a muscle toward potassium. These solutions can, therefore, not be looked on as inert fluids, even though they preserve the irritability of a muscle toward electrical stimulation for a long time.

New Orleans Medical and Surgical Journal

February

36 Case of Pectoral Heart with Malformations and Partial Transposition of Its Vessel Trunks; and a Case of Fibrinous Tracheobronchopneumonia Due to the Pneumococcus. M. Couret, New Orleans.
37 Tumors of Penis and Testes, with Special Reference to Malignancy, and a Statistical Survey of Cancer in the Charity Hospital. J. Lazard, New Orleans.
38 Tumors of the Female Pelvis. L. Perilliat, New Orleans.
39 Tumors. O. L. Pothier, New Orleans.
40 Antidiphtheritic Serum Medication in Postdiphtheritic Paralysis. H. Dupuy, New Orleans.
41 Surgical Importance of the Intestinal Lesions of Typhoid. A. L. Wilson, Alexandria, La.
42 Carcinoma of Liver: Operation: No Return. J. B. Hargrove, Natchitoches, La.

California State Journal of Medicine, San Francisco

February

43 *Utilization of Social Waste Products. W. A. Briggs, Sacramento.
44 What is a Practical Examination in Anatomy? D. L. Tasker, Los Angeles.
45 Treatment of Tuberculosis with Intravenous Injections of Tuberculin and Atoxyl. M. Rothschild, San Francisco.
46 *The Itch. D. W. Montgomery, San Francisco.
47 True Intestinal Dyspepsia. N. W. Jones, Portland, Ore.
48 Treatment of Malignant Growths by High-Frequency Spark. D. Friedlander, San Francisco.
49 Suicide and Alcohol. A. W. Hoisholt, Stockton.
50 Primary Pneumococcus Peritonitis. L. S. Mace, San Francisco.
51 Early Recognition of Pulmonary Tuberculosis. G. H. Evans, San Francisco.
52 Direct Transfusion of Blood. W. I. Terry, San Francisco.
53 Treatment of Pneumonia. G. R. Carson, San Francisco.

43. **Utilization of Social Waste Products.**—Briggs points to the utilization of by-products which were formerly mostly, if not wholly, waste—e. g., coal tar and "those by-products of industry which emit noxious vapors and poison the neighborhood—as among the chief factors in modern industrial progress." By analogy he suggests that the waste products of civilization in like manner should be utilized as factors in social progress. Take, for instance, the opposing views of Koch and von Behring as to the bovine origin or otherwise of human tuberculosis, he says; the solution of this question requires experimentation on human beings and he insists that such experimentation can be made to conform to the dictates of an enlightened conscience, public as well as medical, by dedicating to science and humanity the lives of those forfeited to the law. He refers to a bill now in preparation for presentation to the legislature of California, authorizing the use of such capital convicts, as in consideration of commutation of sentence to life imprisonment shall voluntarily submit to such experimentations. He discusses the objections to the proposed bill as follows: It would not be a cruel and unusual punishment because it is not intended as a punishment at all. It would not necessarily be physically painful, and certainly not physically cruel, and, as an alternative to hanging, the convict himself would be the best judge as to whether it would be mentally cruel. Its results would often be negative, and even when otherwise would be less cruel than death on the scaffold. The commutation, postponement of sentence and pardon, as constitutional prerogatives of the governor, would not be interfered with, since the convict voluntarily petitions the governor for the privilege of experimentation. As to such a course diminishing the terrors of the law, since the discretionary power exists with the jury of imposing either life imprisonment or the death penalty in convictions for murder in the first degree, he asks in what way the ter-

rors of the law would be diminished if the governor, instead of the jury, should exercise this discretionary power. On the other hand, he asserts that such a course would tend to diminish the difficulties of the trial by jury; would open the door to further and more serious and systematic study of the criminal classes—their genesis, pathology, psychology, prevention and treatment; and would inevitably lead to valuable discoveries in physiology, pathology, bacteriology and therapeutics.

46. This article will be abstracted in the Department of Therapeutics.

Journal of the Medical Society of New Jersey, Orange

February

54 The Drink Habit and Its Treatment. C. A. Rossenwasser, Newark.
55 Acute Perforating Gastric and Duodenal Ulcer (concluded). E. Ellot, New York.
56 Differential Diagnosis of Tumors of the Breast. E. J. Ill, Newark.
57 *Acute Chorea. C. H. Scribner, Paterson.
58 Pediatric Don'ts. K. H. Goldstone, Jersey City.
59 Necessity for Schools of Instruction for Public Health Officers. J. L. Leal, Paterson.

57. This article will be abstracted in the Department of Therapeutics.

Southern Medical Journal, Nashville, Tenn.

February

60 *Question of the Necessity of a Second Operation for Removal of Appendix in Cases in Which an Appendiceal Abscess Has Been Treated by Simple Incision and Drainage. S. McGuire, Richmond, Va.
61 Tuberculosis of the Stomach, Liver, Gall Bladder, and Pancreas. L. W. Hotchkiss, New York.
62 Renal Calculi. D. N. Eisendrath, Chicago.
63 Tumors of the Bladder. A. L. Fowler, Atlanta, Ga.
64 Problem of Relapse After Apparent Cure in Treatment of Pulmonary Tuberculosis. C. L. Minor, Asheville, N. C.
65 *Conclusions Based on Observations of Five Hundred Cases of Fractured Skull. W. C. Kirchner, St. Louis.
66 Case of Ileus Caused by Unique Enterolith. C. H. Cargile, Bentonville, Ark.

60. **Second Operation for Appendicitis.**—McGuire discusses the question as to the necessity of a second operation for the removal of the appendix, in cases in which an appendicular abscess has been treated by simple incision and drainage. He publishes replies from a number of prominent surgeons to a question as to their practice in the matter, and also the reports in the case of twenty-three patients in which his own practice of not performing such an operation was followed. An analysis of the cases shows that all the patients are living and in good general health from 1 to 5 years after operation. In 2 there had been attacks of colicky pains, in 2 slight hernia, and 2 suffered with digestive disturbances. The result of his study is that while a surgeon may be justified in advising a secondary operation in all cases, as theoretically the safest plan to follow, he is not justified in persuading, urging or starving a patient until he consents to have it done. The appendix should always be removed at the first operation if the abscess is small and not adherent to the abdominal wall beneath the incision. It should be left only in neglected cases, in which the abscess is large and attached to the parietal peritoneum. When this condition exists the appendix is usually gangrenous, undergoes liquefaction, and is eliminated with the discharges. In such cases suppuration continues, as a rule, for several weeks, and before a secondary operation could safely be done the patient is homesick, weakened physically by confinement, and depleted financially by the expenses incident to his stay in the hospital. Experience seems to show that if subsequent trouble develops the infection is not usually acute, and pus, if it is formed, is walled in by old adhesions. Therefore, McGuire thinks that the surgeon does his duty if he makes it clear to the patient that owing to the complications which existed it was not found safe to remove the appendix, and tells him that while a second operation is advisable, it is not imperative unless he has tenderness over the incision, colicky pains in the bowels, or persistent digestive disturbances, in any of which instances it is distinctly necessary for him promptly to seek surgical assistance.

65. Abstracted in THE JOURNAL, Jan. 2, 1909, p. 67

Journal of Ophthalmology and Oto-Laryngology, Chicago

February

67 Trachoma. D. T. Atkinson, Dallas, Texas.
68 Two Cases of Serpiginous Ulcer Following Removal of Foreign Body from the Cornea by Factory Foremen. A. T. Wanamaker, Chicago.
69 Anatomic Relationship Between the Accessory Nasal Sinuses and the Orbit. N. H. Pierce, Chicago.
70 Use of Brometone in Chronic Affections of the Middle Ear. W. S. Stanley, Milwaukee.

Old Dominion Journal of Medicine and Surgery, Richmond

February

71 Hippocrates and His Times. I. S. Stone, Washington, D. C.
72 History, Etiology, Symptoms and Treatment of Amebic Abscess. G. B. Cook, Richmond, Va.
73 Diagnosis of Hysteria. B. R. Tucker, Richmond, Va.
74 Treatment of Toxemia of Pregnancy. D. J. Coleman, Richmond, Va.
75 Abortion, with Special Reference to Treatment. R. L. Ralford, Conley, Va.
76 Practical Points About Administration of Ether Anesthesia. F. S. Cary, El Paso, Texas.

Therapeutic Gazette, Detroit, Mich.

February

77 Treatment of Ureteral Calculus by Visceral Drainage. B. Robinson, Chicago.
78 *Tincture of Veratrum Viride (Norwood). J. S. Todd, Atlanta, Ga.
79 The Art of Right Living. R. S. Tyrrell, Toronto, Canada.
80 *Insomnia: Its Pathogenesis and Treatment. A. Gordon, Philadelphia.

78. This article will be abstracted in the Department of Therapeutics.

80. **Insomnia.**—Gordon says that whether any of the theories advanced as to sleep are accepted or not, the mechanism of sleep remains as yet problematic. The theories do not explain with certainty why cerebral anemia or hyperemia exists, why the neurones become retracted, why toxins accumulate periodically in the tissues. Sleep may be normal or pathologic. To the latter belong narcolepsy, lethargy, somnambulism, night terrors and sleeping sickness. Insomnia may be total or partial. The author considers the conditions in which insomnia occurs under the following groupings: Organic or functional disorders of the nervous system; psychoses; intoxications; infections; visceral diseases; general state of nutrition; painful, general or local conditions; incidental causes. In the treatment of insomnia, Gordon forbids under all circumstances the taking of heavy meals at night. Sweets should be avoided, as should all stimulants, including tea and coffee; tobacco should be reduced to a minimum or abandoned; at any rate, there should be no smoking in the evening. Constipation must be remedied; a hot lukewarm bath of half an hour's duration before retiring is useful and may be repeated if necessary. Wrapping the patient in a sheet wetted in tepid water for one minute, or a cold wet towel placed on the neck, placing the feet in hot water for fifteen minutes, sometimes succeeds. Cases due to extreme sorrow or persistent mental preoccupation are often rebellious. In these cases some form of psychotherapeutics may be useful. Until these various measures have failed medication should not be resorted to. Among drugs ten grains of sodium or strontium bromid every two hours may be repeated. Veronal 5 grains, with codein 1/8 grain every hour for two or three doses is a good hypnotic. In insomnia from painful conditions, removal of the cause is of course the first measure. Sometimes a state of exhaustion follows, resulting in wakefulness. A tepid bath of from 15 to 30 minutes' duration is recommended. The author discusses insomnia depending on general nutrition, visceral and infectious diseases, and intoxication, also in organic nervous diseases. Insomnia and hysteria require vigorous measures. Removal of stimulants, avoidance of all excitement, hydrotherapy when a marked emotional state exists, isolation and confinement to bed are called for. Gordon also discusses insomnia occurring in the insanities.

Cleveland Medical Journal

February

81 Medical Cleveland in the Nineteenth Century. H. E. Henderson, Cleveland.
82 Recollections of the Early Days of Cleveland Medical College. J. C. Reeve, Dayton, Ohio.
83 Modern Treatment of Tuberculosis of the Spine. R. W. Lovett, Boston.

St. Paul Medical Journal

February

84 *Acute Traumatic and Chronic Synovitis of the Knee Joint. R. W. Lovett, Boston.
85 Perverted Metabolism: Its Relation to Certain Nervous and Mental Conditions. C. E. Riggs, St. Paul.
86 *Diagnosis of Joint Diseases. A. Colvin, St. Paul.
87 Treatment of Trigeminal Neuralgia with Deep Injections of Alcohol. C. R. Ball, St. Paul.

84. **Acute Traumatic and Chronic Synovitis of the Knee Joint.**—Lovett summarizes as follows a careful consideration of this subject: Chronic synovitis of the knee joint is not an entity but a symptom. In both acute and chronic synovitis, muscular atrophy and lateral mobility of the joint are most important and must be seriously reckoned with in treatment. An etiologic diagnosis is desirable in chronic synovitis, when it can be made. When adequate treatment has failed there should be no temporizing, and, except in tuberculosis, chronic degenerative disease, intermittent synovitis, and, of course, hemophilia, the knee joint should be opened.

86. **Joint Diseases.**—Colvin emphasizes the importance of the radiograph in the diagnosis of various forms of joint diseases. In regard to tuberculous joint disease, he says that the slowly, but progressively, infiltrating nature of the disease makes it less amenable to operative surgery than the ordinary pyogenic diseases of bones and joints, and although selected cases are benefited by operative interference the protective treatment is required in the large majority. The points to be decided are:

1. Is the deformity due to muscular spasm?
2. Or to muscular spasm plus a real nutritive shortening of the muscles?
3. To what extent are the capsule and fibrous structures around the joint responsible?
4. How much change of form has the bone undergone, either from destruction or from change of form due to weight bearing on a structure weakened by disease?
5. Is there actual bony union between the joint surfaces?

It may be stated broadly that when rest and extension are faithfully employed deformity due to muscular spasm alone will be overcome entirely, that due to muscular spasm plus the nutritional shortening of the muscles will be much lessened, and that due to bone and joint changes will be unchanged.

Journal of the Indiana State Medical Association, Fort Wayne

February

88 Sketches of the Medical History of Indiana. G. W. H. Kemper, Muncie.
89 Epidemiology of Typhoid Fever. H. O. Bruggeman, Fort Wayne.
90 *Disposal of Sewage in Small Towns. G. B. Lake, Wolcottville.
91 Anesthesia Considered as a Specialty. C. N. Combs, Terre Haute.
92 Ocular Manifestations in General Diseases. W. F. Hughes, Indianapolis.

90. **Sewage Disposal in Small Towns.**—Lake describes the evolution of modern methods of sewage disposal and enumerates the seven methods in use to-day, namely, dilution (or emptying into some large body of water), sewage farming, chemical precipitation, intermittent sand filtration, the septic tank, the contact process (bacterial action), and the continuous trickling process. To these he adds that of cremation, which, when the fluid elements are otherwise disposed of, is the best sanitary arrangement possible. The disposal of excrement by cremation requires special apparatus, which can be obtained for about $40. The incinerator can be set up in any room in which there is a chimney connection and is operated as easily as a stove. He then describes the dilution, sewage farming, septic tank, and contact filter processes as applicable in small communities.

New York State Journal of Medicine, New York

February

93 *The Physician and Law Making. A. G. Root, New York.
94 Pneumonia in the Aged. H. L. Elsner, Syracuse.
95 Acute Toxic Insanity Due to Drugs. M. Gage-Day, Kingston.
96 Rabies in New York State. V. A. Moore, Ithaca.
97 Stricture of the Membranous Urethra. E. L. Keyes.

93. Abstracted in The Journal, Feb. 6, 1909, p. 495.

Journal of the Kansas Medical Society, Kansas

February

98 Work of the State Board of Health. S. J. Crumbine, Topeka.
99 Renal Calculus. D. W. Basham, Wichita.

Laryngoscope, St. Louis

February

100 Multiple Papilloma of the Larynx in Children. H. Smith, New York.
101 Limitation of Otolaryngologic Practice. J. C. Beck, Chicago.
102 Aural Surgery. D. M. Campbell, Detroit, Mich.
103 Artificial Illuminants in Laryngoscopy. A. C. Morrison, Chicago.
104 After-Treatment of Tonsil Wounds. E. Pynchon, Chicago
105 *Mechanical Factors in Cold-Taking and Their Therapeutic Interpretation. D. C. Hilton, Lincoln, Neb.
106 New Method of Posterior Nasal Tamponade. J. Wolff, New York.

105. Published in the *Medical Herald*, February, 1909, and abstracted in The Journal, March 20, 1909, p. 995.

Kentucky Medical Journal, Bowling Green

February

107 *Four Cases of Cesarean Section. A. H. Barkley, Lexington.
108 *The Schäfer or Prone Pressure Method of Artificial Respiration. J. B. Lukins, Louisville.
109 Acute Bronchitis. S. J. Fryer, Lebanon.
110 Bronchopneumonia. S. H. Ridgway, Shepherdsville.
111 Pleurisy. S. B. Crume, Bloomfield.
112 Lobar Pneumonia. C. Z. Aud, Cecilian.
113 Surgical Treatment of Injuries of the Chest. R. C. McChord, Lebanon.
114 Vesical Irritation of Symptomatic Cystitis. L. Frank, Louisville.
115 Value of Blood Examinations and of the Serum and Vaccine Therapy Resulting Therefrom. F. H. Montgomery, Danville.
116 Gastroenteric Troubles in Children. G. G. Thornton, Lebanon.
117 *Uterine Displacements. I. Abell, Louisville.
118 Infectious Agents and Their Sources. T. H. McCarley, Simmons.
119 Roentgen Rays in Treatment of Tuberculous Cervical Glands. J. J. Rodman, Owensboro.
120 Treatment of Cerebrospinal Meningitis. M. P. Creel, Central City.
121 Incontinence of Urine in Children. J. S. Gunn, Schochoh.
122 Measles. J. F. Rodgers, Bowling Green.
123 Malarial Fever. C. L. Venable, Adairville.
124 Anterior Poliomyelitis. B. S. Rutherford, Bowling Green.
125 Why We Are Not Better Doctors? H. M. Meredith, Scottsville.
126 Is Medicine an Ethical Profession? P. C. Sutphin, Canmer.
127 Cases I Have Lost. J. B. Scholl, Jabez.
128 Medical Ethics. J. G. Renaker, Dry Ridge.

107. Abstracted in The Journal, Oct. 17, 1908, p. 1353.

108. **Artificial Respiration.**—Lukins urges the advantages of the prone pressure method of artificial respiration as described in The Journal, Sept. 5, 1908, p. 801, by Prof. A. E. Schäfer of Edinburgh.

117. **Uterine Displacements.**—Abell summarizes his paper as follows:

1. In simple uncomplicated cases of anterior displacements pregnancy almost invariably effects a cure. As such patients are usually sterile, the problem is the induction of pregnancy. This can generally be accomplished by thorough dilatation; if the patient is unmarried the wearing of a stem pessary between periods will relieve her of pain and discomfort.
2. In simple retrodisplacements pregnancy usually produces a cure; the retention of the uterus in its normal position by means of a pessary will often permit of the occurrence of pregnancy. In the event that it does not do so, and in all cases of unmarried women, suspension of the uterus by means of the Gilliam operation is to be advised.
3. Displacements complicated by inflammatory lesions are never to be treated with a pessary, and no attempt should be made to replace such uteri under an anesthetic; if no adhesions are present, rest, with local pelvic depletion, may so reduce the inflammation that reposition of the uterus and temporary retention with pessary will be permissible. In all other instances the adhesions are to be broken up only after the abdomen has been opened and with the removal of the diseased part, followed by suspension of fixation of the uterus, the latter depending on the age of the patient.
4. Displacements associated with relaxation or injury to the pelvic outlet are never to be treated by pessaries and are only amenable to surgical treatment. Complete relief can be obtained only by bearing in mind the extent of the pathology and correcting the prolapse, not only of the uterus, but of the associated viscera. The sterility which is one of the symptoms of pelvic displacements can be overcome, as a rule, by replacement and retention of the uterus in its normal position and securing a healthy endometrium, usually by means of a curetting.
6. Pessaries are to be used in the treatment of uterine displacements, not with the idea of producing a cure, but of affording a temporary relief.
7. Displacements of the uterus associated with a general abdominal ptosis should not be subjected to operation, and but little is to be expected from local treatment. A good binder, rest, and general tonics give the best results.

Archives of Internal Medicine, Chicago

February

129 *Metabolism in Diabetes. G. Lusk, New York.
130 *Anatomic Explanation of the Greater Amount of Vocal Fremitus and Vocal Resonance Normally Found at the Apex of the Right Lung. G. Fetterolf, Philadelphia.
131 *Multiple Neurofibromatosis (von Recklinghausen's Disease). F. Harbitz, Christiania, Norway.
132 Relation of Iodin to the Structure of the Thyroid Gland in the Sheep, Dog, Hog, and Ox. D. Marine and C. H. Lenhart, Cleveland, O.

133 *Experimental Myocarditis. M. S. Fleisher and L. Loeb, Philadelphia.
134 *A Possible Means of Differentiation Between Cardiac Dilatation and Pericarditis with Effusion. W. J. Calvert, Columbia, Mo.

129. **Metabolism in Diabetes.**—Lusk's principal points are: Diabetes mellitus is a condition in which the power to burn sugar within the organism is partly or completely destroyed. It is to be distinguished from various forms of glycosuria in which the appearance of sugar in the urine is due to a weakened power of the organism to retain it as glycogen. When the power to burn glucose is completely lost, the organism must exist at the expense of protein and fat. Fat is completely burned under normal circumstances and forms no sugar. Protein, however, yields 45, and in some cases 60 per cent. of sugar, which is lost. The excess of heat formed in protein metabolism and the sugar lost in the urine leave only 10 per cent. of possible energy of the protein available for the organism. Beta-oxybutyric acid results from fat metabolism, and its appearance in the urine, it is suggested, is due to the failure of a special ferment to destroy it. It may also be produced by the oxidation of aminoacids derived from the proteins. Aminoacids which form sugar on ingestion do not form beta-oxybutyric acid. This explains why acidosis in fasting is reduced on ingestion of meat. Alcohol, by reducing the metabolism of fat, diminishes the formation of oxybutyric acid, but it also may reduce the tolerance of the diabetic for carbohydrates. Galactose, levulose and pentoses are of little value in diabetes. The perverted metabolism in diabetes results, therefore, in a condition in which sugar can not burn and is lost, and a large share of protein is lost by conversion into sugar, and finally the power to burn fat further than the stage of beta-oxybutyric acid may be lost. The administration of carbohydrates beyond the power of the system to burn them is injurious. Alkalies assist the elimination of beta-oxybutyric acid, which is beneficial because the diabetic does not die in consequence of the amount of acid in the urine, but from that retained in the body. The tolerance for carbohydrates must be determined. Mandel and Lusk regard a D: N ratio of 3.65 to 1 as fatal, although it may not continue through life. Fasting days are very desirable. Butter should be avoided. Apparently a high acidosis lowers the tolerance for carbohydrates. There is no cure for diabetes. Only dieting relieves the sufferer. Extracts of pancreas and the ferments of yeast are without effect and serum treatment is useless.

130. **Vocal Fremitus and Vocal Resonance.**—Fetterolf considers unsatisfactory the usual explanations of the fact that vocal fremitus and vocal resonance are more marked at the right apex than at the left. His explanation rests on the fact that sound vibrations are transmitted not only by the column of air, but also by the walls of the larynx, trachea and bronchi. On the right side the trachea lies almost in contact with lung, almost entirely throughout its thoracic course. On the left it is separated from the lung by 3 cm. or more of blood vessels and other tissues. To this inequality Fetterolf attributes the difference in vocal resonance and vocal fremitus.

131. **Multiple Neurofibromatosis.**—Harbitz reports 15 cases of von Recklinghausen's disease, which is characterized by multiple cutaneous tumors, pigment anomalies, tumors of nerves in their various forms and elephantiasis-like formations. As symptoms of secondary order, psychic disturbances, developmental defects, vasomotor disturbances and menstrual anomalies may occur. On account of its frequent hereditary basis, multiplicity of tumors, occasional congenital incidence, and frequent association with other congenital defects, the disease is to be regarded as a malformation of the nervous system affecting chiefly its connective tissue structure. The tumors are often late and slow in development and may merge very slowly into malignant growths.

133. **Experimental Myocarditis.**—Fleisher and Loeb show that myocarditis similar to that observed in hearts showing hypertrophy can be produced in rabbits by the injection of spartein sulphate or caffein sodium benzoate, together with a small amount of adrenalin, but not by the same drugs in the absence of adrenalin. Excessive strain of the heart muscles appears to be a factor in producing the lesion and such hearts show functional inferiority. The method may prove useful in determining the correlation between the activity of the heart and the function of certain other organs under pathologic conditions.

134. **Differentiation of Cardiac Dilatation from Pericarditis with Effusion.**—According to Calvert, in both conditions the right lobe of the liver is depressed, but in dilatation, owing to displacement of the bony thorax, an apparently normal or elevated position of the liver may be found. Hence, in cardiac dilatation high liver dulness is present; in pericarditis with effusion low liver dulness; and in each a narrow band of relative lung-liver dulness.

Pennsylvania Medical Journal, Athens

February

135 *The Surgery of the Cervical Triangles. C. H. Frazier, Philadelphia.
136 Medical Words Commonly Mispronounced. F. A. Rhodes, Pittsburg.
137 Economic Loss to Pennsylvania in 1906 from Deaths by Preventable Diseases. S. Egbert, Philadelphia.
138 *Treatment of the Nose in Children. D. J. Langton, Shenandoah.
139 *Trachoma and the Public Weal. C. P. Franklin, Philadelphia.
140 Trachoma. A Social Disease. E. Stieren, Pittsburg.
141 Fractures and Their Legal Status. J. F. Davis, Oil City.

135. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1543.

138. Abstracted in THE JOURNAL, Oct. 24, 1908, p. 1455.

139. Abstracted in THE JOURNAL, Oct. 17, 1908, p. 1357.

Journal South Carolina Medical Association, Greenville

February

142 *The Action of Certain Diuretics, with Special Reference to Their Utility in Treatment of Nephritis. G. E. Thompson, Inman.
143 Diseases of the Gall Bladder and Operations for Gallstone. E. C. Black, Greenville.
144 Uses and Abuses of Atropin in Treatment of Commoner Eye Diseases. L. R. H. Gantt, Spartanburg.

142. **Diuretics in Nephritis.**—Thompson says that the administration of the toxic diuretics should be guarded to prevent their cumulative effect. There seems to be no theoretical indication for the vasoconstrictors in nephritis, save when lowered tension is present. On the other hand, there is danger of too much irritation of the secreting cells as a result of the cell stimulant class. Certain diuretics owe at least a part of their efficiency to their action in improving the quality of the blood.

Annals of Otology, Rhinology and Laryngology, St. Louis

December

145 *Importance of Upper Respiratory Tract in Etiology of Cryptogenetic Infections, Especially in Relation to Pleuritis. G. B. Wood, Philadelphia.
146 Morphology of the Turbinals. J. M. Ingersoll, Cleveland, O.
147 Giant Tumors of the Larynx. F. Massei, Naples, Italy.
148 Operative Treatment of Malignant Tumors of the Nose. A. Denker, Erlangen, Bavaria.
149 Cysts, Abscesses, and Edema of the Epiglottis. H. L. Swain, New Haven, Conn.
150 Interesting Cases of Diseases of the Alveolar Process. W. H. Haskin, New York.
151 Submucous Resection in Ozena. Prof. Mermod, Lausanne, Switzerland.
152 Treatment of Tuberculosis of the Upper Air Passages. T. Heryng, Warsaw, Poland.
153 Influence of Adrenalin in Causation of Arteriosclerosis. F. E. Hopkins, Springfield, Mass.

145. **Cryptogenetic Infections in Pleuritis.**—Wood says that an infecting focus of the upper respiratory tract, and this is most frequently found in the tonsils, may give rise to a pure toxemia or even to a bacteriemia. Toxemia is a very frequent condition, and because of its frequency is the most important form of infection coming from the tonsils. Bacteriemia originating from the throat is comparatively rare, though a large number of cases have been reported. In either condition, if the pleura is a point of least resistance, as it is in a large majority of phthisical patients, it may easily be more or less affected by the poison circulating in the blood. The faucial tonsils may present unrecognizable foci of infection, causing in many individuals a mild toxemia, which toxemia, however, is of importance only when the resistance of the individual is below normal. In exceptional cases there may exist lymphatic anastomosis between the deep cervical lymph-nodes and the supraclavicular glands. It is probable that the supraclavicu-

lar glands receive afferent lymph vessels which drain the parietal apical pleura. Occasionally the efferent of the supraclavicular gland empties into a node situated in the notch formed by the junction of the subclavian and internal jugular veins. This node may also receive the efferent lymph vessels of the deep cervical lymph nodes, and is only separated from the pleural apices by the internal carotid artery and its sheath. It is conceivable that lesions of this gland might cause a retrograde current which would carry the infection to the supraclavicular nodes, or a perjadenitis of this node might possibly involve the pleura directly through continuity of structure. The necessary links in this infection, however, are so numerous and independent, one of the other, that only in very rare cases would it happen that they would all be present so as to form a direct path from the throat to the pleural apex.

Memphis Medical Monthly

February

154 *Delivery of Triplets. Probable Secondary Impregnation. J. W. Cunningham, Memphis, Tenn.
155 Cryptorchism. B. Malone, Memphis, Tenn.
156 Responsibility of Early Diagnosis in Tuberculosis. J. W. Laws, Lincoln, Neb.
157 Nasal Respiration. P. M. Farrington, Memphis, Tenn.
158 Drug Addiction and Its Treatment. W. S. Robinson, Nashville, Ark.
159 Eyes and Ears of School Children. A. C. Lewis, Memphis, Tenn.

154. **Secondary Impregnation.**—Cunningham reports a case which he believes to be an instance of secondary conception. He was engaged in June, 1908, to attend a primipara at her approaching confinement. He was not called until September 12, when she was said to be in labor. As the cervix was high, hard and not dilated, he went away and found her next day attending to her usual duties. On November 1, he was summoned again, when a first child, normal, weighing about nine pounds, was born; it had apparently been dead for some time, as it was macerated. Twenty-five minutes later a second child was born alive and weighed about four pounds, and yet six minutes later a third child, also alive, was born. Both were well formed, lived and did well. Both the last two children were born in the amniotic sacs inside all the membranes. There were two placentas, one for the first child, which, like the fetus, was macerated and degenerated, with a blackened cord, and one for the twins, the cords from each child meeting in the center of the placenta. The woman's last menstrual period occurred on Dec. 20, 1907, and Cunningham was called to attend her on Sept. 12, 1908, which would have been about the right time for the first child to have been born. She had one other menstrual period about Feb. 18, 1908, which would bring the birth of the twins on November 1, also to a normal gestation. Cunningham concludes, therefore, that this was a case of double conception.

Detroit Medical Journal

February

160 The Antivenereal Campaign: Its Propaganda, Present Status, Future Possibilities. A. Williams, Grand Rapids, Mich.

Ophthalmic Record, Chicago

February

161 *New Operative Procedure in Treatment of Trachoma. D. H. Coover, Denver.
162 Cyst of the Iris. J. S. Wever, Kansas City, Mo.
163 Episcleritis Periodica Fugax—With Report of Case. J. S. Wyler, Cincinnati.
164 Mucous Patch on the Conjunctiva with Demonstration of the Spirochete Pallida. H. McKee, Montreal.
165 Another Dressing for Operated Eyes. S. Mitchell, Hornell, N. Y.

161. **Trachoma.**—Coover uses the following method under general anesthesia: No. 0 or 00 sand paper is cut into strips about three or four inches in length by three-quarters inch in width, and sterilized by dipping into alcohol and burning it off. The conjunctival sacs are thoroughly cleansed, and the upper eyelid is grasped along its margin by Darier's forceps, and, the edge being turned on itself, the lid is everted until the retrotarsal fold is brought into view. A horn spatula should be inserted beneath the lid to protect the cornea. The strip of sand paper is next rolled lengthwise over the index finger, and, holding it firmly between finger and thumb, the entire lid surface is thoroughly and briskly rubbed. By folding or rolling the strip of paper in different ways all the recesses can be reached and the entire surface rubbed down smooth. The surface of the lids and entire conjunctival sac are thoroughly flushed with sterilized water or normal salt solution. The author has never observed any particles come away, nor has any foreign body ever been discovered in the eye after operation. A dressing of cotton or gauze soaked in sterilized water or normal salt solution is applied. Cold applications are used for the next 5 or 6 hours. The reaction is slight, the patient returning the next day with eyes open. As long as there is any secretion, a solution of silver nitrate, two grains to the ounce, is applied once in 24 hours to the everted lids. Coover claims for this operation:

> 1. It is applicable in all forms of trachoma—the granular, papillary and mixed. Even in the old cicatricial forms it acts well, smoothing down the rough and hypertrophied portions of the conjunctiva.
> 2. There is very little reaction, the author having operated in thirty-five cases to date, and in none of them has there been a severe irritation or a single corneal complication following.
> 3. By this method of *grattage* the smaller granulations in process of development, as well as the large, are removed, and the after-treatment with caustic applications is not necessary.

Western Medical Review, Omaha, Neb.

February

166 *Fractures of the Elbow Joint. D. J. Reid, Holbrook, Neb.
167 Fractures of Neck of Femur. C. A. Hull, Omaha, Neb.
168 Open Treatment of Fractures. A. C. Stokes, Omaha, Neb.
169 *Borderline Cases in Medicine and Surgery. C. C. Allison, Omaha, Neb.

166. Abstracted in THE JOURNAL, July 4, 1908, p. 68.

169. Published in the *American Journal of Surgery*, February.

Journal of Tennessee State Medical Association, Nashville

February

170 Chronic Alcoholism. J. W. Stevens, Nashville.
171 *Effect of Menstruation on Certain Skin Diseases. J. M. King, Nashville.
172 Amebiasis: Its Symptomatology, Diagnosis, and Sequelæ, and the Use of Formalin and Copper Phenol Sulphonate in Treatment. J. L. Jelks, Memphis.
173 Epidemic Cerebrospinal Meningitis—Its Prompt Recognition and Treatment by Antimeningitis Serum. J. Overton, Nashville.

171. **Menstruation and Skin Diseases.**—King reviews the relations of menstruation to acne, acne rosacea, eczema, herpes, pemphigus, dermatitis herpetiformis, urticaria, edema and erythema, erysipelas, ecchymoses and purpura, pruritus, psoriasis and seborrheal dermatitis, hyperidrosis, bromidrosis, chloasma, lupus and syphilis. He attributes the disturbances to nervous origin associated with the function itself. These first steps of nervous disturbance would in all probability lead to the failure of normal metabolism and excretion, thus causing the blood fluids and lymph to become overcharged with waste and toxic products. Such a condition is manifested by increase in weight, increase in blood pressure, rise in temperature and the nervous phenomena associated, as a rule, with this period. This condition would explain to some extent the aggravation seen in many of these skin diseases.

Journal Biological Chemistry, Baltimore

February

174 *Synthesis of Protamin Through Ferment Action. A. E. Taylor, Berkeley, Cal.
175 *Composition and Derivation of Protamin. A. E. Taylor, Berkeley, Cal.
176 Question of Identity of Pepsin and Chymosin. A. E. Taylor, Berkeley, Cal.
177 Inversion of Cane Sugar and Maltose by Ferments. A. L. Taylor, Berkeley, Cal.
178 Oxidation of Glutamic and Aspartic Acids by Means of Hydrogen Peroxid. H. D. Dakin, New York.
179 Action of Glycocoll as a Detoxicating Agent. H. D. Dakin, New York.
180 **Bacillus Infantilis* (n. s.) and Its Relation to Infantilism. A. I. Kendall, New York.
181 *Products of *Bacillus Infantilis* Grown in Artificial Media. C. A. Herter and A. I. Kendall, New York.
182 Comparison of Methods of Reid and Schenck for Quantitative Estimation of the Reducing Substances in the Blood. J. J. R. MacLeod, Cleveland, O.
183 Relationship Between Ionic Potentials of Salts and Their Power of Inhibiting Lipolysis. R. H. Nicholl, Chicago.
184 Reducing Component of Yeast Nucleic Acid. W. F. Boos, Boston.
185 Comparative Tests of Spiro's and Folin's Methods for Determination of Ammonia and Urea. P. E. Howe and P. B. Hawk, Champaign, Ill.
186 Reagent for Detection of Reducing Sugars. S. R. Benedict, New Haven, Conn.

187 Occurrence of Skatol and Indol in Wood of *Celtis Reticulosa* (Mequel). C. A. Herter, New York.
188 *Synthesis of Paranuclein Through Agency of Pepsin, and the Chemical Mechanics of the Hydrolysis and Synthesis of Proteins Through the Agency of Enzymes. T. B. Robertson, Berkeley, Cal.

174 and 175. **Synthesis, Composition and Derivation of Protamin.**—This subject is also discussed editorially in this issue. The protamin which was used by Taylor is derived from the sperm of the salmon and is also called salmin. Taylor finds in agreement with Kossel that this substance is composed of four aminoacids: Arginin, amino-valeric acid, serin and prolin. By prolonged digestion of a mixture of these four aminoacids with an enzyme derived from the liver of the clam, Taylor was able to regenerate a substance having the composition of the original protamin. Kossel has suggested that protamin is derived from histone which he regards as being built up from aminoacids, produced by the disintegration of the protein of muscle since the testicle is in part formed during a period in which the salmon are fasting and their muscles wasting. Taylor modifies this hypothesis by supposing that the histone is formed in the testicle from the protein of the blood which breaks down into its constituent aminoacids and that the proteins of the blood are derived from the muscle.

180 and 181. **Bacillus Infantilis.**—Kendall describes a new bacillus found in the cases of infantilism investigated by Herter. It is a spore-forming organism and has been found in limited numbers in the feces of some but not all normal infants. It is a saprophytic organism which under certain undetermined conditions finds a suitable environment in the intestinal tract and proliferates there. It produces no agglutinins and there is no direct evidence of its etiologic relationship to infantilism. Animal experiments indicate that the diarrhea observed in cases of infantilism may be caused by irritant metabolic products, resulting from the proliferation of *B. infantilis* in the intestinal tract. According to Herter and Kendall, this organism produces a considerable quantity of volatile bases, consisting chiefly of ammonia, but containing also other amins, including probably methylamin and ethylamin and possibly diamins, such as putrescin and cadaverin. None of the ordinary products of putrefaction, viz., indol, skatol, phenol, aromatic oxyacids, hydrogen sulphid or mercaptans was discoverable.

188. **Synthesis of Paranuclein.**—Taylor assumes (*supra*) in his work on the synthesis of protamin that the enzyme acts simply as a catalyzing agent and is itself unaffected by the reaction of hydrolysis (see editorial in this issue of The Journal). If this were the case, the equilibrium between the decomposition of protein into its constituent aminoacids and its reconstruction from the aminoacids produced would occur when the velocity of these two reactions became equal and would depend on the relative concentration of the protein and the products of its own decomposition, independently of the strength of enzyme present. Robertson shows, however, that the velocity of hydrolysis diminishes with increasing substrate concentration, i. e., with increasing strength of the protein solution. He has succeeded in synthesizing paranuclein by the action of pepsin on the concentrated solution of the products of digestion of sodium or potassium caseinate. The velocity of this synthesis does not vary directly as the concentration of the pepsin, but falls off abruptly as the concentration of the pepsin falls below a certain value. When equilibrium has been reached in the hydrolysis of such a solution of casein, the addition of a large amount of solid pepsin to the unconcentrated products of the reaction will cause the reaction to be reversed with the regeneration of paranuclein. The equilibrium is evidently shifted by the introduction into the mixture of excess of pepsin. Heating a solution containing a high concentration of pepsin and a low concentration of the products of hydrolysis of casein to a temperature of 65 C. (10° to 15° above the "thermal death-point" of pepsin) brings about a rapid synthesis of paranuclein. From the results of these experiments, Robertson concludes that the active agent in reversion is not identical with the active agent in hydrolysis, but that the pepsin undergoes some modification in the process and does not act as a simple catalytic agent.

Robertson suggests the following theory of ferment action to explain these phenomena. He regards the process of hydrolysis as consisting of a series of reactions in which hydrous pepsin first unites with the protein molecule with the elimination of water. The new compound takes up a molecule of water and splits into two simpler molecules with the separation of anhydrous pepsin. The anhydrous pepsin unites again with water and the process is repeated until the maximum amount of protein is broken down. In the reaction of synthesis it is supposed that an anhydrous pepsin takes the elements of water from the simpler molecules which unite to regenerate the protein and the pepsin gives up water to the medium; thus the hydrous enzyme accelerates hydrolytic decomposition, while the anhydrous enzyme accelerates synthesis by the removal of water. It is assumed that much of the pepsin is changed in the course of hydrolysis from the hydrated to the anhydrous form until an equilibrium occurs between the action accelerating hydrolysis and that accelerating synthesis. It is suggested that the relation between the anhydrous and the hydrated forms of enzyme may be similar to that between the "internal salt" and the hydrated forms of aminoacid.

Military Surgeon, Richmond, Va.

February

189 The Card System as Adapted to Property Accounts. C. C. Foster, Boston, Mass.
190 Plea for the Early Diagnosis of Pulmonary Tuberculosis. B. L. Wright, U. S. Navy.
191 *Sanatorium Management—The Daily Routine at Fort Stanton. P. M. Carrington, Fort Stanton, N. M.
192 *The Steel Frame in the Transportation of the Disabled. C. C. deMooy, Netherlands Military Medical Service.
193 Study of Military Hygiene for the National Guard Officer. R. Smart, Albuquerque, N. M.
194 Field Hospitals of the Austrian Red Cross. Stabsarzt Dr. J. Steiner, Imperial and Royal War Ministry.
195 Work of the Army Board on Tropical Diseases as They Exist in the Philippine Islands. J. M. Phalen and H. J. Nichols, U. S. Army.

191. An article of somewhat similar character by the same author appeared in the *New York Medical Journal*, Feb. 27, 1909, and was abstracted in The Journal, March 13, 1909, p. 921.

192. **Transportation of the Disabled.**—deMooy describes and figures a steel frame for the transportation of the disabled, for which he claims the following advantages: It prevents unnecessary handling; allows the most comfortable position; there is no risk of the patient falling out of the stretcher should the bearer fall, stumble or be wounded; it is possible to carry the patient up or down very steep places, and it can be transported on any kind of vehicle.

American Journal of Orthopedic Surgery, Philadelphia

February

196 *Etiology of Lateral Curvature. P. W. Nathan, New York.
197 Suggestions for Treatment of Lateral Curvature by Braces. H. O. Feiss, Cleveland.
198 Acetone: Its Occurrence in Orthopedic and Surgical Cases. J. W. Sever, Boston.
199 *Ankylosis of the Knee. E. M. Little, London, Eng.
200 *When is Bony Union Complete After Excision of Knee Joint? J. T. Rugh, Philadelphia.
201 *Non-Operative Treatment of Fracture of Femoral Neck. A. M. Forbes, Montreal.
202 *Operative Treatment for Intracapsular Fracture of Neck of the Femur. G. G. Davis, Philadelphia.
203 *Drop Phalangette. W. G. Stern, Cleveland, O.
204 *Plastic Operations to Elongate Cicatricial Contractions Across Joints. S. L. McCurdy, Pittsburg.
205 Treatment of Deformity Following Colles' Fracture. S. L. McCurdy, Pittsburg.

196, 202, 203, 204. Abstracted in The Journal, Aug. 8, 1908, p. 526.

199, 200. Abstracted in The Journal, Aug. 1, 1908, p. 430.

201. Abstracted in The Journal, July 25, 1908, p. 343.

Southern California Practitioner, Los Angeles

February

206 Honesty in Medicine and Surgery. R. P. McReynolds, Los Angeles, Cal.
207 Ethics of Consultation. J. T. Fisher, Los Angeles.
208 Is the Medical Profession in Los Angeles Handicapped? C. E Zerfing, Los Angeles.
209 Tuberculosis and Pregnancy. A. D. Bechtel, Prescott, Ariz.
210 Maxims for Tuberculous Patients. G. H. Kress, Los Angeles.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 27

1 *Chronic Spinal Meningitis. Sir V. Horsley.
2 *Physiology of the Female Genital Organs. General Calcium Metabolism. W. B. Bell and P. Hick.
3 *Sleep and Want of Sleep. R. Farquharson.
4 *Pathology of Syphilis of the Nervous System in the Light of Modern Research. F. W. Mott.
5 Case of Acute Ascending Paralysis. H. J. Dean.
6 Arterial Blood-Pressure Records Before and After Muscular Exertion. O. K. Williamson.
7 Treatment of Chronic Gonorrhea by Antigonococcus Vaccine. A. Loxton.

1. **Chronic Spinal Meningitis.**—Horsley discusses certain cases of chronic spinal meningitis, the causation of which has yet to be finally determined. They yield to surgical treatment when ordinary medicinal treatment has failed. These cases resemble tumors of the spinal cord. They are those in which an adult person—Horsley has seen only one case below the age of puberty—begins to complain of pain and progressive loss of power in the legs, with, it may be also, slight kyphotic curvature of the spine, and develops ultimately a progressive paraplegia that runs through the ordinary course and terminates fatally. Horsley has seen a relatively large number of such cases, in most of which he has performed laminectomy and subdural mercurial irrigation. All these cases had been previously diagnosed as tumor of the spinal cord or disease of the vertebral column. But there are certain features which should lead to their recognition as cases of chronic spinal meningitis and not tumor. A tumor of the spinal cord commonly exhibits the pain as localized to one nerve root, but in these cases of chronic meningitis the pains spread gradually to the front and back of the thigh and cause painful cramping and twitching of muscles of the right leg. The right toe is often involuntarily hyperextended with the pain, which involves a diffuse area supplied by several nerves, no particular nerve distribution being involved. Marked tightness and numbness of the thigh is another symptom. There is slight dribbling of micturition and severe pain in the small of the back. There is some wasting and weakening of the leg. Hyperesthesia of the leg is present, but in none of Horsley's cases was there absolute anesthesia. The paralysis begins by a gradual sense of weakness coming on in the whole leg. In some cases the patients complain of spasticity and these are doubtless diagnosed as lateral sclerosis, but in point of fact examination of the spinal cord in a severe case shows a general sclerosis throughout the cord. Secretion is proportionately paralyzed with advance of the paraplegia. The patients show no vasomotor phenomena, as a rule. Their skins look normal and there seems no tendency to trophic disturbance. As to the part of the spinal cord affected, the two cases Horsley has used as illustrations began in the region of the cauda equina, and in the majority of 21 cases the mischief apparently began all over the lower half of the back of the cord. By the time the case is referred for operation the exploration must begin in or just below the mid-dorsal region. The cases occur mostly in adults, and this has an important bearing on the causation of the mischief and the prognosis. At or below middle life recuperation is likely to be very good; later it is poor. There is, in these cases, a large collection of cerebrospinal fluid around the cord and it is under great pressure. This leads to ischemic changes. Horsley thinks that a number of these patients are not actually syphilitic, though some certainly are so and such individuals resist all treatment not directly applied by surgical intervention. A certain number also are gonorrheal. Treatment consists in simple laminectomy, opening the theca and washing it out with a mercurial lotion, even up to 1 in 500 in strength, though Horsley has used that strength only once or twice. The skin wound should be completely closed, not drained. After the wound is completely healed, free mercurial inunction of the spine should be ordered.

2. **Calcium Metabolism.**—Bell and Hick discuss the methods of investigating calcium metabolism. They have come to the conclusion that the lime salts are not only necessary for the construction of the body and its growth, but also for keeping it healthy and in repair, and for the reproduction of the species. These salts become apparently pathologic when, like inflammation, they endeavor to rescue diseased structures and to repair them. The selective and retentive power of the cell for calcium salts is probably in part under the influence of the calcium regulating factors. The authors believe that there is no such thing as calcareous degeneration. The thing which does happen is a calcification—the result of a reparative process—in diseased structures. Calcium salts play a large part in the health of the individual, even while circulating in the blood. The lime salts are largely concerned in the contraction of involuntary muscle throughout the body. The authors refer to the calcium content of the blood in relation to its coagulability, and from many experiments and observations answer in the negative the question whether there is not a certain element of danger in the free administration of calcium salts. The calcium index under normal circumstances can not be forced much beyond the usual maximum, and if the vessels were healthy, clotting would not occur. The authors suggest that the alteration in the calcium economy at the menopause may be accountable to some extent for the deposition of fat, and further, that the deficient excretion of calcium soaps by the bowel in physiologically active women may be the cause of the ever present evil of chronic constipation. The coagulating element in gelatin, the authors suggest, may be its calcium content, while they found that the prolonged action of ammonium oxalate—but not of other salts—prevented coagulation by precipitating the calcium. They discuss the action of the ductless glands in regulating calcium metabolism, and refer particularly to the finding of Sir James Barr, who, at the authors' suggestion, observed that the administration of calcium salts markedly lowers the pulse rate and causes symptomatic improvement in exophthalmic goiter. They believe that an intimate connection exists between the pituitary extract and the calcium metabolism; that the ovaries and possibly the testes, influence calcium metabolism; and, that the ductless glands preserve a balance in the calcium metabolism—as they do in many other metabolic processes—one acting anabolically, another katabolically.

3. **Sleep and Want of Sleep.**—Farquharson describes various cases of a natural tendency to somnolence, and asks what the precise physiologic conditions are under these varied circumstances. Anemia can not explain them all, nor can a full-blooded brain. He discusses the use of tea, hot water, a nightcap of whisky (hot or cold), light nourishment before retiring, regulation of the bed clothing, the avoidance of heavy suppers, and particularly champagne, the suppression of regular noises, the soothing influence of music, various devices such as counting, etc., and finally, when all these fail, the use of soporifics. On this point he says: "Some physicians—rather pedantically, I think—will not give their sleepless patients relief by drugs for fear they get into the habit of taking them regularly. Of course, we can not altogether ignore this view; but Sir Lauder Brunton, the wisest and most suggestive of modern physicians, once put the case in a nutshell by saying, 'Insomnia is a bad habit, and may become permanent if we do not break it.'" Farquharson emphasizes the particular application, to this class of drugs, of the old saying: "One man's meat is another man's poison."

4. **Syphilis of the Nervous System.**—In the third Morison lecture, Mott discusses parasyphilis and heredosyphilis. He quotes Fournier's classification of parasyphilitic affections, divided primarily into those due to acquired and to hereditary syphilis. He discusses tabes at length. He confesses himself a believer in the theory "no syphilis, no tabes." He believes that there is probably one essential cause—syphilis acquired or congenital and that there are a number of contributing factors, any one of which by itself or even in combination with others—for example, sexual excess, mental stress, heredity, injury, etc.—in the absence of syphilis is not capable of producing the disease. He cites instances to show how, in spite of investigation, syphilis, particularly hereditary syphilis, is apt to be overlooked. Antisyphilitic remedies are useless. In-

deed they are generally positively injurious in true tabes and general paralysis because they lower the vital energy of a system which has overimmunized itself against the syphilitic virus. The only hope of doing good is by early diagnosis and suppression of all exciting causes that use up nervous energy, and tend to overturn the normal metabolic equilibrium of the nervous structures.

Lancet, London

February 27

8 *The Functions of the Liver and the Metabolism of Fats. J. B. Leathes.
9 Hernia of the Iliopelvic Colon. H. B. Robinson.
10 Anuria with Necrosis of the Renal Convoluted Tubules. F. P. Weber.
11 Addisonism as a Family Disease. D. H. Croom.
12 Injury to the Semilunar Cartilages of the Knee. R. Morison.
13 *Pancreatic Secretion in Treatment of Diabetes. W. M. Croftan.
14 Case of Hepatic Abscess (?) Treated by a Vaccine; Recovery. J. H. E. Brock.

8. **The Liver and Fat Metabolism.**—Leathes considers it a good working hypothesis, that the liver stands in a different relation to circulating fat from the other organs of the body. Its work is to take up this fat and bring about certain changes in it, the result of which is to make this material available for the use of the organs in which its potential energy is required. It converts food fat into organized fat, the desaturation of fatty acids being a change which occurs after that conversion has taken place; a change that is removed from our ken so long as our knowledge of the nature and constitution of these lipoid molecules is as meager as at present. The change may be brought about behind the veil within the mysterious circle of influence of the phosphoric acid and the nitrogenous basic constituents of these more complex molecules.

13. **Pancreatic Secretion and Diabetes.**—Croftan considers it probable that severe glycosuria—that is, glycosuria produced from both carbohydrates and proteins—is in some way or other due to failure in the pancreatic functions, possibly of an internal secretion. This failure may come about in several ways. (a) The chyme entering the duodenum, etc., may not be acid enough to change the prosecretin into secretin. (b) It may be due to the absence of secretin from the intestinal mucosa. (c) It may be due to the loss of function of the cells producing the internal secretion—that is, to disease of the pancreas. In treating a case of diabetes, our first desire must be to remove the cause of the disability of the pancreas. If it is due to the deficient acidity of the gastric juice leading to deficient conversion of prosecretin into secretin, administer acids. It is possible that some of the cases of transient glycosuria may be due to this cause. If it is due to the absence of prosecretin, he advises giving secretin; some patients with diabetes have been cured by this means. He refers to the embryologic work of Beard as having thrown light on the change that takes place in the nutrition of the fetus when the pancreas becomes functional. The cells of the fetus, instead of preparing their own food by means of their intracellular ferments, have food prepared for them by the extracellular ferments of the pancreas; their food is no longer the dextroproteid and levosugars, but levoproteid and dextrosugars. The manner in which the pancreas effects this change is obscure. It can not be due to its external secretions, for in diabetes these are generally sufficient; it must be due to some substance absorbed into the blood, that is, to an internal secretion of some kind. It is, therefore, easy to realize the profound change that takes place when the pancreas loses its function; in the absence of the internal secretion the tissue cells again become dependent on their own intracellular ferments as they were in the precritical period when they lived on levosugars (this is a possible explanation of the observation that levulose is better borne by diabetics than dextrose), and thus the dextrosugar with which they are supplied can not be used, the percentage of dextrose in the blood rises, and it is excreted by the kidneys.

Medical Press and Circular, London

February 24

15 *Uncommon Types of Common Diseases. J. A. Lindsay.
16 Radical Operations for the Cure of Backward Displacements of the Uterus. H. Jellett.
17 Shrapnel Wounds. Marine-Oberassistenzarzt Sheel.

15. **Common Diseases.**—The diseases discussed by Lindsay are pneumonia, typhoid, scarlatina, pulmonary tuberculosis, aneurism, gastric ulcer, pernicious anemia and cerebral tumor. He has seen several cases of pneumonia in which the temperature remained normal throughout, and many cases in which the onset was spread over three or four days, the early symptoms being vague. In pneumonia ephemeris the attack sets in with characteristic signs, but comes to an abrupt termination in two or three days, the verdict often being only a "severe cold." He cautions against mistaking pneumonia for meningitis, which may be avoided by attention to the alae nasi. In typhoid he has known the bowels to act normally throughout the attack and the tongue to remain clean, while one patient died suddenly from profuse intestinal hemorrhage in whom a few hours before death the abdomen was relaxed, free from distention, pain or tenderness, and the pulse good. A robust physique and a well-developed thorax are no certain protection against tuberculosis. The disease may make considerable progress without either pyrexia or loss of flesh. A chronic fibroid tuberculosis of one upper lobe, with emphysema of the adjacent portions of the lung, may produce a clinical syndrome closely resembling that of asthma. It is well to accept pernicious anemia as a provisional, rather than a substantive diagnosis and always to search carefully for a primary cause, bearing in mind that only time and a careful diagnosis by exclusion justify pernicious anemia as a final diagnosis.

Clinical Journal, London

February 24

18 *The Significance of Fever in Patients from the Tropics. Sir P. Manson.
19 Fits After Forty. C. Thomson.
20 Some Unusual Symptoms in Myasthenia Gravis. F. E. Batten.

18. **Fever in Tropical Patients.**—Manson says that in patients coming from the tropics there are two principal diseases from the patient's standpoint, namely intestinal flux and fever. Manson discusses the latter. As a rule, he says, the physician will find that his diagnosis has been made for him. The patient "has malaria" and he wants you to treat it. If you follow this course you will often make a grievous mistake. Never trust the patient's diagnosis, and never trust a diagnosis of malarial fever, because in nine cases out of ten it is wrong. Manson's first rule is to ignore the fact that the patient has been in the tropics. Look at him as an ordinary patient, and eliminate the possibility of an ordinary European disease before taking the tropics into consideration. Think of tuberculosis, syphilis, malignant and local disease. Examine the organs from head to foot, not forgetting the frontal sinuses. He records a case of apparently Roman malarial fever which turned out to be due to the retention of pus in the nose. Manson particularly emphasizes obscure malignant disease as being a cause of undetermined fever. Abscess of the liver is apt to be mistaken for malaria. Having eliminated all ordinary causes of fever and arrived at the conclusion that the disease is a tropical one, the question is, "What." Malaria is the most common. There are three infallible tests of malaria: periodicity, the therapeutic test with quinin, and the blood examination. Quotidian periodicity, however, is not a property peculiar to malarial fever, but occurs in all septic infective conditions. Tertian or quartan periodicity are absolutely pathognomonic, however. If the patient gets quinin properly administered in an adequate dose, and the fever does not respond in from 48 to 72 hours, the disease is not malaria. If quinin is used, it is important that it should be administered in such a way that it can be absorbed. Dumping tablets or capsules into a furred alimentary canal is useless. Among subsidiary tests are marked enlargement of the spleen, a shooting and falling temperature curve, and the temperature rise early in the day. Liver abscess is the next most common tropical disease. It is almost invariably the sequel of dysentery. The fever is quotidian and does not respond to large doses of quinin. There will be leucocytosis instead of leucopenia. Aspiration must be practiced with great caution; death has ensued from hemorrhage into the peritoneal cavity after it. The author

discusses Malta or Mediterranean fever, which occurs also in other parts of the world—Africa, India, Hong Kong—and in which he does not put any confidence in serodiagnosis. He reports a case in which he submitted the blood for examination to two laboratories, for diagnosis between recurrent middle-ear disease and Malta fever. The first laboratory reported Malta fever and not typhoid fever; the second reported typhoid and not Malta. He finally went to the fountain head, Professor Wright, who reported that there was no typhoid and no Malta fever. Manson further discusses relapsing fever, trypanosomiasis, kala-azar, elephantoid fever, and leprotic fever. It is important to remember that elephantiasis and leprosy are both liable to be acompanied by fever.

Journal of Obstetrics and Gynecology of the British Empire, London

February

21 Rosslin's "Rosegarten"; Its Relation to the Past (the Muscio Manuscripts and Soranos), Particularly with Regard to Podalic Version (concluded). E. Ingerslev.
22 Pre-Maternity Hospital Practice: Thirty Cases of Morbid Pregnancy Treated in the Royal Maternity Hospital, Edinburgh. J. W. Ballantyne.
23 What is the Pelvic Floor? A Criticism; in which the Position of the Urinary Bladder During the Latter Months of Pregnancy and During Labor is Considerd. R. H. Paramore.

Intercolonial Medical Journal of Australasia, Melbourne

January

24 Two Hundred Cases of Appendicitis. R. A. Stirling.
25 Two Cases of Subperiosteal Bone Implantation. R. H. Russell.
26 *Operative Treatment in Fracture of the Base of the Skull. D. M. Morton.
27 Chloroform in Anemia. R. T. Sutherland.
28 An Analysis of 5,000 Cases of Diseases of the Skin Occurring in Australasia. A. W. F. Noyes.
29 Case of Loss of Memory. W. A. T. Lind.
30 The Appendiculo-Ovarian Ligament and Retroversion of the Uterus. G. Horne.

26. **Fracture of Base of Skull.**—Morton considers that in a considerable number of cases of fracture of the base of skull, in which recovery seems hopeless, operative treatment not only offers a prospect of life, but, from its almost complete freedom of risk, is due to the patient. The immediate danger after severe head injury arises usually in compression from extravasated blood. Morton quotes Cushing, in Keen's "Surgery," and says that it is due to the patient in every grave head injury, especially basal fractures, to be promptly placed under the closest supervision, and probably in most cases promptly subjected to the safer course of operative interference, rather than to the hazardous expectant treatment. It might be safely laid down that, in all cases of severe head injury—whether the diagnosis of fracture of the base is made or not—associated with grave or increasing symptoms of compression, a decompressive operation should be promptly resorted to. In the absence of symptoms indicative of hemorrhage from the middle meningeal artery, or of other focal symptoms, and in probably all cases of fracture of the base of the skull, the occipital route will give easier and safer access, and more efficient drainage than the temporal route, as preferred by Cushing.

Annals of Tropical Medicine and Parasitology, Liverpool

February

31 Treatment of Experimental Trypanosomiasis. B. Moore, M. Nierenstein and J. L. Todd.
32 An Unusual Case of Goundou. R. W. Orpen.
33 Subdrainage as Applied to the Antimalarial Campaign on the Isthmus of Panama. H. Simms.
34 A New Culicid Genus. F. V. Theobald.
35 The Inflicted Talipes of the Chinese. F. Jeans.
36 *Porocephalus Moniliformis.* A. Broden and J. Rodhain.
37 A New Human Nematode, *Strongylus Gibsoni.* J. W. W. Stephens.
38 The Supposed Occurrence of *Filaria Immitis* in Man. J. W. W. Stephens.
39 A New Porocephalus. *(Porocephalus Cercopitheci).* A. Breinl and E. Hindle.
40 Comparative Chemotherapeutic Study of Atoxyl and Trypanocides. M. Nierenstein.
41 Chemical Notes on Atoxyl. M. Nierenstein.
42 Sur le rôle des Tabanides dans la Propagation des Trypanosomiases. E. Sergent.

Annales de l'Institut Pasteur, Paris

January, XXIII, No. 1, pp. 1-95

43 Histo-physiologic Study of Aseptic Autolysis of the Liver. L. Launoy.
44 *Research on Typhoid Fever. H. Dunschmann.
45 The Blood in Experimental Trypanosomiasis. (Action sur la formule hémato-leucocytaire dans la trypanosomiase expérimentale du traitement par l'émétique.) M. Leger.
46 Biochemical Study of Two Anaërobes of Intestine Content. A. Berthelot.
47 Biologic Study of *B. perfringens* and *B. putrificus.* W. Korentchevsky.

44. **Diagnosis of Typhoid.**—Dunschmann reports considerable research which has shown to his satisfaction that the promptest and most reliable means for early diagnosis of typhoid fever is to make cultures from the blood during the first week of the disease. He states that the usual bile or Conradi technics should be regarded as obsolete now, the addition of sodium taurocholate to the peptonized bouillon being much more effectual. This technic has the further advantage that the taurocholate prevents coagulation of the blood.

Annales de Médecine et Chirurgie Infantiles, Paris

February, XIII, No. 3, pp. 73-108

48 Functions of the Tonsils and Organotherapy of Disturbances. (Fonction amygdalienne.) J. Glover.
49 Asystoly in Children. (Asystolie chez les enfants.) A. Moussous.
50 *Edema and Anasarca in Infants. P. Lereboullet and A.-P. Marcoreles.

50. **Edema and Anasarca in Infants.**—Lereboullet reports five cases of edema and anasarca in infants, cured by specific treatment in one case evidently the result of inherited syphilis. In another case the trouble was traceable to a liver affection, and in another to septicemia. The other cases demonstrate that edema and anasarca are liable to result merely from gastrointestinal disturbance, even when it is apparently mild. The anasarca of digestive origin is the result of well-defined lesions in the organs involved for which the gastrointestinal affection is primarily responsible. As a rule, by the time the anasarca has developed it is too late to arrest the consequences. In this respect the prognosis is much graver in infants than in older children and in adults. Although the gastrointestinal trouble may be regulated, the damage done is already irreparable.

Bulletin de l'Académie de Médecine, Paris

February 9, LXXIII, No. 6, pp. 203-217

51 Medicine Among the Natives of Sumatra. (La Médecine des Bataks.) Kermorgant.

Obstétrique, Paris

II, N. S., No. 1, pp. 1-80

52 *Serodiagnosis of Syphilis in the Pregnant and in New-Born Infants. P. Bar and R. Daunay.
53 *Difficulties of Repeated Cesarean Section on the Same Patient. A. Brindeau.
54 Two Cases of Twin Pregnancy with Single Ovum. (Grossesse gémellaire univitelline avec amnios unique et cordons noués.) G. Pallin.

52. **Serodiagnosis of Syphilis in Pregnant Women and New-Born Infants.**—Bar and Daunay have applied the Wassermann test to 82 pregnant women and tabulate the findings. Negative results were obtained in several cases of unmistakable syphilis so that negative findings do not justify the assumption that the woman is free from syphilis. But a positive result, in countries where trypanosomiasis is not prevalent, justifies the conclusion that the woman is infected. Their experience shows that the proportion of positive findings is much less when the women have been properly treated. A positive result should be accepted as the proof of active syphilitic infection, either in the woman or the fetus, or both, requiring specific treatment. The article is to be continued.

53. **Repeated Cesarean Section in the Same Woman.**—Brindeau has done a second Cesarean section on six women. The operation is more serious on account of the liability to adhesions and weakening of the wall of the uterus. He advises cutting out the old cicatrix and sterilizing the woman if the uterine walls are abnormally thin, but not otherwise.

Presse Médicale, Paris

February 13, XVII, No. 13, pp. 105-120

55 Operative Indications with Uterine Fibromas. J.-L. Faure.
56 Hordenin Sulphate in Therapeutics. J. Sabrazès and G. Guérive.
57 Hitherto Undescribed Tropical Febrile Affection. (Une fièvre des pays chauds non encore décrite.) M. Crendiropoulo.
58 New Methods of Electric Treatment of Traumatic Muscular Atrophy. Delherm and Laquerrière.
59 Typhomalaria in Palestine. E. Arab.

February 17, No. 14, pp. 121-128

60 *Ichthyosis and Thyroid Anomalies. E. Weill and G. Mouriquand.
61 Difficulties of Diagnosing Incipient Coxalgia. J. Calvé.

February 20, No. 15, pp. 129-136

62 Gastrointestinal Disturbances in Incipient Scarlet Fever. (Les troubles gastrointestinaux du début de la scarlatine.) C. Lesieur and L. Baur.
63 Necessity for Restriction of Tea, Coffee and Chocolate with Excess of Uric Acid in the Urine. A. Martinet.

60. **Thyroid Treatment of Ichthyosis.**—Weill and Mouriquand report in detail two cases of congenital ichthyosis in which the connection between the affection and defective functioning of the thyroid was plainly apparent. The first patient was a child with congenital ichthyosis and signs of latent myxedema. Thyroid treatment was commenced at the age of five months; in two months the ichthyosis had mostly subsided and in two months still later it had entirely disappeared. The thyroid treatment was then suspended and a preparation of arsenic given, when the ichthyosis returned, but yielded again to resumption of thyroid treatment which the child seemed to tolerate perfectly. All evidences of myxedema had likewise vanished and the child is now normally intelligent and lively. A second child born later also presented the congenital ichthyosis. The effects of thyroid treatment were equally evident in the second case reported, in which there were also signs of myxedema and a mongolian aspect. In conclusion, they review a number of cases from the literature in which the ichthyosis coincided with total absence of the thyroid or destructive lesions in the gland or with symptoms indicating defective or perverted thyroid functioning. Bourneville has encountered five cases of ichthyosis in children with myxedema. In another group of cases the connection between the ichthyosis and the thyroid was evidenced only by the prompt cure under thyroid treatment. Weill is convinced that certain cases of ichthyosis ascribed to inherited syphilis were really of thyroid origin, the thyroid lesion being possibly secondary to the syphilis. He believes that sufficient data are at hand to demonstrate the influence of the thyroid on the nutrition of the subcutaneous cellular tissue (myxedema) and of the derma (scleroderma in exophthalmic goiter and in myxedema). It is logical, therefore, to ascribe a similar influence to it in the development of the superficial layer of the skin, so that disturbance in thyroid functioning may possibly entail ichthyosis.

Revue de Chirurgie, Paris

February, XXIX, No. 2, pp. 229-444

64 *Treatment of Aneurisms at the Base of the Neck by Simultaneous Ligation of the Right Common Carotid and Subclavian Arteries. Ligation of Thoracic Aorta. A. Guinard.
65 *Radical Operation for Cancer of the Biliary Passages. (Cancer des voies biliaires.) E. Quénu.
66 *Results of Hyperemic Treatment. (Quelques résultats de la méthode de Bier.) R. Dupont.

64. **Treatment of Aneurism in the Neck.**—Guinard reviews the various methods of treating aneurisms of the base of the neck and commends simultaneous ligation of the carotid and subclavian on the right side, commencing always with the carotid. He says that the aneurism can be pushed to one side if it hides the vessels to be ligated. Silk or catgut can be used, and drainage is not necessary unless the operation has been particularly long and difficult. His experience with fifteen cases has shown, he asserts, that this technic is simple and harmless. This method of treatment is applicable for all aneurisms at the base of the neck, whether on the ascending portion of the aorta to the right or on the subclavian or common carotid. The results are better, the greater the distance between the aneurism and the heart. The symptoms in respect to the pulse, sphygmography and compression of neighboring organs are deceptive, but radioscopy may render good service. Recent statistics in regard to aneurism of the innominate artery or its branches report 100 per cent. operative cures. In conclusion, Guinard relates a case of aneurism at the left end of the arch of the aorta in which the patient insisted on operative intervention as the last resort. He ligated the aorta below the aneurism, which was very easily done. As the ligature was drawn tight the femoral pulse stopped at once and the lower part of the body grew pale and cold, but in less than fifteen minutes circulation became re-established and the parts grew warm again. The upper part of the trunk and the head began to sweat profusely, suggesting that the kidneys were not working properly and that uremia was impending. This proved to be the case, and the patient succumbed to total anuria, the result of the reduction in the blood pressure in the renal arteries. After ligation of the aorta in the thorax the intercostal anastomoses were sufficient to supply the abdominal aorta and the legs with blood, but the physiologic functions of the kidney, requiring a considerable degree of blood pressure in the renal arteries, were totally arrested by the reduction in the intra-arterial pressure. This is the reason why ligation of the aorta above the renal arteries proves inevitably fatal.

65. **Cancer of the Biliary Passages.**—Quénu presents the balance-sheet of these operations and discusses the different types in detail. He knows of only a single case of permanent cure, and the limitation of the cancer seems to be the only justification for intervention. He adds that until we can differentiate circumscribed cancer of the common bile duct or of the ampulla of Vater, chance alone will reveal the really operable cases and yield an exceptional success.

66. **Hyperemic Treatment of Surgical Tuberculosis.**—Dupont reports fourteen cases in which Bier's various hyperemic measures were employed. Bier's technic was followed in every detail except that treatment was not kept up so long as he advises. The results were only fair or uncertain, and seem to show that while constriction hyperemia is harmless and may be useful in "open" tuberculosis, it is dangerous in the "closed" cases.

Archiv für Gynaekologie, Berlin

LXXXVII, No. 2, pp. 233-495. Last indexed Jan. 30, p. 422

67 *Operative Treatment of Uterine Carcinoma. A. Scheib. Commenced in No. 1.
68 *Uterine Carcinoma and its Metastases in Pleura and Lungs. H. Offergeld.
69 *Uterine Carcinoma and its Metastases in the Abdominal Cavity. (Die Metastasen in der Bauchhöhle beim Uteruscarcinom.) Id.
70 Activity of Ovary during Pregnancy. (Thätigkeit des Ovariums in der Schwangerschaft.) O. O. Fellner.
71 *Prognostic Importance of Bacteriologic Examination in Abdominal Removal of the Uterus for Carcinoma. C. Barth.
72 Corpus Luteum and Impermeable Follicles in the Human Ovary, and their Cystic Derivatives. F. Cohn.
73 Carcinosarcoma of the Uterus. H. Forssner.
74 Hemolysis by Streptococci during Pregnancy and Puerperium. W. Sigwart.

67. **Uterine Carcinoma.**—Scheib comments rather pessimistically on the chances of cure of uterine cancer when the lymph nodes in the region are already involved. Even when the operation is extremely extensive, the outcome is not much better than without. Extensive abdominal operation is liable to give results unattainable with simple vaginal extirpation in cases of carcinoma of the cervix involving adjoining tissue or the vagina. The mortality of the most extensive operations does not seem to be any higher than with the less mutilating, and will undoubtedly be still further reduced. His article is based on the experiences with uterine cancer at Kleinhans' clinic at Prague; this material is classified and analyzed from various points of view, especially the remote results, and compared with the reports from other clinics.

68. **Metastasis of Uterine Cancer in Pleura and Lungs.**—Offergeld states that study of the literature has shown that metastasis in the lungs of uterine carcinoma is encountered in from 5 to 7 per cent. of all cases, but does not cause symptoms. The metastases are generally found in the central tissue and the marginal portions of the lower lobe, similar to the location of infarcts. Metastasis in the pleura is much rarer, and occurs only in advanced stages of uterine cancer.

69. **Metastasis of Uterine Carcinoma in the Abdomen.**—Offergeld summarizes his study of this subject in the statement that secondary nodules may develop in the peritoneum even during the early phases of uterine carcinoma, but, as a rule, this does not occur until an advanced stage. The favorite points for them are in Douglas' cul-de-sac and the vault of the diaphragm. He does not attempt to determine whether these nodules are secondary or merely indicate a primary multiplicity of the cancer. The secondary nodules in the omentum and muscles of the intestinal tract are of lymph-borne origin. They may cause a tumor with peritonitis and stiffening of some part of the intestine, but they usually de-

velop without symptoms. There is metastasis in the liver in from 5 to 15 per cent. of all cases, and the secondary growth should be excised with the uterine cancer. The biologic ferment action of the liver wards off cancerous invasion, which does not occur unless the functioning of the organ is impaired. If metastasis develops, it usually runs an insidious course, which is also the case when the metastasis is located in the pancreas—an extremely rare occurrence. This metastasis is generally in the head of the pancreas. In one case on record it was differentiated by the "obstructive jaundice," and in another by the positive findings with Sahli's glutoid capsule test.

71. **Bacteriologic Examination of Uterine Cancer Before Operation.**—Barth relates experiences to sustain his assertions in regard to the necessity for bacteriologic examination to determine the prognosis of surgical measures. He has found that about 50 per cent. of all cases of uterine cancer show infection with hemolytic streptococci. Their presence in the peritoneum, determined while the patient is still on the operating table, after closure of the wound in the floor of the pelvis, is a bad sign. He urges the importance of further search for measures to re-enforce the peritoneum in its struggle against hemolytic streptococci.

Berliner klinische Wochenschrift

February 15, XLVI, No. 7, pp. 285-332

75 Examination and Prognosis of Injuries of Internal Ear. (Untersuchung und Begutachtung der Verletzungen des Inneren Ohres.) B. Heine.
76 Visceral Ptosis a Constitutional Anomaly. A. Albu.
77 Case of Professional Roentgen-Ray Carcinoma. H. Coenen.
78 Implantation Carcinoma in Bladder Mucosa. (Implantationscarcinoma in der Harnblasenschleimhaut.) S. Suzuki.
79 Transient Intoxication from Bismuth Paste Treatment of Fistulas. (Zur Wismuthbehandlung nach E. Beck.) F. Rosenbach.
80 Differential Importance of Puncture of the Brain. (Hirnpunktion.) E. Forster.

February 22, No. 8, pp. 333-380

81 Transplantation of Pieces of Vessels in Other Hollow Organs. (Versuche zur Transplantation lebender Gefässstücke auf andere Hohlorgane des Körpers.) A. Tietze.
82 New Apparatus for Maintaining Positive Pressure in the Lungs during Operations. (Wert des Druckdifferenzverfahrens für die Lungenpleurachirurgie, und über eine neue Ueberdruckkammer.) F. Karewski.
83 *Visceral Ptosis. (Zur Lehre von der Splanchnoptose.) L. Landau.
84 Local Irritation and Reactions of the Skin. (Lokale Hautreize und Hautreaktionen.) Külbs.
85 *Diagnosis of Pancreatic Affections. (Zur Diagnose der Pankreaserkrankungen. Die Cammidge'sche Reaktion.) F. Eichler and H. Schirokauer. Id. L. Caro and E. Wörner.
86 Chemical Test for Adrenalin in Blood Serum. G. Comessati.

83. **Visceral Ptosis.**—Landau protests against the assumption that visceral ptosis is always a congenital condition, a sign of degeneracy. He thinks that it is the result of various factors which debilitate and relax the abdominal walls. The aim should be to remove the cause, nourish the patient by rest and superfeeding, restoring tone and elasticity to the abdominal walls by physical measures, hydrotherapy, massage and electricity. Above all, efforts must be made to strengthen the different abdominal muscles, the transverse and oblique, etc. A number of the Swedish movements are especially adapted to stimulate to independent contraction the various muscles in the back, chest and abdomen and thus strengthen them. In addition to these measures, suitable bandages or corsets should be worn while at work to support and retain the viscera in their proper place. He has been so successful with treatment along these lines in a large number of cases that his success proves the correctness of this conception of the etiology and curability of enteroptosis. It renders the outlook for treatment much more encouraging than if the condition be accepted as a congenital anomaly.

85. **Diagnosis of Affections of the Pancreas.**—This communication from Senator's clinic at Berlin gives the result of application of the Cammidge test to the urine in a large number of dogs with experimental pancreatitis. The findings were positive in only a few cases and only occasionally in them, so that the results conflict with the assertions of Cammidge in respect to the frequency of the reaction. The findings were also negative in two patients operated on later, one with chronic indurative pancreatitis with atrophy; the other with fat tissue necrosis. Caro and Wörner report a case of subacute hemorrhagic pancreatitis and one of atrophy of the pancreas from compression by a sarcoma in the stomach wall; in both these cases the Cammidge reaction was positive.

Correspondenz-Blatt für Schweizer Aerzte, Basle

February 1, XXXIX, No. 3, pp. 73-104

87 Extension Treatment of Fractures. (Behandlung der Knochenbrüche durch Extension.) A. Wettstein.
88 *Congenital Malformation of the Radius. K. v. Sury.

February 15, No. 4, pp. 105-144

89 Value of Iodoform Filling for Cavities in Bone. (Ueber die v. Mosetig-Moorhof'sche Jodoformknochenplombe.) H. Brun.
90 Medicinal Treatment of Hyperacid Conditions in the Stomach. (Hyperaciditätszustände des Magens.) P. Rodari.
91 Rupture of Symphysis during Delivery. P. Scheurer.

88. **Congenital Malformation of the Radius.**—Sury reports two cases of malformation of the radius with backward dislocation, the radius and ulna having grown together at the upper end in one case. The backward dislocation of the radius in the other case was bilateral and the mother, grandmother and a sister of the latter all had the same deformity. The malformation interferes with work, as supination is impossible, and when this dislocation follows a trauma it entails serious incapacity. The literature on the subject is reviewed.

Deutsches Archiv für klinische Medizin, Leipsic

XCV, Nos. 3-4, pp. 211-406. Last indexed Feb. 13, p. 598

92 Breaking Down of the Amino Acids in the Healthy and Diseased Organism. (Abbau der Aminosäuren.) O. Neubauer.
93 Intra-abdominal Pressure with Ascites. (Ueber den intraabdominellen Druck bei Ascites.) W. Weitz.
94 Infectious Endarteritis and Formation of Nodules in Malignant Rheumatic Endocarditis. (Zur Kenntnis der sogenannten Endarteriitis infectiosa und der Knötchenbildung bei rheumatischer maligner Endokarditis.) R. Takayasu.
95 Research on Purin Metabolism and on Influence of Alcohol on Elimination of Uric Acid. (Zur Lehre vom Purinstoffwechsel und zur Frage über den Alkoholeinfluss auf die Harnsäureausscheidung.) A. Landau.
96 Position of Stomach, Erect and Recumbent. (Lage des Magens im Stehen und Liegen.) Hiller.
97 *Case of Complete Obliteration of Aorta at Mouth of Botallo's Duct. H. Strassner.
98 Uric Acid Content of Arterial Blood. (Ueber den Harnsäuregehalt des arteriellen Blutes.) P. Salecker.
99 Action of Products of Digestion from Typhoid Bacilli. (Wirkung von Verdauungsprodukten aus Typhusbazillen.) M. Matthes.
100 Non-bacteriolytic Preventive Serum against Typhoid Bacilli. Id.
101 *Treatment of Bronchial Affections by Raising the Foot of the Bed. (Behandlung von Bronchialerkrankungen mit Schräglage.) P. Schäfer.
102 Yeast Fungi in Urine. (Vorkommen von Hefe im Urin.) A. Weber.

97. **Complete Obliteration of Aorta at Botallo's Duct.**—Strassner's patient was a shoemaker of 36 who had acute articular rheumatism twice before 18, but had been healthy since until 1907 when he acquired a cough and the abdomen became enlarged with progressive signs of aneurism of the aorta and mitral insufficiency. Autopsy revealed complete obliteration of the aorta at Botallo's duct, evidently a congenital malformation.

101. **Treatment of Bronchial Affections by Raising the Foot of the Bed.**—Schäfer reports the experiences at Quincke's clinic at Kiel with the sloping position—*Schräglage*—suggested by Quincke to utilize the force of gravity to promote expulsion of bronchial secretions. The patients lie flat in bed, on the back, the head turned to one side to be able to expectorate more readily. When they have learned to do this, the foot of the bed is raised from 8 to 12 inches for two or three hours every morning, before 9 a. m., and again in the evening if desired. It is astonishing to observe the amounts of secretion which are expelled at times under these conditions, the patients being relieved so that they are free from cough and expectoration for the rest of the day, and fever from the retained secretions rapidly subsides. In the 29 cases related, benefit was pronounced whenever it was possible to influence the accumulated secretions by the force of gravity. The method is especially useful for all cases of sac-shaped and cylindrical bronchiectasia of the lower lobes, accompanied by chronic cough and expectoration. It is also useful in catarrhal conditions, with acute onset but long-protracted course, especially in elderly people with their less elastic thorax and bronchi. The method is also valuable for locating the source of the secretion by the success or failure of the measure.

Deutsche medizinische Wochenschrift, Berlin

February 18, XXXV, No. 7, pp. 281-328

103 Treatment of Inebriety. (Behandlung der Trunksucht.) L. W. Weber.
104 Specific Organotherapy of Incipient Senile Cataract. (Spezifische Organtherapie des beginnenden Altersstares.) P. Römer.
105 *Tuberculin Treatment of Tuberculosis in Infants and Children. (Therapeutische Verwendung des Tuberkulins bei der Tuberkulose der Säuglinge und Kinder.) A. Schlossmann.
106 Food Requirements of Backward Infants. (Energiebedarf der in der Entwicklung zurückgebliebenen Säuglinge.) J. Rosenstern.
107 Kuhn's Peroral Tube with Reference to Positive Pressure Technic. (Die Kuhnsche Tubage mit Berücksichtigung des Ueberdruckverfahrens.) F. Lotsch.
108 Report of 3,000 Cases of Scopolamin-Chloroform-Ether Anesthesia. J. Schoemaker.
109 Convenient Method of Local Application of Moist Heat or Alcohol. (Bequemer warmer Umschlag.) Schimmelpfennig.

105. **Tuberculin Treatment for Infants and Children.**—Schlossmann has found tuberculin very useful in treatment of children, but the tuberculous child does not react with formation of antibodies until rather large doses are given. Treatment should therefore commence with a stage of small doses, to render the child's organism tolerant to the tuberculin. This should be followed by a period of prolonged treatment with large doses at suitable intervals, and production of antibodies follows. He has never observed untoward effects from the large doses in any case. He is convinced that the children were doomed from the start in the cases in which the cautious use of tuberculin failed to arrest the tuberculous process. These occasional failures should not deter from the use of tuberculin, which he regards as the best means of diagnosis and therapeutics at our disposal in the fight against tuberculosis in children. Among the experimental experiences related were some with guinea-pigs artificially fed after birth; deprived of their natural food they displayed much less resistive vitality. The child reacts to tuberculin with vigorous production of antibodies when it has reached a tolerance for the dose of 0.1 gm. (1.5 grains) of tuberculin.

Deutsche Zeitschrift für Chirurgie, Leipsic

February, XCVII, Nos. 3-4, pp. 177-438

110 Experimental Research on Coagulation-Inhibiting Influence of Hirudin in Living Organism. (Gerinnungshemmenden Einfluss des Hirudin im lebenden Tierkörper.) H. Rimann and W. Wolf.
111 *Rovsing's Symptom of Appendicitis. O. Füster.
112 *Transplantation of Thyroid Tissue in Various Organs. (Schilddrüsenverpflanzungen in verschiedene Organe.) A. Carraro.
113 Anomalous Formation of Mesentery and its Relation to Ileus. (Anomale Mesenterialbildung und ihre Beziehung zur Aetiologie des Darmverschlusses.) G. E. Konjetzny.
114 *Surgical Treatment of Cancer of the Lip. (Zur chirurgischen Behandlung des Lippenkrebses.) P. Steiner.
115 *Acute Inflammation and Hyperemic Treatment. (Behandlung akuter Entzündungen mit Bierscher Stauungshyperämie.) W. Lossen.
116 *Tuberculous Glandular Processes in the Neck. (Halsdrüsentuberkulose mit besonderer Berücksichtigung ihrer Chirurgie.) A. Most.
117 Nature of Hemorrhoids. (Wesen der Hämorrhoiden.) R. Torikata.
118 Improvisation of a Brauer Positive-Pressure Apparatus for Experimental and Clinical Work. (Improvisierung eines Brauerschen Ueberdruckapparatus für Operationen.) H. Eggenberger and H. Iselin.
119 Contusion of Abdomen with Rupture of Wall and Total Transverse Section of Intestine. T. Haagn.

111. **Indirect Production of Pain at McBurney's Point.**—Füster has been testing Rovsing's sign in 62 cases suggesting appendicitis; pressure was applied on the left side at a spot corresponding to McBurney's point on the other side. Rovsing found that pain could be thus indirectly elicited at McBurney's point, and suggested this as another sign of appendicitis. Füster's experiences fail to confirm the reliability of the sign, as there did not seem to be any regularity in the findings. They were negative in a number of typical cases of appendicitis, constantly negative in 12 chronic cases and in 8 very mild acute cases and in 8 out of 12 gangrenous cases before perforation and in 22 out of 28 similar cases after perforation. The sign was particularly pronounced in a case which proved to be one of sarcoma of the kidney with the region of the appendix normal.

112. **Transplantation of Thyroid Tissue.**—Carraro obtained the best results in his experimental research with thin discs of thyroid tissue implanted in the subcutaneous tissue. One side of the transplanted piece must be still covered with some of the connective tissue capsule of the thyroid gland to ensure its vitality.

114. **Cancer of the Lip.**— Steiner states that during the last ten years 158 primary operations were done for cancer of the lip at Dollinger's clinic at Budapest. About 70.7 per cent. of the patients with primary operation were free from recurrence at the end of three years, and 69.6 per cent. at the end of five, and 10 per cent. of the 42 patients requiring operation for recurrence.

115. **Hyperemic Treatment of Acute Inflammations.**—Lossen declares that Bier is to be credited with a great advance in the treatment of suppurative inflammation of tendon sheaths, as only 33 per cent. of the cases at Bardenheuer's clinic now heal with defective functioning in comparison with the former large proportion of 85 per cent. It does no good but rather harm to induce the artificial hyperemia if ample outlet for the pus is not provided. In 23 of the 34 cases described the lesion healed without impairment of function. He reiterates that with suction or constriction hyperemia we are able to accomplish—with a small incision—what otherwise is realized only by extensive incisions and too often resulting adhesions and disfigurement. Another important indication for hyperemic treatment is when a wound does not seem to be secreting and healing normally. By applying suction the products of the inflammation are drawn outward. This was evidenced especially in a case of phlegmon of the orbit and one of suppuration in the hip joint and in a number of cases of periproctitis in which suction through the fistula hastened healing to a remarkable extent. In this form of suppurative periproctitis the softening of the infiltration must be promoted by cataplasms. He succeeded in healing abscesses containing large amounts of purulent pus in less than two weeks. Furuncles and carbuncles on the face and neck also subsided under puncture and suction treatment. The suction was generally re-enforced by superheated air or electric light baths; this aided in softening the infiltration and the suction completed the cure. In one case the carbuncle was from 10 to 15 cm. in diameter and a complete cure was realized in this way in fifteen days. His experience reaffirms the efficacy of constriction hyperemia as an important aid in tuberculosis, gonorrheal and other joint affections, also for pure fungus without tendency to softening, for all gonorrheal inflammations and in all incipient acute inflammations. Hyperemic treatment is contraindicated, he thinks, in infiltrated and fibrous inflammatory tissue, as in a streptococcus phlegmon; in glandular processes that have not reached the stage of softening; in lymphangitis and lymphadenitis, and in certain cases of osteomyelitis, felon, erysipelas and diabetic phlegmons. Hyperemic treatment, he adds, requires extreme attention from the physician to enable him to recognize retention of pus and to ward off excess of edema and impending adhesions. He gives in conclusion the details of his cases of tendon sheath phlegmons.

116. **Prevention and Treatment of Tuberculous Glandular Processes in the Neck.**—Most gives here a thorough study of the pathologic anatomy and clinical findings in these cases and the indications for and results of operative treatment, with discussion of the preferable technic. The glands frequently become infected through patches of eczema, cracks, sores, etc., especially those near the junction of the mucosa with the skin, and prophylaxis should be based on this fact. The teeth are rarely the portal of entry for tuberculous infection, and pathologic anatomy does not confirm the assumed frequency of infection of the glands in the neck by way of the throat and nose. Infection by these routes does occur, but it is rare. All inflammatory affections of the head and neck, especially in children, require careful treatment, whether they are already tuberculous or not, to prevent tuberculous involvement of the deeper glands. If the glands swell and if there is no urgent haste, general tonic measures and others to promote absorption are in order, but it is not wise to apply iodin locally as it is liable to induce irritation. As the child improves under these general meas-

ures the swollen glands may subside, but if not, a radical operation should follow, bearing in mind that cervical glandular tuberculosis is almost invariably a strictly local process spreading merely from the primary source to the peripheral group of connected glands where the process is kept circumscribed. But as each gland involved is a menace to the entire organism, the aim should be to remove every particle of infected matter. Systematic radical extirpation in general anesthesia should be the rule; from 50 to 60 per cent. of the patients thus treated have been permanently cured to date and this proportion is constantly increasing. He gives illustrations of the connections between different groups of glands in the region, and insists particularly on the importance of operating in such a clean manner that the wound does not become infected with diseased tissue. The low "collar incision" permits ample access while it leaves less disfigurement than other technics.

Fortschritte der Medizin, Leipsic

February, XXVII, No. 4, pp. 145-192

120 Practical Importance of Serodiagnosis of Syphilis. (Praktische Bedeutung der Wassermann'schen Syphilisreaktion.) W. Hancken.
121 Treatment of Pulmonary Tuberculosis with Cinnamic Acid. (Indikationen und Technik der Hetoltherapie.) R. Weissmann. Commenced in No. 3.

Jahrbuch für Kinderheilkunde, Berlin

February, LXIX, No. 2, pp. 129-250

122 *Clinical Importance of Elimination of Phosphates in Urine of Infants. (Die klinische Bedeutung der Phosphorausscheidung im Harn beim Brustkind.) L. Moll.
123 Eosinophiles and Opsonic Index in the Exudative Diathesis. H. F. Helmholz.
124 *Action of Deprivation of Food in the Various Stages of Food Intoxication. (Wirkung des Hungers in den verschiedenen Stadien der Ernährungsstörung.) L. F. Meyer and J. Rosenstern.
125 Infant Mortality in Bavaria and its Causes. (Die geographische Verteilung der Säuglingssterblichkeit im Königreich Bayern in den Jahren 1862-1900 und ihre Ursachen.) W. Hoerner.
126 Tumor on Frenum of Tongue. (Die Riga-Fedesche Krankheit.) M. Abetti.
127 Sarcoma of Adrenal in Infant. (Kongenitales Sarkom der Nebenniere bei einem achttägigen Kinde.) W. P. Shukowsky.

122. **Excretion of Phosphoric Acid in Infants' Urine.**—Moll presents evidence to show that the healthy infant does not excrete phosphoric acid in the urine to any appreciable extent, but that digestive disturbances are at once followed by increased elimination of phosphates. The phosphate content in the urine is thus an early and reliable sign that distinguishes the sick child even before any other signs have attracted attention to the derangement. Moll's research is especially valuable as it includes the findings in enough healthy children to establish a standard. The article is to be continued.

124. **Influence of Deprivation of Food in Various Stages of Food Intoxication.**—Meyer and Rosenstern report from Finkelstein's clinic at Berlin that the effect of putting a child with alimentary intoxication on a starvation diet varies within a wide range according to the stage of the digestive disturbances. During the early stages the effect is beneficial in the highest degree, but when the child is debilitated from long chronic dyspepsia, the starvation diet may aggravate conditions to such an extent that the child succumbs even to one day of it. They give detailed descriptions with tracings of typical examples of each of these classes of cases. In the second class, the starvation diet—restriction to weak tea for twenty-four hours—was followed by permanently subnormal temperature and slowing of the previously normal pulse. It is important, therefore, before putting the child on the tea diet to ascertain whether it is a healthy child suffering from acute dyspepsia and food intoxication, in which case great benefit will be derived from temporary suspension of food. The pulse of the infant asleep is about 120, the range being from 100 to 130 a minute. When awake, the pulse varies within a very wide range. The temperature at 6 a. m. and at 4 p. m. gives a nearly horizontal tracing, varying only from 36.8 to 37.2 C. (98 to 99 F.) in health. The chronically ailing infant, on the other hand, is inclined to subnormal temperature from 36 to 36.8 C. (96.8 to 98 F.) and pulse rate of from 66 to 100, averaging only 86 or 90. If such a child is restricted to weak tea for a day the temperature and pulse drop still lower and the aggravation of the condition may prove fatal in these cases in which the preceding protracted dyspeptic disturbances have modified the general condition with resulting functional insufficiency of the tissues.

Medizinische Klinik, Berlin

February 14, V, No. 7, pp. 236-268

128 Treatment of Affections of Cornea. (Therapie der Hornhautaffektionen.) Wiedemann.
129 Relations between Female Generative Processes and Cholelithiasis. J. Hofbauer.
130 *Serodiagnosis of Syphilis during Years Immediately Following Infection. (Bedeutung der Wassermannschen Reaktion bei der Syphilis während der ersten der Infektion folgenden Jahre.) F. Blumenthal and Roscher.
131 *Symptoms Suggesting Appendicitis during Lobar Pneumonia. H. Bennecke.
132 Mechanical Regulation of Heart as Method of Exercising it in Heart Disease. (Uebungstherapie bei Herzkranken.) M. Fisch.
133 Choked Disc. (Zur Theorie der Stauungspapille.) W. Thorner.
134 Cultivation of Serum-fast Strains of Trypanosomes. (Herstellung von serumfesten Trypanosomenstämmen.) M. Jacoby.

130. **Serodiagnosis of Syphilis Soon After Infection.**—Blumenthal and Roscher report experience with the Wassermann test applied to 231 patients, 207 of whom presented signs of syphilis, while 4 of the others were "suspects." They found that the reaction is always negative until the sixth or eighth week and then it gradually increases in intensity until the course of the disease is modified by mercurial treatment. During the active secondary stage the reaction was invariably positive. In the few cases in which the first test was negative, a repetition gave strongly positive findings. The influence of mercurial treatment was evident but not always distinct; even especially energetic measures did not always succeed in abolishing the reaction. The duration of the courses of treatment should not be determined by the findings of this test. In some cases the findings, negative at first, became positive under mercurial treatment. They do not think that the reaction during the first year following the infection has any significance for the prognosis. The varying findings in one and the same patient, the occurrence of new manifestations after negative findings, and the development of positive findings when treatment was commenced during a latent phase—all this shows the inadvisability of omitting or suspending treatment on the basis of a negative response to the test.

131. **Appendicitic Symptoms in Pneumonia.**—Bennecke states that in two of the twenty-one cases of lobar pneumonia with symptoms suggesting appendicitis, an operation was undertaken for the supposed appendicitis. His experience confirms the strange fact that pneumonia in the right upper lobe is most liable to be accompanied by these peritoneal and abdominal symptoms. These twenty-one cases were encountered in 99 cases of lobar pneumonia in the last few years. In only eight of the twenty-one was the course of the pneumonia of the ordinary type; in the others it was comparatively brief or otherwise atypical.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XIX, No. 4, pp. 553-736. Last indexed Jan. 2, p. 83

135 Tuberculoid Changes in Peripheral Nerves in Lepra nervorum. H. Shiota.
136 Sensibility of Abdominal Organs. (Sensibilität der Bauchorgane.) L. Kast and S. J. Meltzer (New York).
137 Lesions in Pancreas and Liver in Relation to the Chromaffine System. S. Kostlivy.
138 Necrosis of the Pancreas and Chronic Pancreatitis. O. Hess.
139 *Experimental Research on Influence of Trauma on the Heart. (Herz und Trauma.) Külbs.
140 *Foreign Body Pseudotuberculosis of Peritoneum. (Zur Fremdkörpertuberkulose des Peritoneums.) M. Brandes.
141 *Case of Inflammatory Thrombosis of almost Entire Peripheral Venous System. ("Springende Thrombosen"; "Thrombophlebitis migrans.") K. Försterling.

139. **The Heart and Trauma.**—Külbs has been making an experimental study of the importance of trauma in the development of heart affections, and summarizes the results in the statements that extensive injury of the heart almost invariably followed slight contusion of the thorax, even when the skin and thorax wall showed no special changes. The injury induced hemorrhages, most frequently in the valve tissue, but sometimes in the myocardium and pericardium. The hemorrhage in the valves was generally reabsorbed; in the muscle it was followed by production of connective tissue. The

hemorrhage at the base of the valves sometimes extended far into the muscle and left a material defect. It was remarkable that even when gross anatomic changes were found at autopsy, auscultation and the pulse frequently gave no hint of cardiac insufficiency during life. The elasticity of the thorax is evidently an important factor in determining the extent of the injury from the trauma. His experiments were made on thirty-four dogs; the details are given in tabulated form for comparison.

140. **Foreign Body Pseudotuberculosis of the Peritoneum.**—Brandes refers to the granulation tissue which forms around small foreign bodies finding their way into the peritoneum, the nodules thus formed deceptively simulating true tuberculosis. He reviews the history of this pseudotuberculosis and reports a case in which a man of 43 was operated on for perforation of a gastric ulcer. The abdominal cavity was mechanically cleansed of remains of food, and recovery was uneventful for three weeks. Then signs of gangrene of the lung developed, proving fatal in six weeks. The lung trouble was probably the result of particles of food getting into the air passages, as the patient had suffered from persistent hiccough for several days. Autopsy revealed a number of nodules in the peritoneum suggesting tuberculosis, but proving to be the walling off of particles of food left behind at the operation. The patient had complained of digestive disturbances for a few months and the perforation occurred immediately after a hearty meal of bean soup. This case is the fourth on record of "foreign body tuberculosis" after perforation of a gastric ulcer in adults. In this case the pseudotubercles were scattered over the entire abdominal cavity. The facts observed demonstrate that fatal peritonitis is not the inevitable outcome of perforation of the stomach, even when full of food. An early laparotomy may save the patient, or there may be a spontaneous cure by walling off of the particles of food by a natural formation of nodules which may simulate the lesions of tuberculosis or carcinosis. In conclusion, Brandes refers to a recently reported Russian case in which the abdominal cavity was found studded with subserous "tubercles" fourteen months after a firearm injury of the intestine. Each tubercle contained remains of vegetable matter encircled by giant and other cells, mostly fibroblasts and polyblasts—a typical example of this spontaneous encapsulation of particles of food escaping from the intestine into the peritoneum after the bullet wound. Recurrence of abdominal pain led to a laparotomy fourteen months after the primary injury, when the microscope was the only means of excluding tuberculous peritonitis.

141. **Multiple Thrombosis.**—Fösterling's patient was a young fireman of 24, previously healthy and robust until suddenly affected with thrombosis in the veins of both calves, then of the arms and later in turn of almost the entire peripheral venous system. In the course of these disturbances signs of pyloric stenosis became evident and relief was obtained by a gastroenterostomy, but the stomach trouble proved to be of malignant nature and the young man succumbed to metastasis in less than a year from the first symptoms of thrombosis. Fösterling compares the case with others of multiple thrombophlebitis in the literature. In only three cases did the extent of the thrombosis compare with his case, and none equalled it. His patient's blood was apparently normal in every respect, but the malignant disease must have existed prior to the first symptoms in the veins, and it is possible that the walls of the veins may have been exceptionally susceptible to the poisons generated by the cancer.

Münchener medizinische Wochenschrift

February 16, LVI, No. 7, pp. 321-376

142 *What is to be Learned from Clinical Measurement of Blood Pressure? (Was erfahren wir durch unsere klinischen Blutdruckmessungen beim Menschen?) F. Moritz.
143 *Distribution of Trichinæ. (Verbreitungsart der Trichinelle.) C. Stäubli.
144 *Practical Importance of Serodiagnosis of Syphilis for Surgical Affections. (Bedeutung der Wassermannschen Serum-Reaktion für die Differential-Diagnose der chirurgischen Syphilis.) W. Baetzner.
145 Eleven Cases of Congenital Dislocation of Hip Joint Hard to Cure. (Demonstration schwierig zur Heilung gebrachter Fälle von angeborener Hüftverrenkung.) P. Bade.
146 *Affections of Musculature of Bladder. (Erkrankungen der Harnblasenmuskulatur.) P. Asch.
147 *Fat-Zwieback Test Breakfast for Estimation of Motor Functioning of Stomach. (Die Strauss-Levasche Motilitätsprüfung des Magens mittels des Fettzwiebackfrühstücks.) E. Schenck, F. Tecklenburg and Dappers.

142. **Practical Value of Clinical Measurements of the Blood Pressure.**—Moritz is a pioneer in this line, and here states that the limits of solid knowledge are comparatively narrow, but that within these limits the measurement of the blood pressure has proved an important aid for diagnosis and for prophylaxis and treatment.

143. **Trichinosis.**—Stäubli has found that the trichina is comparatively frequent in rats, but that it soon kills them so that swine are the main source of infection. He is convinced that trichinosis is more common than is generally believed; but that it passes unrecognized, the patients complaining only of vague rheumatic disturbances.

144. **Serodiagnosis of Surgical Syphilis.**—Baetzner reports 25 cases which sustain the practical differential value of the serum reaction. It is disappointing in that it does not locate the lesion in any special organ, while at the same time negative findings are sometimes encountered in unmistakable syphilis.

146. **Affections of the Musculature of the Bladder.**—Asch has encountered eleven cases of enlarged trabeculæ in the bladder which there was nothing to explain. Seven of the patients were women, and the symptoms were frequent tenesmus, occasional pain and dribbling of urine. He ascribes the trouble to atrophy of part of the bladder musculature, the trabeculæ becoming enlarged as a compensating hypertrophy. He has cured the subjective symptoms in these cases by a kind of massage, stimulating the musculature to contract by injecting a hot solution of boric acid into the bladder under high pressure.

147. **The Fat Zwieback Test Breakfast for Estimating the Motor Functioning of the Stomach.**—The principle of the Strauss and Leva fat zwieback breakfast is to test the motor activity of the stomach by ingestion of a given amount of a substance which the stomach merely passes along and does not attempt to digest. The substance ingested must also resist fermentation processes. These conditions are realized with a given amount of zwieback with a rather large proportion of butter fat. The amount remaining in the stomach an hour later shows the condition of the motor function. The test was applied in 34 cases at Treupel's clinic at Frankfurt, the findings proving very instructive. This test has the further advantage that both the chemical and the motor functioning are determined at the same time with only the one simple test. The exact technic was described in the *Zeitschrift für klinische Medicin*, Berlin, 1908, lxv, page 61.

Wiener klinische Wochenschrift

February 18, XXII, No. 7, pp. 221-256

148 Present Conception of Scrofula. (Was nennen wir Skrofulose?) T. Escherich.
149 Hepatotoxin. G. Joannovics.
150 Reactivation of Hemolytic Immune Serum by Solutions of Hemotoxins and Serums from Cold-blooded Animals. (Reaktivierung von hämolytischem Immunserum durch Lösungen von Hämotoxinen und durch Kaltblütersera.) K. Landsteiner and J. Fürth.
151 Incarcerated Hernia in Ileocecal Recess. (Hernia recessus ileocoecalis incarcerata.) P. Preindlsberger.
152 Intramuscular Inguinal Hernia. V. Schiller.

Zeitschrift für klinische Medizin, Berlin

LXVII, No. 4, pp. 253-343. Last indexed Jan. 30, p. 427

153 *Influence of Temperature of Body on Sugar Content of Blood. (Einfluss der Körpertemperatur auf den Zuckergehalt des Blutes.) H. Senator.
154 Amebic Dysentery. Huber.
155 *Primary Neoplasms of the Heart. (Klinik der primären Neubildungen des Herzens.) R. Link.
156 Metabolism of Phosphoric Acid and Lime in Healthy Adults. (Phosphorsäure- und Kalkstoffwechsel beim erwachsenen, gesunden Menschen.) F. Oerl.
157 Bence-Jones' Albumosuria. A. v.Decastello.

153. **Influence of Temperature of Body on Sugar Content of Blood.**—Senator states that the proportion of sugar in the blood became very much increased in rabbits when they were kept in a hot place—once at a temperature of 109 F. The

proportion of sugar in the blood of the carotid was 24, 32, and 156 per cent. higher than in normal rabbits. There was also an increase, ranging from 8 to 30 per cent., in rabbits after puncture of a heat center. His experiences have fully established, for rabbits at least, that raising the temperature of the body is followed by an increased proportion of sugar in the circulating blood. He discusses whether the sugar is derived from the glycogen already on hand or from increased breaking down of albumin. In infectious febrile conditions the higher temperature and increased destruction of albumin have a tendency to increase the proportion of sugar in the blood, but, on the other hand, the action of the bacteria on the glycogen and sugar content and the patient's inanition would have an opposite tendency. He comments, in conclusion, on the fact that the urine may be free from sugar even when the proportion in the blood is abnormally high, possibly up to 2.8 per thousand. This is probably due to the lesser permeability of the kidneys, the result of the febrile process. It is similar to the retention of chlorids and lime salts in certain febrile affections.

155. **Primary Neoplasms in the Heart.**—Link gives an illustrated description of a spindle-celled sarcoma, involving both auricles, in a forester of 23 the most extensive case of the kind yet published. He compares it with 2 somewhat similar cases on record commenting on the slight clinical manifestations with such extensive destruction of the heart tissue. He also summarizes from the literature 11 cases of pedunculated tumors, generally growing from the wall of the septum into the left auricle and protruding into the ventricle, all fibromas or myxomas. The symptoms were those of mitral insufficiency or stenosis. In 2 other cases the primary tumor was located in the right ventricle; the patients were men of 32 and 37 and the symptoms were those of angina pectoris, with sudden death; in a third similar case the symptoms merely suggested increasing cardiac insufficiency. A fourth group includes 2 cases of carcinoma in both ventricles or in the aortic valve. An important sign of cancer in such cases is a hemorrhagic pericardial fluid if tuberculosis, scorbutus and trauma can be excluded. Link does not include in his review any cases of gumma of the heart or secondary tumors, but has succeeded in compiling a table of 91 cases of primary tumors. The list includes 10 in the right and 24 in the left auricle, 14 in the right and 8 in the left ventricle, 16 in valves, 3 in both auricles, 2 in both ventricles, 2 involving the entire right and 2 the entire left side of the heart, with 2 each in the septum between the auricles and the ventricles. Only 23 of the cases listed have more than pathologic-anatomic interest, as clinical data are lacking in the rest. The diagnosis of carcinoma is given in several cases in infants and older children, but with a query. A spindle-celled sarcoma was found on the aortic valve in a girl of 7, who had died suddenly. All ages, from birth to 81, are represented in the list.

Zentralblatt für Chirurgie, Leipsic

February 20, XXXVI, No. 8, pp. 249-288

158 Modification of Bassini Operation, especially for Large Hernias. A. Caminiti.
159 Implantation of Hepatic Duct in Jejunum. (Neue Operation an den Gallenwegen.) R. Dahl.

Zentralblatt für Gynäkologie, Leipsic

February 20, XXXIII, No. 8, pp. 265-296

160 Evidence against Placental Origin of Eclampsia. Lichtenstein.
161 *Extraperitoneal Cesarean Section. (Extraperitonealer Kaiserschnitt.) W. Latzko.
162 Catheter for Rinsing the Bladder. (Neu konstruierter Blasenspülkatheter.) S. Higuchi.

161. **Extraperitoneal Cesarean Section.**—Latzko's technic is so simple that in one of the three cases reported the whole operation was completed in 20 minutes. The principal advantages are that it is applicable to infected cases and that the operation proceeds with greater ease the longer labor has lasted, so that the obstetrician can calmly wait to give Nature every possible chance to complete the delivery unassisted. The bladder is partly filled and, after the incision on the median line, the bladder is drawn towards the right—the bladder being always naturally pushed rather to this side toward the close of pregnancy. It is easily separated from the enlarged cervix. The reflected portion of the peritoneum is pushed upward and the bulging cervix is easily incised. His technic was applied April 26, 1908, and reported May 8. It has the advantage which is possessed by both the Frank and Sellheim I methods, he says, while in addition it excludes all the danger of injury of the peritoneum.

Riforma Medica, Naples

February 8, XXV, No. 6, pp. 141-168

163 Tumors of the Base of the Brain. (I tumori della base dell'encefalo.) G. Rummo.
164 Relations between Kidneys and Adrenals. (Reni e capsule surrenali.) A. Baduel.

February 15, No. 7, pp. 169-196

165 Tumors of Base of Brain. (I tumori della base dell'encefalo.) G. Rummo.
166 *Paratyphoid Infection. (Febbricole da bacillo paratifoso.) L. Ferrannini. Commenced in No. 6.

166. **Paratyphoid Infection.**—Ferrannini concludes his long experimental and clinical study of this subject with the statement that paratyphoid infection is not always so mild as generally assumed. In about 200 cases on record there were 12 deaths, but of dubious explanation in 5 instances. His experience has shown that paratyphoid fever may persist for months with a pertinacity recalling Malta fever. On account of the lesser involvement of the digestive tract it compares favorably with typhoid. It is unnecessary to restrict the patient to a liquid diet, and this is the principal reason why it is so important to differentiate it from typhoid. The prophylaxis should be the same as for typhoid, with special care to refrain from the use of suspicious meat. The lingering fevers are of various etiology and differentiation is possible only with bacteriologic examination and serum reaction. The fever may be the work of the Bruce micrococcus, the paratyphoid or typhoid or colon bacillus or of the malaria germ or tubercle bacillus or of some still other infection. The varied clinical picture is the result of association of different infections, a bacterial symbiosis which modifies the differential characteristics of the single infections.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Dyke's Complete Course of Automobile Engineering. Consisting of one cloth bound book of 325 pages, with 220 illustrations, entitled Dyke's Troubles, Remedies and Repairs of the Auto and Gasoline Engine. Also 24 paper pamphlets detailing the lessons. Also working models of four-cycle engine and magneto. Price, $10.00. St. Louis: Dyke's Correspondence School of Motoring, 801 Bank of Commerce Bldg.

Practical Dietetics With Reference to Diet in Disease. By Alida Frances Pattee, Graduate Department of Household Arts, State Normal School, Framingham, Mass. Fifth Edition. Cloth. Pp. 358. Price, $1. Mount Vernon, N. Y.: A. F. Pattee.

Tuberculosis of the Nose and Throat. By Lorenzo B. Lockard, M.D., Laryngologist and Rhinologist to the Jewish Consumptives' Relief Society Sanatorium. Cloth. Pp. 368, with illustrations. Price, $5. St. Louis: C. V. Mosby Co., 1909.

Handbuch der Biochemie des Menschen und der Tiere. Herausgegeben von Prof. Dr. Phil. et Med. Carl Oppenheimer, Berlin. Installments 11, 12 and 13. Paper. Price, 5 marks each. Jena: Verlag von Gustav Fischer, 1909.

Appendicitis and Other Diseases of the Vermiform Appendix. By Howard A. Kelly, M.D. Cloth. Pp. 502, with illustrations. Price, $6. Philadelphia: J. B. Lippincott Co.

Transactions of the American Microscopical Society. September, 1908. Vol. xxviii. Twenty-ninth Annual Meeting Held at Ithaca, N. Y., June, 1906. Paper. Pp. 236.

National Association for the Study and Prevention of Tuberculosis. Transactions of the Fourth Annual Meeting, Chicago, June 5-6, 1908. Paper. Pp. 352.

Report of the Superintendent of Public Instruction. Fifty-fifth Report on the Public Schools of New Hampshire. Paper. Pp. 656, with illustrations.

Semi-Annual Bulletin of the Kansas State Charitable Institutions Under the Board of Control. Vol. 1. November, 1908. No. 2. Paper. Pp. 33.

The Centennial Celebration of the Foundation of the University of Maryland, 1907. Memorial volume. Cloth. Pp. 267, with illustrations.

Thirty-third Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains. 1908. Paper. Pp. 61.

Report of Dependency and Crimes Commission [of the State of New Jersey]. Paper. Pp. 23.

PROGRESSIVE THERAPEUTICS

THE SIGNIFICANCE OF ANESTHESIA IN THE TREATMENT OF INFLAMMATION.

By GUSTAV SPIESS, Frankfurt.

(Munch. Med. Wochenscrift, No. 8, 1906.)

For seven years the author has been impressed with the experience that inflammation can be prevented, provided the onset of any pain whatsoever is successfully guarded against. His experiments with artificial anesthesia were conducted with Orthoform and also Novocain, as preparations especially well adapted for the purpose. In case of subcutaneous or submucous application, Novocain was exclusively employed in the last 1½ years.

The essential feature consists in bringing the anesthetic agent as frequently, and in such intimate contact, with the wound, after operations on the tonsils, for instance, that the subjective painful sensations are either inhibited altogether, or remain limited to a minimum degree. The entire healing process was observed to take an essentially different course, when the wounded surface was thickly powdered with Orthoform, or thoroughly painted with a concentrated solution of Novocain. The operation itself having been rendered as painless as possible by previous anesthetization with cocain, Novocain, etc., the reparation process took a favorable course, in direct proportion to the frequency with which the anesthetic agent was employed. The same method of treatment, guided by the same principles, was followed by similar success in a series of other operations on the throat, such as the ablation of diseased portions of the pharyngeal tonsil, as well as in surgical interventions on the tongue or buccal mucosa, etc. The anesthesia was produced in such a way as to suit individual requirements; when superficial anesthesia did not suffice for the interference, submucous injections were employed, and when for some reason or other, the surface insufflation and painting were not strong enough for the after treatment, submucous injections were again resorted to. The latter proved especially serviceable in operations on the larynx, the majority of the observations concerning severe cases of laryngeal tuberculosis. The anesthesia method was found to be capable not only of preventing the onset of inflammation in recent wounds, in non-inflamed tissue, but also of exerting a most favorable influence on an existing inflammation. In the first place, the pain is invariably relieved, sometimes removed altogether, within a very short time. This relief in the subjective symptoms is associated with objective improvement. The essential point is to *produce* anesthesia in the inflamed parts, in the wounds of the inflamed tissue, and to *maintain* this anesthesia as long as possible. Wherever changes associated with pain exist in the larynx, pharynx, palate, or uvula, it should be treated with anesthetic agents, almost invariably to be followed by prompt relief of the pain; followed in its turn by the subsidence of all of the other objective symptoms.

The word pain is here meant to signify all the various degrees of painful sensations which are perceived, as well as all the stimuli passing along the centripetal receptor sensory nerves. A favorable illustration is supplied by the initial symptoms of incipient coryza. When these unpleasant sensations of soreness and dry heat, etc., have been controlled by the repeated insufflation of Orthoform, into the nasopharyngeal cavity, until everything feels entirely normal, then the attack itself fails to recur. Incipient coryza is readily aborted by this local anesthesia, whereas an attack at its height is not so easily controlled. The diseased focus must be anesthetized in its entire extent, not merely temporarily, with a single application, but thoroughly and permanently and repeatedly. The acute catarrhal conditions of the upper respiratory passages may thus be suppressed at an early stage, or at least prevented from assuming a severe degree.

The influence of the anesthesia was distinctly demonstrable in the case of furuncles, of such common occurrence in the cervical region. Under the injection of 1 to 1½ c.c. of an anesthetic solution (Novocain) into the center of the angry furuncle, this is seen to become pale and white, as in Schleich's infiltration. This pallor promptly yields to the color of the normal skin, and at the end of a few minutes, the furuncle has lost much of its painfulness. The infiltration subsides, and no abscess follows, unless one was already present in the center; even so, all is well again in two or three days. If the pain can not be relieved, however, the healing process takes a proportionately less favorable course. In several furuncles at the tip of the nose, especially troublesome on account of their extreme sensitiveness, the redness had almost entirely disappeared at the end of a few hours, the injection having relieved the pain almost instantaneously. The same favorable results were obtained by these injections in hordeolum in cases before the abscess had formed.

It is difficult to estimate whether the analgesia in these subcutaneous or submucous injections is referable to the anesthetic substances or the infiltration anesthesia. Possibly the two act together, mutually increasing each other's action.

In the case of small skin abrasions, lacerations, etc., which are often followed the next day by a mild inflammation, the climax of the reaction is reached at the instant of complete anesthesia with a thick watery paste of Orthoform, and the wound begins to heal. The inflammation incident to the bites of insects, such as wasps and mosquitoes, is successfully guarded against by rubbing an anesthetic remedy well into the lesion.

In several cases of herpes zoster, an attempt was made to control the burning pricking pains at the onset of the eruption, before the characteristic vesicles formed, by inunctions with Orthoform paste. This was reliably and permanently accomplished in the not very numerous cases treated in this manner. The small eminences as well as the surrounding redness disappeared, and the vesicles failed to develop. The accompanying neuralgia remained unaffected.

There arises the question as to how this effect is to be explained? Are antiseptic influences concerned in it, or does the inhibition of the painful stimuli play a part in this connection? However, the antiseptic action of the anesthetic agents employed for these experiments is very inconsiderable, so that we may inquire directly if it is not rather through their influence on the sensory nerve filaments, that these, and perhaps still other anesthetic substances, permit this prompt healing of the wounds, and this rapid removal of the inflammation.

Anesthetic agents diminish the irritability representing the centripetal sensory stimuli as a lessened, or inhibited, perception of pain in the sensory sphere. In the current views on the subject of inflammation, based on the fundamental work of Cohnheim, pain is accorded no importance at all in regard to the inflammation; where it is made to play a purely secondary part. The older theories of inflammation, which have been supplanted by Cohnheim's theory, still contain suggestions pointing to a connection of the sensory nerves with the circulatory conditions. Cohnheim makes the redness of inflammation exclusively dependent on an abnormal degree of repletion of the blood vessels, in the inflamed part; whereas no mention at all is made of a connection with the nerves. But such a dependence must be assumed to exist, according to all the practical experiments on human beings. These facts are incontestible, and we are taught by daily experience that in the control of the pain, we possess the means of influencing in an equally favorable manner, the other symptoms of inflammation. This is rendered most evident in regard to the inflammatory *redness.*

To summarize:

Inflammation fails to occur, where the reflexes, originating from the inflammatory focus and passing in the centripetal sensory nerves have been successfully inhibited by means of artificial anesthesia.

Inflammation that is already present is promptly relieved and cured by rendering the inflammatory focus anesthetic.

This anesthesia should affect the sensory nerves alone, without interfering with the normal action of the sympathetic (vasomotor) nerves.

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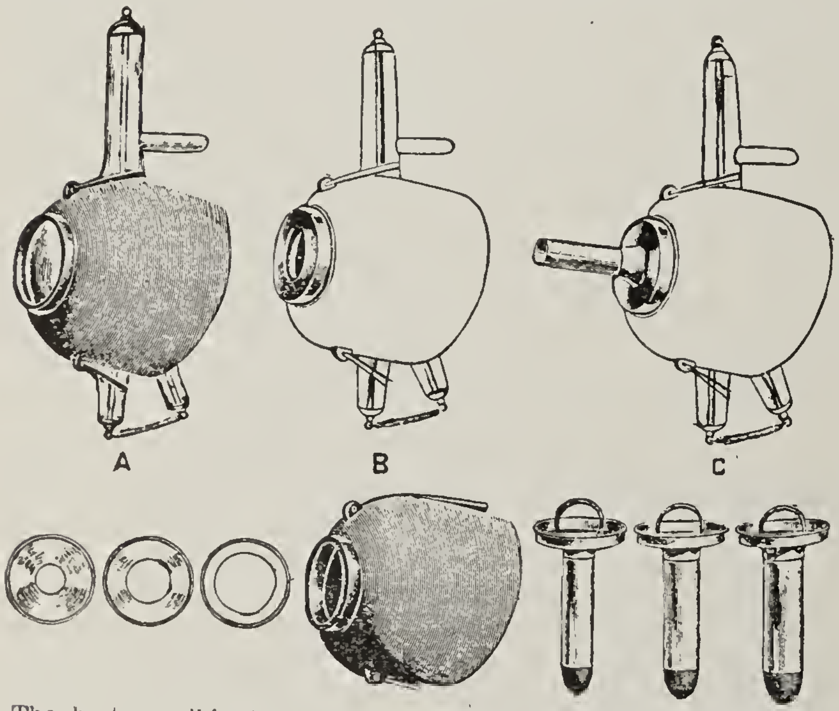

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PROGRESSIVE THERAPEUTICS

THE TREATMENT OF TYPHOID.

By PROF. DR. F. MORITZ.

(Reprinted from Strassburger medizin Zeitung, 1908, No. 1).

Permit me a few words, not on a modern, but a very old aspect of the question—namely the medical antipyresis of typhoid. The younger and youngest generations of physicians are educated in the water-treatment of typhoid, and I myself have formerly made almost constant use of hydrotherapy. My deceased teacher and former chief, Ziemssen, had been personally active in the development of this therapeutic resource which he preferred to other measures. But the old clinicians were not so exclusively devoted to hydriatic treatment of typhoid, as are the great majority of their successors. At least Liebermeister (Ziemssen's Cyclopedia) often used quinin in large doses 1.5 to 3 gm. (22½ to 45 grains) once daily. He stated once that when placed in the difficult position of choosing between hydrotherapy and the quinin treatment, he would select the latter. Later he had modified his ideas in this respect.

The quinin treatment never became incorporated into the subsequent management of typhoid, largely because of the disturbance to hearing thereby induced. The same may be said of the most modern antipyretics, such as phenacetin, antifebrin, and antipyrin, which at least in large doses are prone to cause heart weakness, as shown by the tendency to collapse.

It is, however, unjust to infer from the want of success of a certain series of antipyretics, that the principle of medical antipyresis is founded on an error. But such a claim has been made. I choose to believe, in accordance with a considerable number of recent authors, that good may be done by the exhibition of certain drugs closely allied to antipyrin, and especially Pyramidon (a dimethylamido combination of antipyrin). See description "New and Nonofficial Remedies."

The use of Pyramidon in the treatment of typhoid was first brought to light by the work of Valentini of the Danzig Hospital. This author, writing in 1903, praised Pyramidon to the skies and interested many others in this favorable opinion. I myself for some years have reported from time to time favorable results from Pyramidon, and the impression received therefrom is confirmed and strengthened during recent months by the results of a large series of typhoids treated systematically by this drug.

It would be but a relatively slight advance if Pyramidon had done no more than bring down temperature; leaving unaltered the toxic action which surely does not come from the elevated temperature on the central nervous system, causing in turn the conditions of deep sleep or somnolence, and eventually jactitation and delirium, phenomena of excitation. It is this true "status typhosus," which, independent of temperature, improves rapidly under Pyramidon, the disease often showing a surprising change for the better.

In order, however, to be sure of a permanent and uniform action of the drug, it is necessary that Pyramidon be given according to Valentini's procedure, i. e., every two hours during the entire day and the greater part of the night. The individual doses are small, for women at the most 0.1 gm. (1½ grains), for men 0.15 gm. (2¼ grains), some ten doses in twenty-four hours. No injurious action on pulse or temperature was noted. On the contrary, pulse and respiration lowered quietly, insuring a reduction of temperature of 2 degrees, the pulse rate lowered by 9 or 10 beats, and the respiration by 2 or 3 a minute. It is not wise to try to bring the temperature to normal, for there is a great dissimilarity in these cases and only very large doses will secure such results. But what we do aim to do is to overcome the objectionable nervous condition. If this attempt is successful, the nights are much quieter, restlessness is avoided and consciousness tends more and more to the normal; while hallucinations are less and less in evidence. The nursing of the patients becomes therefore much easier, and it is no longer difficult to feed the patient; real appetite is often present, and as a result of these advantages they are not so broken down at the close of the illness as would otherwise have been the case.

The accompanying consequences of the typhoid mind, viz.: wetting the bed and involuntary dejections, were avoided. Many patients were so favorably influenced that even at the height of the disease they gave the impression of convalescence. Where a large number of typhoids are to be treated *en masse*, as in hospitals and epidemics, we avoid the disadvantages of hydrotherapy, very conspicuous in such instances. We have no desire to advocate the treatment of typhoid fever exclusively with Pyramidon. We have when the pulse state was unsatisfactory, combined Pyramidon with cardiac stimulation: Caffein, camphor, digitalis. If bronchitis was a complication we used cold applications over the spine to promote deep respirations. A similar association of Pyramidon with hydrotherapy seemed to exert a clearing action on the sensorium. Special pains must be taken with the behavior of the pulse, for when the temperature is kept down the pulse is the measure of the general condition for the prevention of complications. From time to time the Pyramidon is dropped for a half a day or a whole day, in order to obtain a line on the temperature. The author can not claim that Pyramidon has ever cut short the duration of the disease.

For obtaining an account of the behavior of Pyramidon in other febrile states the author has had but little experience. It is contraindicated in pneumonia and other affections because of its slight action on the heart. The experience with typhoid should not lead us to generalize as to the action of Pyramidon on all febrile effections.

DISCUSSION.

SCHADE: I have tested the advantages of the Pyramidon treatment in my own practice. As hydrotherapy is out of the question in rural practice, and whenever the profession are forced to prescribe drugs, I was pleased to learn of the new antipyretic, reported on by Valentini in 1903: My own researches were accompanied by such extraordinary success that I have used it ever since, giving it first as recommended by Valentini in doses of 0.2 to 0.4 gm. (3 to 6 grains) every two hours. Given in this manner it is possible to keep the patient at approximately normal temperature; in some very severe cases I have been able to shorten the intervals between the individual doses. As a test one or two doses were omitted after a few days when the temperature would increase. The former dosage and intervals were again maintained; but if there was but slight rise of temperature, the doses were either diminished or the intervals prolonged.

It is true that after the administration of Pyramidon, not only does the temperature fall, but patient experiences the most complete euphoria; so that in all but the most severe cases he declares that he is no longer ill, and complains of nothing beyond a lively sense of hunger; herein lies a distinct danger, for patient must be confined to liquid nourishment.

I have used Pyramidon in from 50 to 60 cases of typhoid and have had no trouble as yet. Its action is superior even in first year children. I have never seen collateral phenomena, not even as regards the heart. In one case a young man chanced to have a severe initial insufficiency due to an old articular rheumatism. At the close of the typhoid, when the Pyramidon was suspended, the patient soon developed dyspnea, cyanosis and poor heart action. Thinking these symptoms might be due to the Pyramidon, the latter was suppressed altogether, whereupon all the ill symptoms persisted. The use of Pyramidon was then resumed with the striking result that for twelve hours the heart continued to act normally.

I have another demonstration to make in connection with the Pyramidon treatment of typhoid. This is bacteriological in nature. When a patient's temperature becomes normal through this drug, no typhoid bacilli have ever been found in the urine or feces, as long as the treatment is kept up. In certain cases after suppressing use of Pyramidon for twenty-four hours, the temperature again rose while the bacillus again reappeared, only to be destroyed by renewal of Pyramidon.

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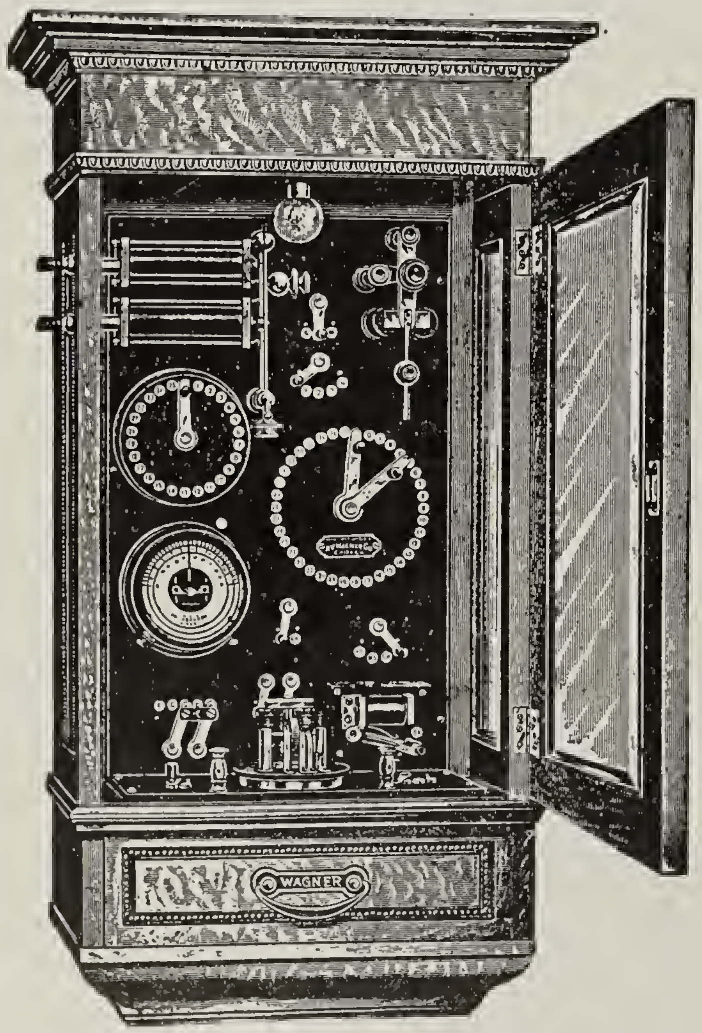

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PROGRESSIVE THERAPEUTICS

A NEW METHOD FOR LOCAL ANESTHESIA IN THE EXTREMITIES.

A. Bier (Berlin) suggests that in order to perform operations on limbs which have heretofore been impossible to do without pain, under local anesthesia, that the part to be anesthetized should be isolated between two rubber bandages, one above and one below the part to be operated on, and should be spread over as large an area as possible without encroaching on the field. This is painless in contradistinction to the ordinary Esmarch operation. In the isolated part a vein is then picked up as close as possible to the proximal bandage; in the leg, the saphenous; in the arm, the cephalic, basilic or median. For the forearm the large superficial veins may be used. The procedure subsequently is similar to that used for an infusion; he injects between 50 and 80 c.c. of a 0.25 per cent. or 0.5 per cent. Novocain. See description "New and Nonofficial Remedies." The part immediately becomes anesthetic if the technic has been successful.

The anesthesia is to be divided into two parts; first, the direct and immediate anesthesia; and, second, the later or indirect anesthesia, viz., one which occurs below the distal bandage; the operation should be done in the first stage. Soon after the second stage motor paralysis will be evidenced. Under this procedure the author has painlessly resected elbow and knee joints, done various amputations, sequestrotomies, and tendon implantations. Poisoning is avoided because of the artificial anemia produced, and owing to the constriction the Novocain does not get into the circulation, and also because of its dilute solution. It is further obviated by first loosening the proximal bandage lightly to allow a primary circulation of the arterial blood, the venous returns still in check, in order that the wound may be washed out. The bandage is then tightened and is not loosened again until the end of the operation. Finally, the vein may be washed out through the cannula, with a physiological salt solution. The anesthesia disappears immediately on loosening the proximal bandage.—*Annals of Surgery*, November, 1908.

LOCAL ANESTHESIA.

By HERMAN PRINZ, M.D., D.D.S.

(Abstract from Text-book of Operative Dentistry, by Various Authors, Edited by C. N. Johnson, M.A., L.D.S., D.D.S., 1908).

"Ever since the introduction of cocain into materia medica for the purpose of producing local anesthesia quite a number of substitutes have been placed before the profession, for which superiority in one respect or another is claimed over the original cocain. The more prominent members of this group are tropa-cocain, the eucains, alypin, stovain and Novocain. None of these compounds with the exception of Novocain has proven satisfactory for the purpose in view. The classical researches of Braun have established certain factors which are imperative relative to the value of a local anesthetic. The principal properties of such a chemical must correspond to the following claims: (1) In comparison to its local anesthetic value, it must be less toxic than cocain. The difference of toxicity must be absolute, viz., the quantity of the drug necessary to produce the same anesthetic effect as a definite quantity of cocain must be less toxic to the amount of body weight. (2) The chemical must be absolutely indifferent to the tissues when injected in more or less concentrated solutions. The progress of wound healing must not be interfered with by the solution. (3) The chemical must be readily soluble in water, the solution must be comparatively stable, and it should be possible to sterilize it by simple means. (4) The remedy must be tolerant to the addition of adrenalin without interfering with the vasoconstrictor power of the latter drug. (5) When applied to mucous surfaces ready penetration of the drug is necessary."

Novocain has been recently (1905) discovered by Professor Einhorn. It is a synthetical product, representing the hydrochlorid of paraaminobenzoyldiethylaminoethanol; it appears in colorless needle shaped crystals, readily soluble in one part of water and thirty parts of alcohol. Its solution may be boiled without decomposition; it reacts neutral to litmus paper. In general, it is incompatible with caustic alkalies and carbonates and the alkaloid reagents. Novocain possesses the same anesthetic power on peripheral nerves as cocain. In one quarter per cent. solution it is sufficiently powerful to anesthetize even large nerves, viz.: It is equal in its anesthetic potency to any of the known local anesthetics. Pharmacologists (Biberfeld, Heineke and Læwen) have shown that Novocain is about six to seven times less poisonous as compared with cocain.

Novocain fully corresponds to every one of the above claims. Its toxicity is six to seven times less than cocain, it does not irritate in the slightest degree when injected, consequently, no pain is felt from its injection, per se; it is soluble in its own weight of water; it will combine with adrenalin in any proportion without interference of the physiological action of the latter, and it will be readily absorbed by the mucous membranes. The studies of Biberfeld and Braun brought to light another extremely interesting factor concerning the Novocain adrenalin combination. Both experimentors, working independently of each other, observed that the adrenalin anemia on the one hand and the Novocain anesthesia on the other hand were markedly increased in their total effect on the tissues. Consequently a small quantity of this most happy combination is required to produce the same therapeutical effect as a larger dose of each individual drug would produce when injected separately. The injection of a solution of the combined drugs is precisely confined to the injected area; general effects are therefore rarely produced.

As stated above, the relative toxicity of a given quantity of cocain in solution depends on its concentration; this same peculiarity is not shared by Novocain. The dose of Novocain may be safely fixed at ⅓ of a grain for a single injection. For dental purposes, a 2 per cent. solution is preferably employed; as much as 3 grains of a 2 per cent. solution in combination with adrenalin has been injected without any ill results. For the purpose of confining the injected Novocain to a given area, the addition of adrenalin in small doses on account of its powerful vasoconstrictor action is admirably adapted. It is the important factor which prevents the ready absorption of both drugs and consequently nullifies poisonous results. An injection of ten drops of a 2 per cent. solution of Novocain labially into the gum tissue produces a diffuse anesthesia lasting approximately 20 minutes; the same quantity, with the addition of a 1-1500 grain of adrenalin chlorid increases the anesthetic period to about one hour and localizes the effect on the injected area.

A suitable solution of Novocain for dental purposes may be prepared as follows:

Novocain	10 grains.
Sodium chlorid	5 grains.
Distilled water	1 fluidounce.
Boil.	

To each syringeful (30 minims) add one drop of adrenalin chlorid solution when used.

Ready made solutions of cocain and, to some extent, of Novocain, will not keep when frequently exposed to the air. A perfect sterile solution may be made extemporaneously by dissolving the necessary amount of cocain or Novocain in tablet form in a given quantity of boiled distilled water. A suitable tablet may be prepared as follows:

Novocain	1/3 grain.
Adrenalin chlorid	1/1500 grain.
Sodium chlorid	1/8 grain.

One tablet dissolved in 15 minims of sterile water makes a two per cent. solution of Novocain for immediate use. A small glass dish and a dropping bottle constitute the simple outfit.

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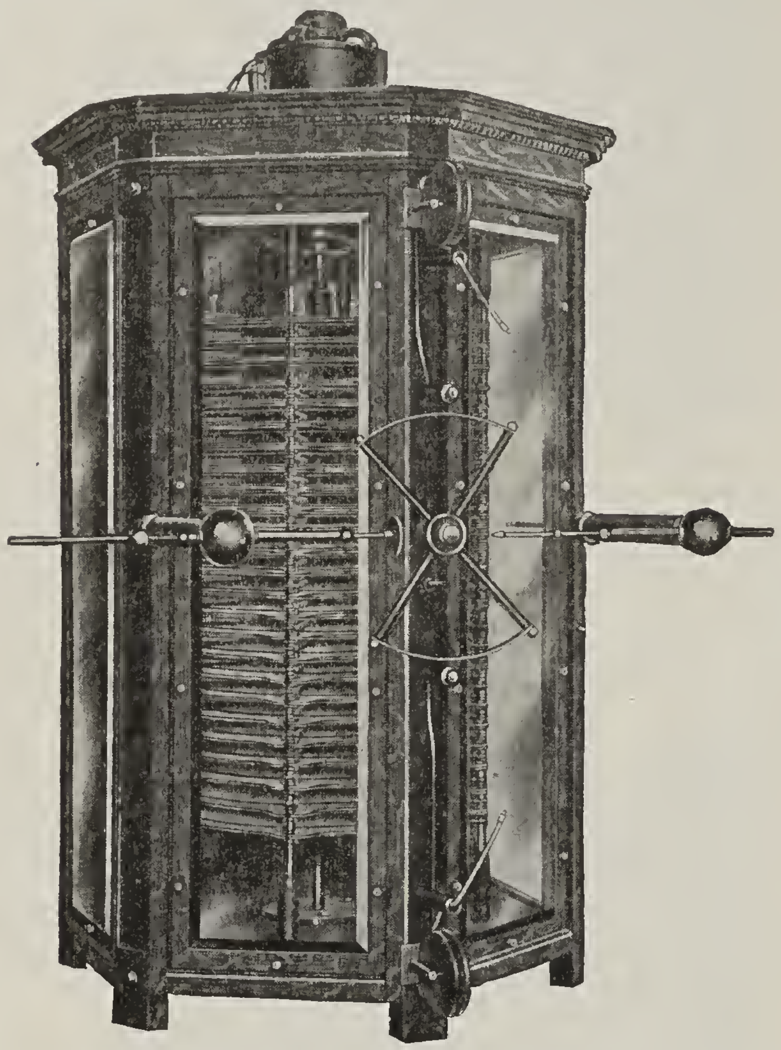

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DIABETES MELLITUS.

TREATMENT WITH TRYPSOGEN

Diabetes is termed by Pavy "The result of a faulty carbohydrate metabolism," and by Osler "a disorder of nutrition."

The latest accepted pathological findings make the pancreas the seat of the disease; the particular structure involved being the islands of Langerhans, which furnish their internal secretion ferments to the blood. Diabetes mellitus may be due to lesions in these islands or to loss of function, each of which results in a decreased supply of the blood ferments.

Conclusive proof that diabetes results from absence or deficiency of the internal secretion ferments of the pancreas is furnished by recent investigations of workers in three different fields of experimental research.

1. Diabetes produced by removal of the pancreas.
2. Experimental work on secretin.
3. Diabetes produced by injections of adrenalin and its prevention by previous injections of the ferments of the islands of Langerhans.

DIABETES PRODUCED BY THE REMOVAL OF THE PANCREAS

The investigations of Von Mering and Minkowski founded on fifty-five experiments on dogs established the fact that diabetes persisting until death never fails to follow complete removal of the pancreas, if the animal survives the operation. If one-fourth or one-fifth of the gland remains, diabetes does not follow, or if a portion of the pancreas containing the islands and still attached to its arterial supply is first transplanted under the skin and all the remainder of the pancreas is removed no glycosuria is produced, but the removal of the transplanted portion is followed by glycosuria.

In this latter experiment as the digestive secretions of the pancreas are not discharged into the digestive tract, it proves that it is not the digestion of the food in the intestines, nor injury to nerve structures, which is at fault, but that it is due to lack of an internal secretion from the islands of Langerhans.

Minkowski has recently repeated his experiments with great care. He first removed, for later convenience, the splenic portion of the pancreas, and made a gastrojejunostomy; from this operation the dog recovered and gained 1450 gm. in the following month. The second part of the operation was then performed, at which the stomach was divided two centimeters from the pylorus and sutured, the pancreas divided at a distance of two or three centimeters from its head. The duodenum with the head of the pancreas was then removed and a cholecyst-enterostomy performed. Recovery was complete and the dog remained in good health, showing sugar in the urine only for two days after the operation. At the end of four weeks after the operation the dog was still sugar free, even though fifty grams sugar and fifty to one hundred grams rice soup formed a part of the daily diet. The remaining piece of pancreas was then extirpated and at noon the same day 100 c.c. urine was excreted, containing 9 per cent. sugar.

A similar experiment was performed upon another dog, but in this instance the remaining piece of pancreas was sewed under the skin of the abdomen, yet the pancreas under the skin was sufficient to prevent diabetes.

Opie showed that when diabetes is caused by lesion of the pancreas the islands of Langerhans are injured or destroyed, and when the pancreas is diseased and there is no diabetes the islands are relatively unaffected.

"There has been simmering in the minds of experimentalists a conviction that diabetes should be included in the list of curable diseases. When we have secured a ferment capable of counteracting glycosuria the treatment of diabetes will be on a scientific basis. The hope of this is not ill founded. Diabetes, which has been the synonym of an incurable malady, can no longer be considered as such."—Editorial in *Medical Age*.

The possibility of the successful treatment of diabetes with organic products is referred to by several investigators and is really the goal which these workers have in view. Von Noorden says, "In spite of disappointing results, it must yet be emphasized that many possibilities lie in all attempts at organic treatment. We must most certainly seek further to obtain from the organism itself those substances which stimulate glycolysis. Everything that we know about diabetes and about the conditions of hyperglycemia and glycosuria point to the fact that such substances do exist."

Nearly six years ago Blumenthal tried to cure diabetes by subcutaneous injections of pancreatic juice. The results were negative for the reason, as he believed, that the quantity which could be injected was too small.

Zuelzer, who has made a study of the nature of the glycosuria produced by injection of adrenal extract, has discovered that the glycosuria which follows injection of adrenalin may be prevented by the injection also of pancreatic internal secretion. It makes no difference whether they are injected simultaneously or the pancreatic extract first. The glycosuria always fails to appear. He believes that normally the adrenal secretion is neutralized by the internal secretion of the islands of Langerhans of the pancreas, and that in pancreatic diabetes it is the lack of this neutralization which allows the adrenal secretion to act on the economy in full force and to produce glycosuria, that is to say, diabetes is due to the presence of adrenalin, which is not neutralized by the pancreatic hormone, that is, to a deficiency of the internal secretion ferments of the pancreas. Zuelzer then set out to obtain a pancreas extract which should be effective in diabetes, using animals with adrenalin diabetes to test the strength of his preparation.

By taking the pancreas from living animals at the height of digestion and after congestion of the organ, he obtained a very strong extract, which on intravenous injection into dogs with pancreas diabetes diminished the excretion of sugar to a very marked degree. He next tried this extract in a number of cases of diabetes, most of them with acidosis, and obtained considerable success. Acetone and diacetic acid disappeared from the urine and glycosuria in several cases entirely disappeared. In one instance he believes that he has cured a case of diabetes complicated with carbuncle.

Zuelzer has extirpated more than a hundred pancreases and pronounced glycosuria invariably followed except in those cases in which the veins from the suprarenals had been ligated.

Von Leyden set himself to prove that when trypsin was given by the mouth a certain quantity of it actually passed into the blood. He proved with certainty that trypsin given by the mouth could to some extent be recovered in the urine, and he came to the conclusion that by mouth administration it is possible to bring much larger amounts of trypsin into the circulation than by subcutaneous injection.

As practically all investigators now agree that diabetes is due to absence or deficiency of the internal secretion ferments of the islands of Langerhans, it would seem that the only logical and successful way of overcoming the diabetic condition is by a generous administration of the missing ferments, and at the same time a stimulation of the organism to a better supply of those vital enzymes.

About five years ago, at the suggestion of a few physicians, we attempted the solution of the problem of preparing from the tails of the pancreatic glands of young animals an extract containing these internal secretion ferments. To these enzymes we added the bromides of gold and arsenic which are recognized as important supplemental agencies in the treatment of diabetes and the improvement of metabolism. This product was presented to the medical profession under the name Trypsogen.

Formula.—Each Trypsogen tablet contains the enzymes of the islands of Langerhans, the tryptic and amyloptic ferments, also gold bromide 1-100 grain and arsenic bromide 1-200 grain.

Trypsogen has been tested very thoroughly in hospital and private practice both at home and abroad and is to-day a most rational treatment of diabetes and kindred disorders of metabolism at the command of the medical profession.

In diabetes mellitus Trypsogen rapidly improves the general nutrition, as shown by an increase of weight and strength. Digestive disturbances are controlled, and nervous symptoms are dissipated and glycosuria is lessened or overcome.

While administering Trypsogen the hygienic condition of the patient, including regulation of the bowels, habits, etc., must be given proper attention; and while extreme restriction of the diet is not essential or desirable, it should be regulated in a reasonable manner. Thorough mastication of all food, and thorough cooking of starchy foods is of greatest importance.

Every effort should be made to place the patient in an optimistic frame of mind. One of the greatest objections to a marked restriction in diet is the depressing effect which it has on the patient at meal time, when he should be free from such suggestions.

A patient taking liberal dosage of Trypsogen can digest and assimilate more starches than otherwise, because of the starch-digesting ferments it contains.

Dosage.—Because of the usual history of protracted malnutrition in diabetes, the dosage of Trypsogen should be pushed, especially in stubborn cases, to insure the introduction of as large quantities of the urgently needed enzymes as possible.

The following method of administering Trypsogen is recommended:

Begin with two tablets three times a day after each meal, and after the third day increase dose by one tablet daily until a marked improvement in symptoms is noted. The usual maximum dose is 6 or 8 tablets taken during or after each meal, but 10 or 15 tablets are often taken at a dose. Where an especial idiosyncrasy exists to the enzymes or the minute dose of arsenic bromide present, it is well to work up the dose gradually, decreasing slightly when the patient shows any nausea or other untoward symptoms. If unable to show improvement in such cases because of too small dosage, Trypsogen without the gold and arsenic bromides may be used in addition.

Some physicians have administered Trypsogen two or three tablets every two hours with equally good results.

Instructions to patient should be definite and imperative as to dosage and time of taking, and a bottle of 500 or 1,000 tablets should be prescribed in preference to a smaller amount. Generally speaking, opium and its alkaloids are contraindicated when using Trypsogen, because of the tendency to lock up the secretions and to increase the appetite for sweets.

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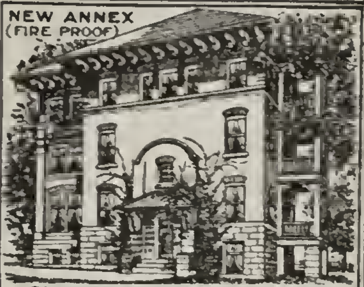

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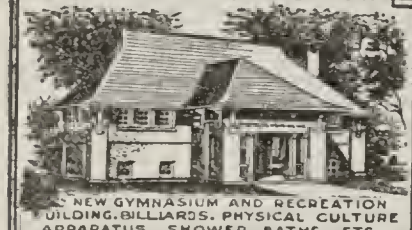
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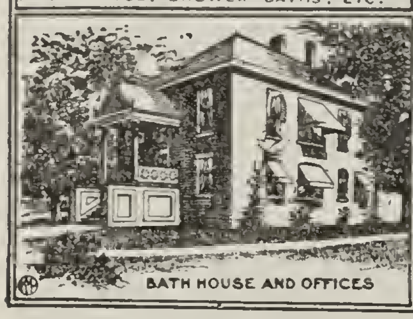
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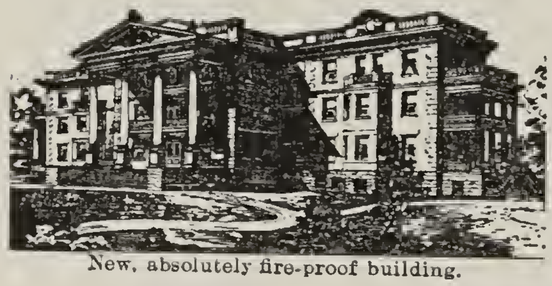
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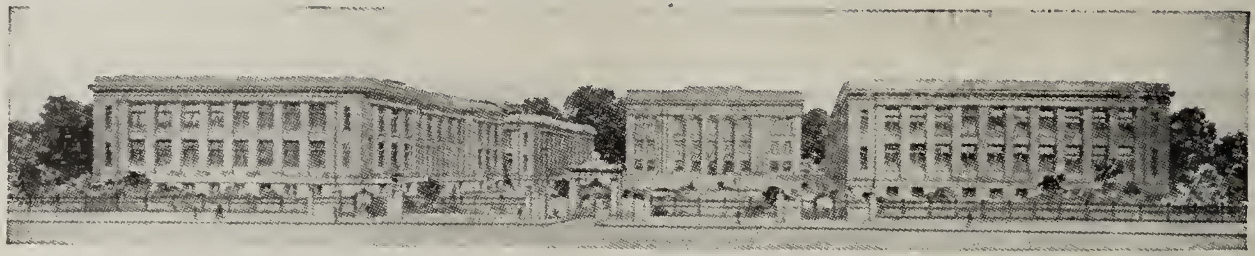

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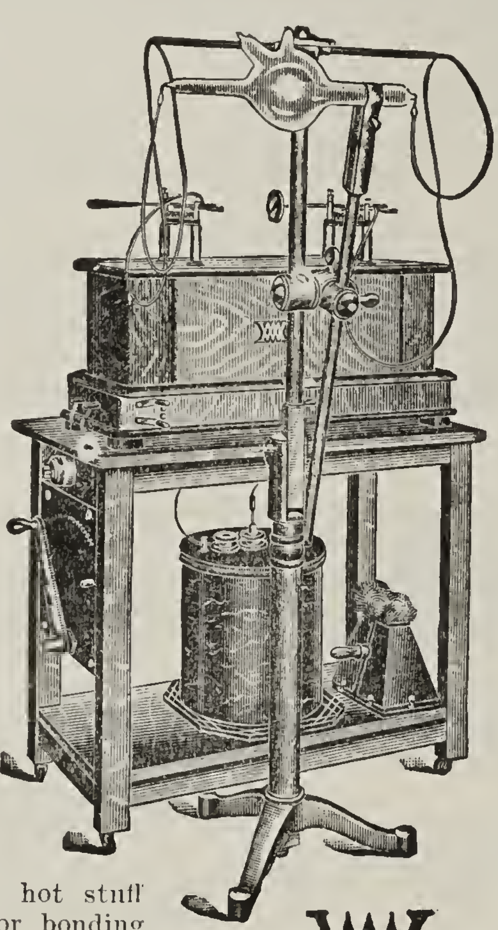

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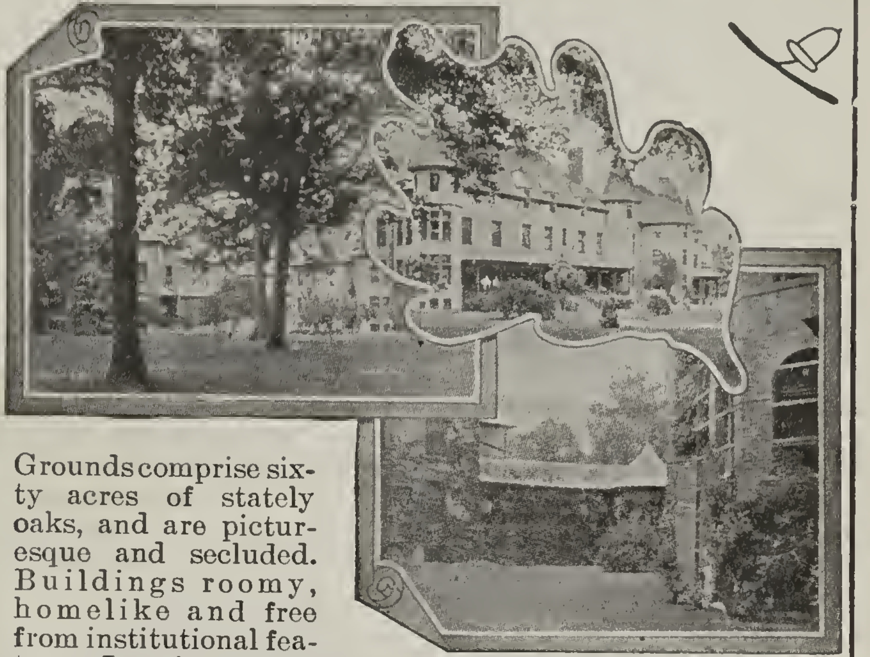

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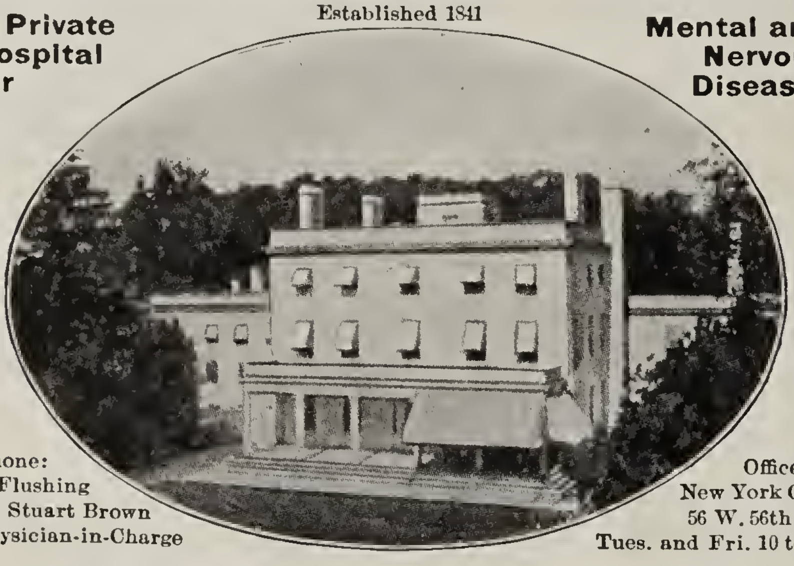

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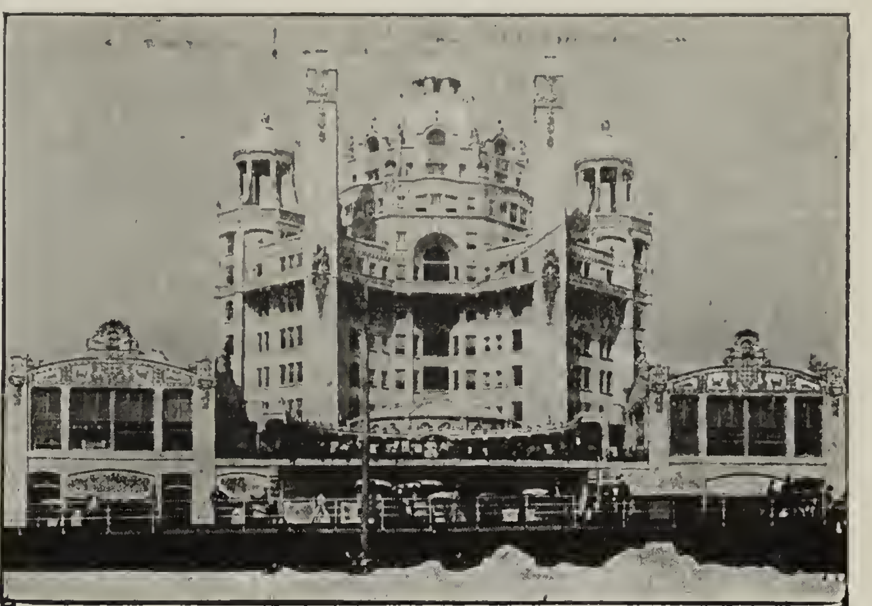

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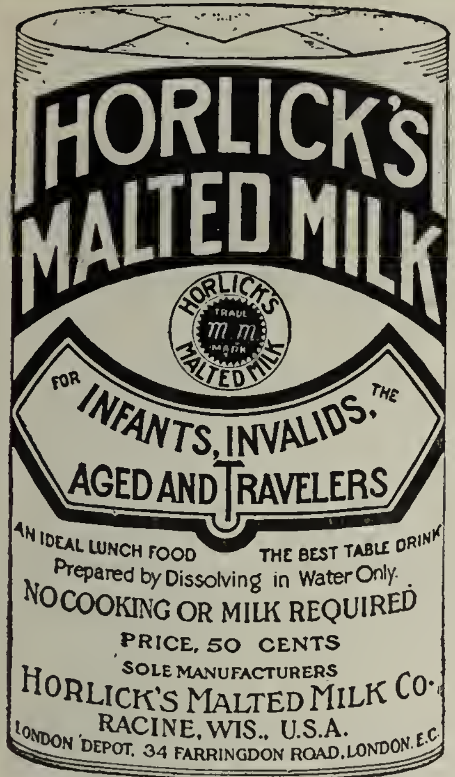
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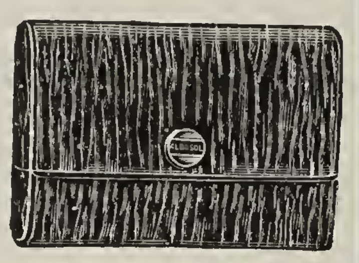

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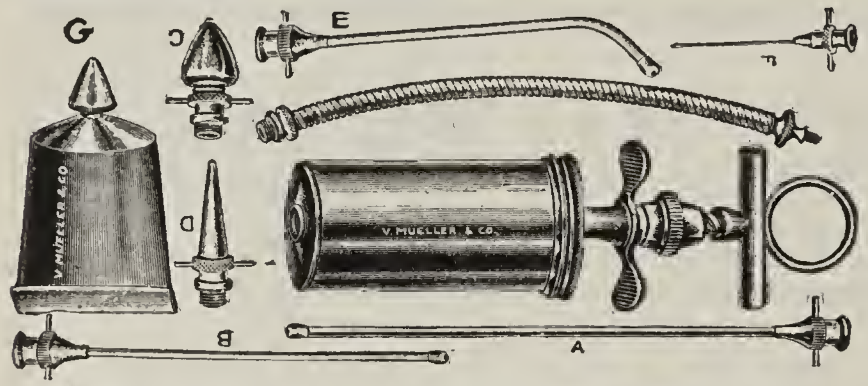

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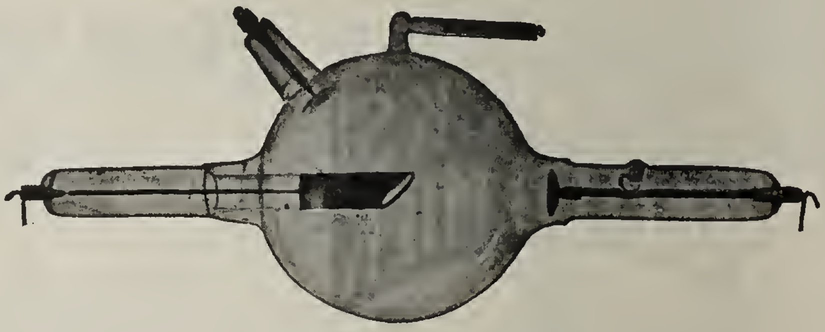

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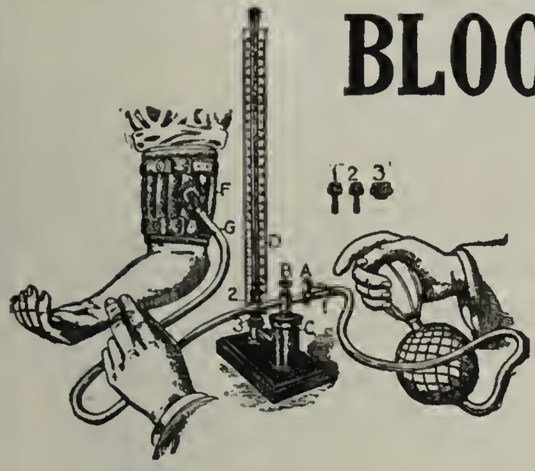

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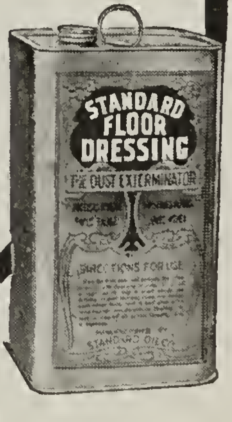

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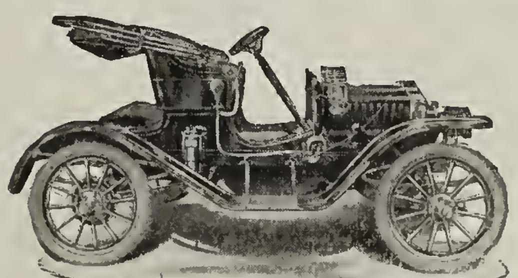

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WANTED — DOCTOR, SINGLE, 38, Christian, educated in United States and Austria, postgraduate New York Polyclinic, commanding English and German, experienced in massage, hydro and electrotherapy, desires salaried position as assistant in sanitarium for nervous diseases, or in similar institution; strictly ethical; highest references. Add. 6894, ℅ AMA. B

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WANTED—SALARIED POSITION, PARTnership, or contract practice with surgeon or practitioner, with opportunity to assist or do surgery, by physician surgically inclined, aged 33, married, graduate reputable university; nearly 6 years' practice, including one year hospital, and post-graduate; best of references; Minnesota or reciprocating states preferred. Add. 6830, ℅ AMA. B

LOCATIONS WANTED.

WANTED—LOCATION FOR EYE, EAR, nose and throat practice; prefer city of 25,000 and up; would make small investment in equipment. Add. Dr. E. R. C., 1314 Heyworth Bldg., Chicago, Ill. C

WANTED — PRACTICE — NOT LESS than $2,000 cash per annum considered; Illinois, Missouri or Kansas; unopposed preferred; give full particulars first letter; no blue sky considered; will buy drugs, driving outfit and fixtures, also real estate if cheap. Add. 6982, ℅ AMA. C

WANTED—TO LEARN OF A GOOD LOcation to practice medicine; Nebraska, Colorado or Ohio preferred, or would form partnership with established physician; have had 17 years' experience in general practice; can furnish best of reference regarding ability and character. Add. 6980, ℅ AMA. C

WANTED—IN ILLINOIS OR WISCONsin, a practice of $3,000 or over; town of 500 to 3,000; easy access to Chicago preferred; will buy office and driving outfit; no real estate at present; want possession June 1; married; 12 years' experience; give all particulars first letter. Add. 6892, ℅ AMA. C

WANTED—BY A GENERAL PRACTItioner of experience, to purchase a good-paying practice, or to learn of a good opening for a physician, or an opportunity to become associated with a physician or surgeon in a good community of at least 10,000 inhabitants in the state of Massachusetts. Add. 6850, ℅ AMA. C

WANTED—TO BUY AN UNOPPOSED or slightly opposed practice in Iowa or Illinois, or reciprocating states, paying $2,500; will buy office and road outfits; would consider real estate or small drug store; write details in first letter and if proposition will stand investigation. Add. Lock Box 6, Plano, Iowa. C

WANTED—BY A GENERAL PRACTItioner of twenty years' experience to learn of a good location that will pay not less than $3,500 a year; must be a place from 6,000 to 10,000 population and growing, and where there is no one that does much surgery; prefer Maine, New Hampshire or Massachusetts, or reciprocating states. Add. 6958, ℅ AMA. C

PARTNERS WANTED

WANTED—PARTNER FOR A $15,000 practice; state of Oregon; county seat; population 5,000; must be a man of some experience, capable of doing surgery, very aggressive; some capital required; write for particulars. Add. 6960, ℅ AMA. F

(Continued on next page)

WANTED—I WISH PARTNER, ABLE TO specialize, in established, ethical, general office practice, last year $6,630, in northwestern metropolis of 350,000; price, $1,500 cash; knowledge of Scandinavian or German desirable, but not essential; you must have the necessary funds and bear investigation; laws reciprocal; board meets April 10. Furnish references and Add. 6950, % AMA. F

WANTED—A PHYSICIAN AND SURgeon of experience to take one-half interest in large, well established practice in small Iowa town; must have had several years practical experience and able to do surgery; no one need answer who is not and churches; if partner can handle will fully competent; fine people, good schools turn over entire business in short time. Add. 6959, % AMA. F

ASSISTANTS WANTED

WANTED—A REGULAR GRADUATE, single, first-class references, to assist in general practice in new coal mining field in Lee County, Virginia; compensation $50 per month for first year; medicines and surgical dressings furnished, but applicant must pay his own board and other personal expenses; board obtainable at $3 to $5 per week; climate delightful, scenery mountainous and beautiful; society very limited; only applicants ready to commence work immediately need write. Add. 6847, % AMA. D

PARTNERSHIPS WANTED.

WANTED—AN ASSOCIATION WITH A first-class, ethical physician and surgeon in a city of 25,000 or more; prefer western states; am willing to make reasonable cash payment for an interest in a live, wide-awake, ethical practice where surgery can be had; am young man, aged 34 years, in actual practice seven years, strictly temperate and attentive to business; best of references furnished; give proposition in first communication. Add. 6971, %AMA. E

INTERNES WANTED.

WANTED—HOUSE DOCTOR IN HOSPItal near Boston; 10,000 patients a year; splendid opportunity for doctor desiring plenty of surgical work; applicant must have best of references. Add. 6916, % AMA. I

WANTED—AT THE CHESTER COUNTY Hospital, West Chester, Pa., a male resident physician to serve until July 1, 1909, or longer, if mutually satisfactory. No salary. Eighty beds. Good experience in medical, surgical and obstetric cases and contagious diseases. Add. Dr. W. T. Sharpless, West Chester, Pa. I

MISCELLANEOUS—WANTED

WANTED — GENERAL PRACTITIONER, with education, refinement and good personality can find location in wealthy and refined community surrounded by advantages of culture, can secure $5,000 practice without cost; nothing to sell, nothing to buy; wealthy class of people desire first-class physician; harvest for right man; will have thorough introduction. Add. 6889, % AMA.K

WANTED — SPECIAL—PHYSICIAN, EXperienced traveler, will take six young men on a tramping trip through Holland, up the Rhine, Black Forest, Austrian Tyrol and Switzerland; leisurely itinerary; send your son or patient, who desires an ideal trip abroad; no invalids; references from prominent men in the A. M. A. Add. 6907, % AMA. K

WANTED—FIRST-CLASS, COMPETENT, well-educated physician and surgeon to become chief surgeon to this company and subsidiary companies with headquarters at Trujillo, Honduras; splendid climate; liberal contract; preference will be given to one able to invest. Honduras National Railroad Company, 548 Pierce Bldg., Saint Louis, Mo. K

WANTED — MEDICAL ABSTRACTOR and general literary worker, wishing to go to Europe for a year, desires competent person to take charge of his business. Requirements: Good command of English and experience in preparing medical abstracts, articles, and general literary tract work. State qualifications and what your time is worth; work would require all one's time; position may be permanent. Add. 6965, % AMA. K

APPARATUS, ETC., FOR SALE

FOR SALE—16-INCH *X*-RAY COIL OUTfit, including high frequency attachment; can be purchased at right price, f. o. b. Chicago. Add. 6978, % AMA. N

FOR SALE — THE UNDERSIGNED OFfers for disposal the office equipment of the late Dr. E. S. Hutchins. All instruments, appliances, etc., are in good condition. Liberal discount. Add. Mabel C. Hutchins, Admx., 1517 W. First Ave., Spokane, Wash. N

FOR SALE—OUR 24 PLATE STATIC and *x*-ray machine, roller-bearing shaft, with accessories; *x*-ray tube, high frequency coil, electrodes, connecting rods and cords, all in perfect condition; cheap if taken at once; want space for other apparatus. Add. R. B. Scott, Venice, Ill. N

FOR SALE—FINE ELECTROTHERAPEUtic outfit; good as new; 16-plate enamel coated static machine, complete, with accessories, motor, *x*-ray tube and fluoroscope, marble wall cabinet with electrodes, vibrator and therapeutic lamp. Can be bought cheap if taken at once. Will sell separately. Add. 6979, % AMA. N

FOR SALE — DOUBLE DISSOLVING stereopticon, oxyhydrogen light, Russia iron lamp houses; five inch condensers, two inch lenses, dissolving key; all in perfect working condition; first check for $40 buys complete outfit, or will sell one stereopticon for $25. Add. Dr. C. E. Coon, 509 S. Salina St., Syracuse, N. Y. N

LOCATIONS FOR SALE

FOR SALE — CALIFORNIA, SOUTHERN Part—Unopposed practice in rich farming district, with six-room modern cottage and two-room office building; price, $2,800; terms to suit purchaser if security is good. Add. 6938, % AMA. O

FOR SALE—COLORADO—GOOD PRACtice, with 4-room house, large rooms, large barn; railroad town; practically no opposition; $250 worth of drugs; good location for energetic man; collections good; price, $1,500 cash, or sell practice and drugs for $500. Add. 6843, % AMA. O

FOR SALE — INDIANA — EASTERN part; $3,000 practice in city of 8,000; good gravel roads; farming community; office outfit, furniture, drugs, good horse and buggy, with one month's introduction; price, $500; have good office and residence combined which I will sell or rent. Add. 6740, % AMA. O

FOR SALE — CHICAGO — PRACTICE — Must sell out on account of death in the family; good opportunity for a young doctor; established four years; good location, good will, office and house furniture, or without; best offer gets it; don't write unless you mean business. Add. 6911, % AMA. O

FOR SALE—OREGON—EASTERN PART —Practice and property; practice of $3,000 in growing railroad town of 600; one competitor; good collections; 9 room cottage, barn and one acre of land; price, $4,500 cash; don't write unless you mean business. Add. Lock Box 14, Wallowa, Ore. O

FOR SALE — CHICAGO — PRACTICE — Must sell out on account of death in the family; good opportunity for a young doctor; established four years; good location, good will, office and house furniture, or without; best offer gets it; don't write unless you mean business. Add. 6911, % AMA. O

FOR SALE—OREGON, EASTERN PART —$4,000 cash practice in town of 800 and surrounding stock, fruit and mining country; division transcontinental railroad; nearest competition 21 miles; salaried railroad appointment; home included; price, $3,000, valuation of realty and office equipment; terms; will introduce; going to distant city. Add. 6948, % AMA. O

FOR SALE — MICHIGAN — PRACTICE paying $3,500 cash annually, office furniture, road outfit, 14 room residence, nearly new, cash $6,800; in manufacturing city of 5,800; excellent schools and churches; fine surrounding country; 100 miles from Chicago; price $5,000, $2,000 cash, balance time; reason, health; a great bargain; answer if you mean business. Add. 6703, % AMA. O

FOR SALE—ARKANSAS, HOT SPRINGS —A practice of $4,500 and a home that cost $3,500, both for $6,000, or will sell practice and office fixtures for $2,500. Add. 6926, % AMA. O

FOR SALE—MASSACHUSETTS— EASTern part; $3,000 practice, 10 miles from Boston; population 8,000 new residence arranged especially for a physician; practice given to purchaser of house; price, $6,500. Add. 6760, % AMA. O

FOR SALE — MINNESOTA—NORTHERN part—$2,500 general practice, in county seat of 1,200; very complete office equipment—Allison table, X-ray, drugs; good driving outfit; also all furniture of seven-room house; price only $1,800; one other doctor; if you want something good, write for particulars. Add. 6890, % AMA. O

FOR SALE—NEW JERSEY—PRACTICE, $300-$600 monthly, goes to first reliable man who buys my 17-room brick house on plot 50x100, with garage for two autos, for $2,000 over mortgage of $7,500; cost $11,000 six years ago; leaving Newark for personal reasons. Add. 118 Newton St., Newark, N. J. O

FOR SALE — IOWA, EAST CENTRAL part, $2,000 practice, to purchaser of new, modern, seven-room residence, just completed; furnace heat, city water, electric lights, indoor closet; price, $3,000; half cash; population 1,300, four churches, fine schools; two other regulars, one new, the other practically quitting; very large territory; no blue sky. Add. 6836, % AMA. O

FOR SALE — CHICAGO — WISHING TO retire from general practice, I offer my eleven-room brick house, which has been a physician's residence and office for 20 years, for sale at a bargain; location is excellent for general practice; house contains modern bath, hardwood floors, light rooms; everything in fine condition. Add. J. H. Salisbury, 982 W. Adams St., Chicago, Ill. O

FOR SALE — MONTANA — $4,000 MEDIcal and surgical practice in good ranch and mining country on two railroads; nearest competitor, 30 miles; population of town, 300; collections 90 per cent.; will sell with or without office furniture and a good property; possession at once; money from the start. Add. P. S. Henderlite, Drummond, Mont. O

FOR SALE—OHIO—FIFTY MILES FROM Columbus; $3,000 practice; one other young physician; village of 500; to purchaser of property consisting of 7-room residence and good barn; wind pump, and water plumbing to house and barn; splendid farming community; good collections; 11-year practice; for $2,000; will remain till spring, if desired. Add. 6842, % AMA. O

FOR SALE—COLORADO—$4,000 PRACtice free to purchaser of my residence and office in Denver; fine location; collections good; property well worth the money and increasing in value; good reason for selling; horse, harness, buggy, property and good introduction; price, $6,000; half cash; balance mortgage at 6%; act quickly. Add. 6964, % AMA. O

FOR SALE — PENNSYLVANIA — EASTern part—Village and country practice and property; a good 7-room house, 2-room office, barn; farming community; collections good; excellent opportunity to secure a practice which will yield $1,500-$2,000 yearly; price, $2,500; $1,500 cash, remainder on time; liberal discount for all cash. Add. 6967, % AMA. O

FOR SALE — NEBRASKA — CENTRAL part—A $4,000 practice given to purchaser of drug store and office equipment; railroad town of about 1,000 inhabitants; established 8 years; new, up-to-date town, growing; good schools and churches; easy competitor; price, $3,200; half cash; less than actual value; going to specialize; will introduce. Add. 6972, % AMA O

FOR SALE—PHYSICIAN WILL SELL real estate and practice in town of about 15,000, on east side of Hudson, 50 minutes from New York City; house 13 rooms; all improvements; paraquet floors; cottage of 7 rooms; large barn; fine chance for specialist commuting to city; not one in town; property cost $20,000; price, $16,000 for all; $5,000 cash; photos; reasons, poor health. Add. 6884, % AMA. O

(Continued on next page)

FOR SALE — COLORADO — ARKANSAS Valley—Old established, $2,500 practice; light competition; 500 population, Americans; thickly settled, irrigated country, fine roads, graded and high schools, M. E., Christian and Dunkard churches, 6-room residence, 4-room office and equipment, automobile, horse and buggy; price $5,000, one-half cash. Add. 6855, % AMA. O

FOR SALE—INDIANA, EAST CENTRAL part—$2,100 cash practice; established 50 years; richest section of state, 200 population, railroad town, gravel roads, churches, schools; nationality American; 2-story, 8-room residence. 3 6/10acres of land and drugs for $2,300; easy terms; going to retire; excellent opportunity for young doctor. Add. 6951, % AMA. O

FOR SALE—INDIANA—OFFICE PRACTICE; best location, town of 30,000; 150 miles south of Chicago; excellent surrounding agricultural country; thorough introduction and good will gratis to purchaser of practice, household, office furniture and entire equipment; minimum income, $2,000; an unusual opportunity; reason, retiring. Add. 6852, % AMA. O

FOR SALE — PENNSYLVANIA, NORTHern part—$2,000 will purchase my $3,000 modern 12-room house with barn and other buildings and my $2,500 general country practice of 12 years in thrifty farming country. Fine people, good roads, good fees, and good collections—95 per cent. Will sell on easy terms; going to college. Add. 6863, % AMA. O

FOR SALE—NEW JERSEY—25 MILES from New York City, on main line railroad; town 800; growing community; fine roads; established practice; 10-room house, improvements, office fixtures, drugs, carriage, runabout, harness, cutter, etc., auto garage; good reasons for selling; price, $5,000; one-half cash, balance to suit; no triflers need answer. Add. 6854, % AMA. O

FOR SALE — NORTH DAKOTA — FINE brick residence, built 1904; 7 lots on main street, good barn and garage, lovely fruit garden and poultry yards, value $5,000, in city of 800; brick hospital, brick high school; one other physician; located on Red River and Northern Pacific railway; intend to take up post-graduate work and specialty. Add. C. E. Hood, M.D., Drayton, N. Dak. O

FOR SALE—TEXAS, COMANCHE—$7,000 practice; 4,000 population; Frisco railroad; good churches, schools, roads; 9 and 7 room residence, bath modern, nice residence part of town; horses, buggies, feed, office furniture, good will and introduction; suitable for two physicians; price, $9,000; two-thirds cash; terms balance; other business interests. Drs. Carson and Ory, Comanche, Tex. O

FOR SALE — MISSOURI — PRACTICE and drug store; one-half hour ride to Kansas City; main line railroad; 160 people; good country; only drug store; sales, $5,000 yearly; only doctor; practice nets $1,500 yearly; $3,000 buys drug store, residence and practice; $2,000 cash; terms to suit; good opening for both doctor and druggist; don't answer unless you mean business. Add. 6865, % AMA. O

FOR SALE — ILLINOIS — AN ESTABlished $9,000 practice in a growing town of 3,000, with two railroads, seven churches, good schools, rich farming community, to purchaser of new, modern, twelve-room residence, barn, driving outfit, drugs, office fixtures, X-ray wall plate, safe and instruments, thorough introduction, for $6,200; thorough investigation invited to those meaning business. Add. 6910, % AMA. O

FOR SALE — ILLINOIS, 120 MILES from Chicago—Unopposed practice averaging $3,571.50 last 8 years ($4,183, 1908); collections 95 per cent.; inland town, 200; American and German-American population, rich farming community, good schools and churches; possession of location means business to holder; centrally located residence and office building, large barn, garage and other outbuildings; all good; acetylene gas to residence, office and barn; cistern, well, cesspool; $3,000 buys property, good-will, etc.; $1,500 cash, balance to suit purchaser; driving outfit, 1908 Reo roadster, and drugs for sale to purchaser if desired; going west for health; do not write unless you mean business and can meet terms. Add. 6928, % AMA. O

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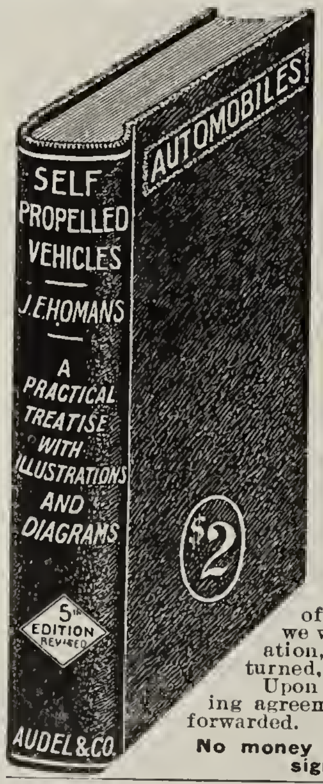

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FOR SALE—MISSOURI — UNOPPOSED $3,000 practice, good six room cottage, new $600 barn, and all outbuildings, on one acre of ground; good school, churches, lodges, roads, and telephone service. 95% collectable; price $2,000; half cash, balance one and two years; reason for selling, wife's health. Add. 6961, % AMA. O

FOR SALE — OHIO, EASTERN PART — On account of moving to another part of the city, I will sell my property, consisting of lot 60x175, 8-room house, large separate office and large barn. This property is located on the main street of the most flourishing city in the state. All modern improvements. Local and interurban electric cars. Practice not less than $6,000 annually. Price, $9,500. Add. B. E. H., % J. H. Oakley, Stein Flat, Youngstown, Ohio. O

FOR SALE — WASHINGTON — MOUTH Columbia river and Pacific ocean; population 750; tributary population 800; beach season greatly increases population; present income $2,500 annually, easily increased; climate fine, green year around; $700 buys this unopposed practice, including horse and riding equipment, office fixtures, books, microscope, surgical instruments, etc.; thorough introduction. Add. Lee W. Paul, M.D., Ilwaco, Wash. O

FOR SALE—PENNSYLVANIA—A $2,000 practice for $1,500 spot cash; ½ acre of ground, 7-room house, all modern, good barn; cost of property alone $2,500; large country practice; no opposition; young man preferred; population of town, about 200; good churches and schools, 2 grist mills, saw and planing mill, 2 good general stores; collections, 90 per cent.; or will lease for a term of 5 years; best of reasons given. Add. 6925, % AMA. O

FOR SALE—KANSAS, EASTERN PART—A good unopposed practice in town of 500 population and splendid surrounding country; income from practice $3,500 annually; 98 per cent. collected; I am going to locate in city and will give up practice to anyone purchasing my residence, value $2,000; $1,500 cash, and balance on reasonable terms; optional whether you purchase other stuff; I have auto, horses, office fixtures and drugs if you want them. Add. 6759, % AMA. O

FOR SALE — PENNSYLVANIA — EASTern part, Lehigh Valley—General practice; established 34 years; largest, oldest, most centrally located; income, $4,000 to $5,000 annually; collections good; splendid field for energetic man; must be experienced; population, 5,000; outlying villages, 5,000, English-speaking; today, five doctors; five years ago, eleven; good roads, eleven churches, splendid schools; physician died suddenly late in January, 1909; will rent offices and stable, bedroom if desired; practice, equipment and drugs for sale; terms reasonable; references required. Add. Lock Box 371, Slatington, Pa. O

FOR SALE — SUNNY SOUTHERN KANsas—$3,500 practice; established 18 years; increasing; town of 700; two railroads; splendid farming and fruit country; well-to-do American people; collections, 95 per cent.; splendid roads; five churches; high school; natural gas; climate exceptionally good; one doctor; railway surgeon and 15 insurance appointments; thorough introduction to purchaser of my modern 8-room residence; lot 150x150; well improved; large stable; fruit and shade trees; office outfit; good prices; paying business from start; a snap; write if you mean business; price, $3,000; half cash. Wish to retire. Add. 6746, % AMA. O

PRACTICES FOR SALE

FOR SALE—MASSACHUSETTS—AN ESTablished general practice of $3,000 a year in a town of 3,000 population, within eighteen miles of Boston; good reasons for selling. Add. 6851, % AMA P

FOR SALE — MINNESOTA — $2,650 UNopposed, growing practice; R. R. town, 650; competition, 7 to 10 miles; surrounding country thickly settled; office furniture, operating equipment, electrical *x*-ray, eye, ear, nose and throat equipment; complete for all lines of work; driving outfit; invoice $1,000; must get away to accept excellent city appointment; best references given; rare bargain; price, only $1,000; no real estate. Add. 6821, % AMA. P

(Continued on next page)

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FOR SALE—MINNESOTA — $2,700 UNopposed practice with office fixtures, instruments, complete thermal and driving outfit; price, $600; have lucrative position elsewhere. Do not write unless you mean business. Add. 6966, % AMA. P

FOR SALE—PRACTICE AND EQUIPment, in a town with no opposition, for $525; German and English-speaking community; no real estate to sell; collections excellent; railroad town; will yield good income from start; will bear thorough investigation; have made money here and you can also. Add. 6883, % AMA. P

FOR SALE — SOUTH DAKOTA — EASTern part, my well established general practice yielding $4,500 annually; also my complete office equipment; in town of 2,000; collections 98 per cent.; price $1,000 cash, or less, depending on what part of equipment purchased; will yield good income from start. Add. 6738, % AMA. I

WANTED — AN EXPERIENCED REGUlar physician and surgeon will be at liberty March 15 and offers his services as locum tenens or as assistant for six months; applicant is unmarried, aged 27; will not remain when services are no longer required. Add. 6819, % AMA. P

FOR SALE — NEBRASKA — SOUTHERN part—Location in village of about 500, surrounded by rich farming country; good school, churches and roads; office outfit of *x*-ray, nebulizer, chair, wall-plate, desk, bookcase, etc.; best location in county; opposition just right; good reason for selling; collections 98 per cent.; price $600; possession immediately. Add. 6968, % AMA. P

FOR SALE — OHIO — PRICE $500; UNopposed cash practice of $2,900; population 800, or would take partner; man must do general surgery; two railroads; good churches and schools; splendid farming country; two factories, which can be transferred to good man; office outfit will invoice $200. This ad. appears but once. Add 6981, % AMA. P

FOR SALE — MASSACHUSETTS—$4,000 practice in town of 1,200, near growing city. Price, $2,500, including practice, drugs, office equipment, automobile, newly painted and overhauled, rubber tired, top carriage, top sleigh, and two house lots in city. Good schools. No opposition. Going to take up specialty. Add. 6957, % AMA. P

FOR SALE — WISCONSIN, SOUTHERN Part—Practice worth $2,000 to $3,000 a year; established 26 years; population 800, four churches, accredited high school, bank, 4 trains each way daily, rich farming country, good roads; price, including stock of drugs and introduction, $600; purchaser can make half the price during March and April. Add. 6949, % AMA. P

FOR SALE—OFFICE OUTFIT, LIBRARY, drugs, driving outfit, with good will for $1,200 village and country practice; farming community; could make more if I was able to do the work; population 400; fine place for young physician; will introduce. Been practicing 30 years and must retire. For $600. Add. W. J. J. Paris, M.D., Cave-in-Rock, Ill. P

FOR SALE—AM TIRED OF COUNTRY work; only doctor in town of 300; nearest doctor 9 miles one direction, 15 miles other; surrounding country best in eastern Nebraska; will stand rigid investigation; price $500; will take note; Illinois and other state licenses accepted by Nebraska State Board. For particulars address my representative, R. C. Hassad, 1631 Oak St., Quincy, Ill. P

FOR SALE—MISSOURI—A $4,500, WELL established practice and office equipment, in an up-to-date, growing town of 8,000, situated on 3 good railroads; county seat; 2 colleges, 2 factories; competition fair; price, $2,000; will remain with purchaser until thoroughly introduced. Do not reply unless you mean business. Good reasons for selling. Possession at once. Add. 6702, % AMA. P

FOR SALE — MEXICO — $3,000 PRACtice, in large, modern city; free to purchaser of household and office equipment; big commercial center; delightful climate; exceptional opportunity for first-class physician, particularly a German, speaking English; no trouble about registration; collections excellent; introduction given; don't write unless you mean business; price, $1,600; best reasons. Add. 6846, % AMA. P

(Continued on next page)

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SOCKET CAUTERY TRANSFORMERS
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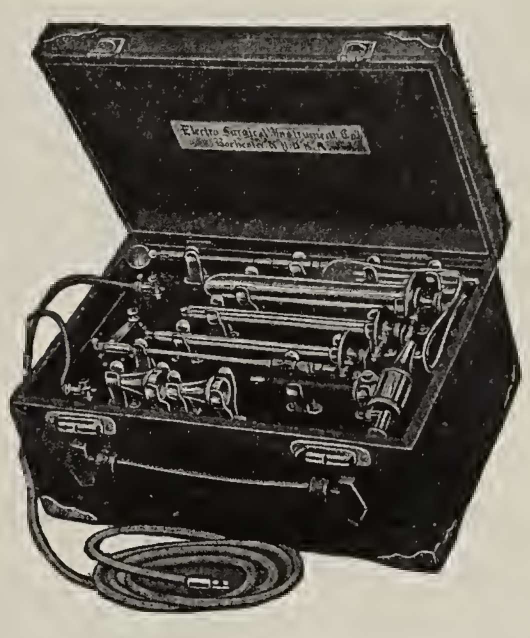

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General Diagnostic Illuminator	2.50
Two Koch Urethroscopes (any sizes) each	3.50
Light Carrier (interchangeable)	2.25
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Price Complete, as Illustrated	**$40.00**
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The case for this outfit is substantially constructed, has metal corners and is Morocco covered.

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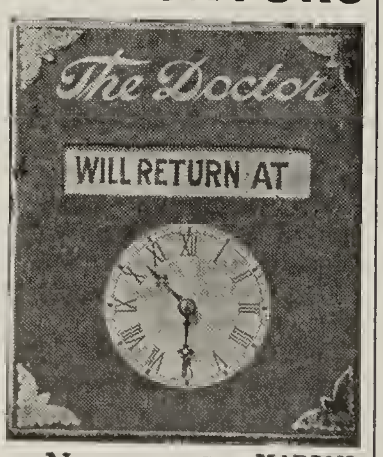

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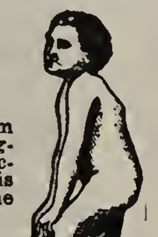

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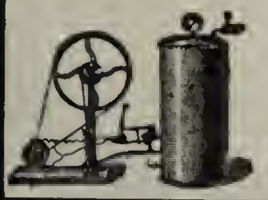

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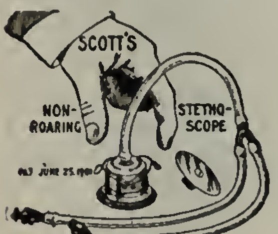

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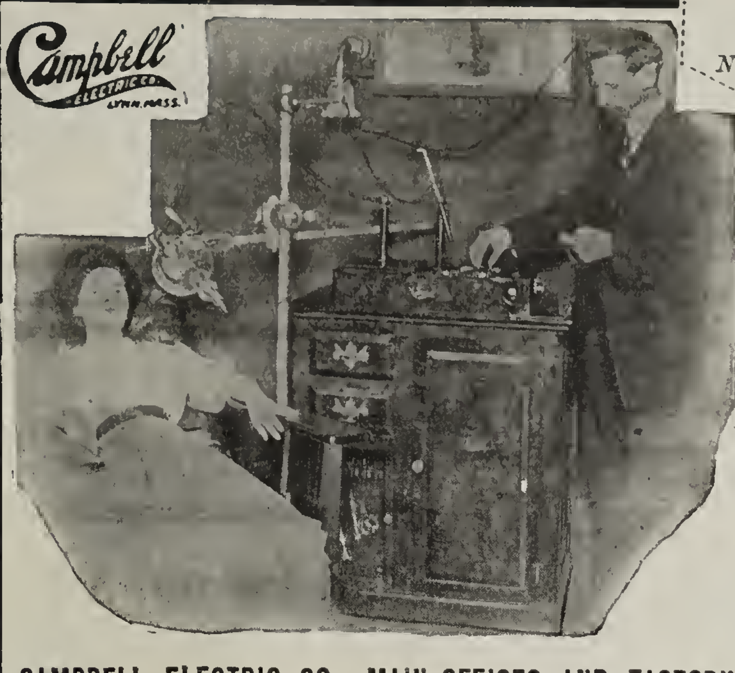
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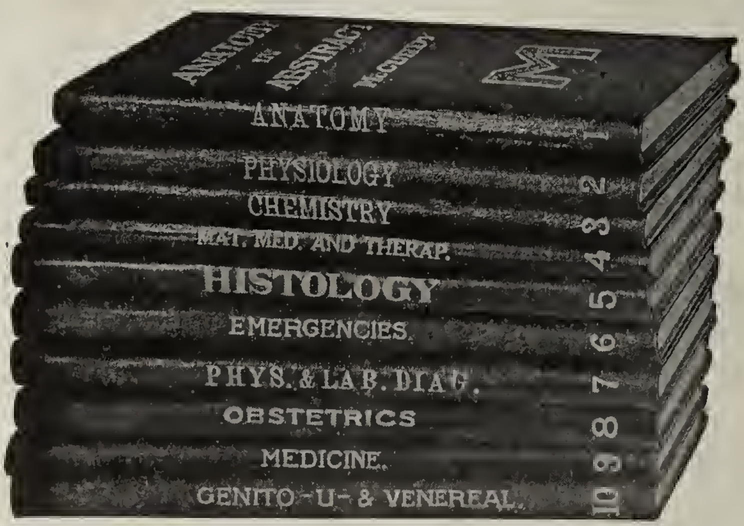

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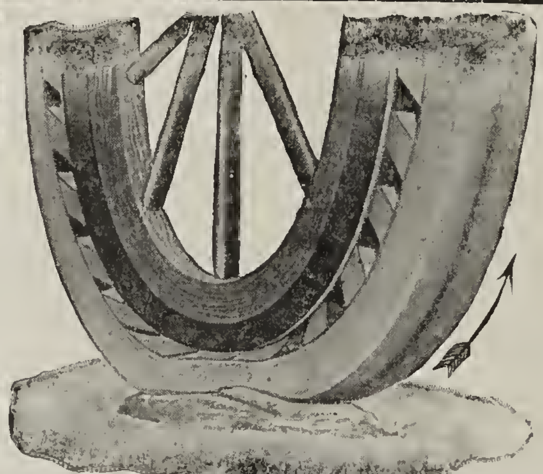

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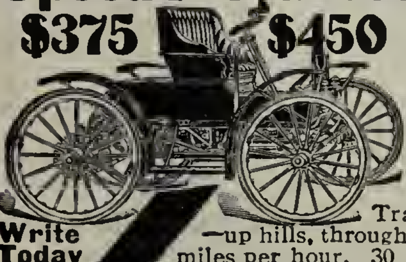

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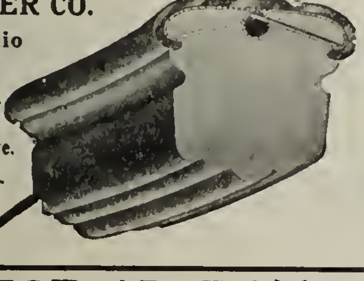

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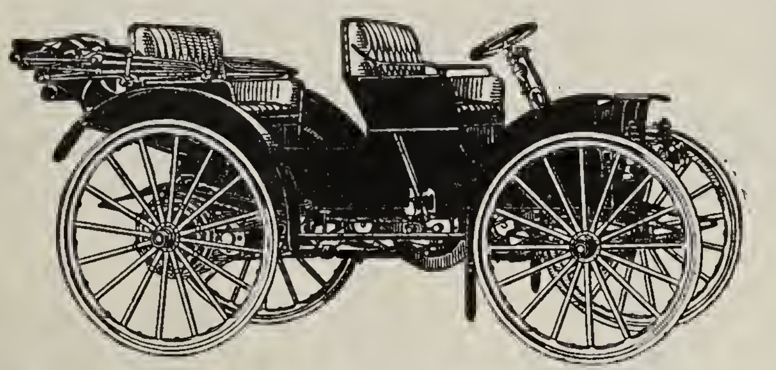

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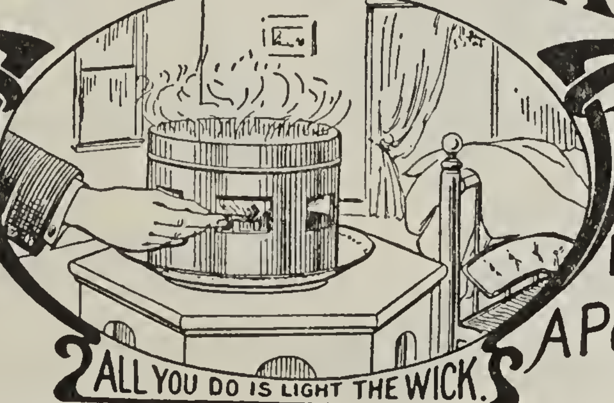
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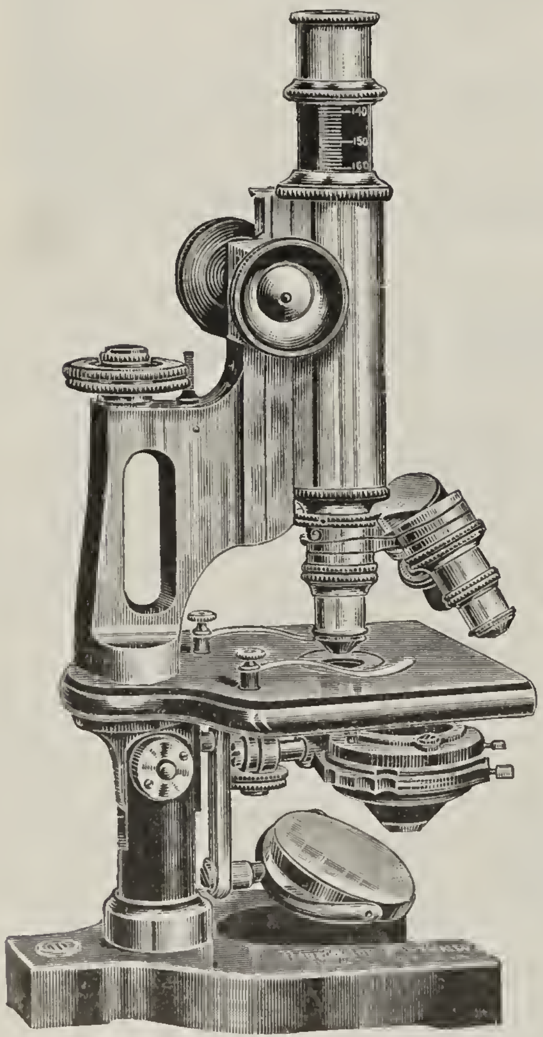

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